

“I Guess Everyone is a Keynesian in a Foxhole”

The Story of the War Against Climate Change and How Regulated Capitalism Can Make the WTO a Force of Good

Tina Markkula

Master Thesis Series in Environmental Studies and Sustainability Science,
No 2019:028

A thesis submitted in partial fulfillment of the requirements of Lund University
International Master's Programme in Environmental Studies and Sustainability Science
(30hp/credits)



LUCSUS

Lund University Centre for
Sustainability Studies



LUND
UNIVERSITY

“I Guess Everyone is a Keynesian in a Foxhole”
The Story of the War Against Climate Change and How Regulated Capitalism
Can Make the WTO a Force of Good

Tina Markkula

A thesis submitted in partial fulfillment of the requirements of Lund University International
Master's Programme in Environmental Studies and Sustainability Science

Submitted May 14, 2019

Supervisor: Turaj Faran, LUCSUS, Lund University

Abstract:

Climate change is one of the most pressing issues researched in Sustainability Science. Even though risks and consequences have been shown, actions to reduce emissions have been unsuccessful. UNFCCC is the global center for climate change policy and the host of the greatest concerted will to fight climate change, the Paris Agreement. Even with the hopeful aim and goals of the agreement, global emissions are nonetheless not decreasing as fast as they need to. I argue that this is due to global trade policies, primarily established by the WTO, that are clashing with aims of the Paris Agreement. As it is, the WTO can be a hinderance of the agreement's implementation. Still, I claim it can be a key agent for its progression. However, there needs to be a Keynesian restructuring of the WTO, from neoliberal ideology to capitalist regulation. To test my claim, I use a combination of literature review with document analysis to analyze the clashes and potential synergies within the WTO and Paris Agreement's framework. I conclude that the resulting clashes relate to the WTO's trade policy and neoliberal ideology, where free trade and global economic growth trumps environmental concern. This is done in four ways. Firstly, the single focus on the EGA. Secondly, by allowing subsidization for fossil fuels while penalizing the same for renewable energy. Thirdly, the TRIPS agreement's hinderance of climate technology transfer. Lastly, the narrow window for national climate policy, GATT XX. Yet, I also illustrate that the WTO can aid in the success of the Paris Agreement, by applying a Keynesian perspective. This could allow sufficient nation sovereignty for climate policy while creating an environment where members of the agreement are cooperating for climate instead of competing for economic growth. My thesis highlights the importance of Sustainability Science's participation in the debate on the trade- and climate policy relationship. There is a need to critically analyze the clashes and search for robust solutions that will reduce emissions on a global scale, within the institutional architecture of the WTO and the UNFCCC.

Keywords: WTO, Paris Agreement, Keynes, Climate Change, Sustainability Science, Trade Policy

Word count: 13941

Acknowledgements

“Women are always saying, ‘We can do anything that men can do.’ But Men should be saying, ‘We can do anything that women can do.’” (Gloria Steinem)

Thank you Andrea, Anna, Carolin, Elisabet, Gloria-Karin, Halley, Hanna, Henriette, Malak, Marija, Mom, Sarah, Stella, Tesla, Tove and Victoria for being my everyday super(s)heroes! You make me kinder, smarter and fiercer.

Thank you to dad who have taught me to always question things, and Turaj for being the most supportive supervisor, while also questioning me.

Thank you also to Chad for taking time and providing great feedback and encouragement.

Lastly, thank you Sebastian, for being a caring and considerate common-law husband and an amazing and inspiring person at that. Thank you for reading my text at least one thousand times and for always being open to discuss and spur my ideas. I love you so god damn much!

Table of Contents

Prologue	1
1 Introduction	1
1.1 What has been Said	3
1.2 This Thesis' Contribution to Sustainability Science	4
1.3 Structure of the Thesis.....	5
PART ONE – SETTING THE SCENE	6
2 Institutional Context	6
2.1 The World Trade Organization	6
2.1.1 <i>A Brief History</i>	6
2.1.2 <i>Expanding the WTO and its Environmental Ties</i>	7
2.1.3 <i>Tensions in the WTO, Reform or Perish</i>	7
2.2 UNFCCC: The Global Center for Climate Policy	8
2.2.1 <i>From Top-down to Bottom-up</i>	8
2.3 The Paris Agreement	9
2.3.1 <i>Nationally Determined Contributions</i>	9
2.3.2 <i>Climate Policy Scenarios</i>	10
3 Theoretical Perspectives on Capitalism's Role in Fighting Climate Change ..	11
3.1 Neoliberalism (Pro-Capitalism)	12
3.2 Marxism (Anti-Capitalism)	13
3.3. Keynesianism (Regulated Capitalism)	14
3.4 Curing the Immediate Ills of Capitalism Instead of System Change	15
PART TWO – LETTING THE ROLES PLAY OUT	18
4 The Paris Agreement and the WTO	18
4.1 Cooperation meets Competition.....	18
4.2 The Diminishing State in a Globalized World	19
4.3 Agency meets Structure	20
5 How a Neoliberal WTO is Hindering the Success of the Paris Agreement	21
5.1 The Environmental Goods Agreement.....	22
5.1.1 <i>A Neoliberal Story</i>	22
5.2 The TRIPS Agreement	23
5.2.1 <i>For Competition Not Cooperation</i>	23
5.3 How Fossil Fuels Still Outcompete Renewable Energy	25
5.3.1 <i>Subsidization of Energy</i>	25
5.4 GATT XX.....	26

5.4.1 Ruling Environmental Policy on a Case by Case Basis	26
6 How a Keynesian WTO would Aid the Success of the Paris Agreement	29
6.1 Reform TRIPS for Cooperation	30
6.2 Subsidization and Investment in Renewable Energy	31
6.3 Leave Space for National Environmental Policy	32
6.4 Meeting Neoliberal Critique: Economic Growth in Regulated Capitalism	33
PART THREE – LOOKING AHEAD	35
7 Pathways for Change: A Global Green New Deal	35
8 Concluding Remarks	37
8.1 Summary	37
8.2 Limitations of this Thesis	38
8.3 Further Research in Sustainability Science	39
9 References	41

Table of Contents

List of Figures

Figure, 1: Rising Global CO ² Emissions Yearly.....	11
Figure, 2: Theoretical Model Used for the Analysis.....	17
Figure, 3: Energy Subsidies in Fossil Fuels Verses Renewable Energy	25
Figure, 4: Total Environmental-Related Notifications Yearly.....	27
Figure, 5: Model Concluding the Theoretical and Empirical Findings	29

List of Abbreviations

- COP** – Conference of the Parties
- EGA** - Environmental Goods Agreement
- GATT** - General Agreement on Tariffs and Trade
- IPCC** - Intergovernmental Panel on Climate Change
- MEA** - Multilateral Environmental Agreement
- NDC** - Nationally Determined Contributions
- TRIPS** - The Agreement on Trade-Related Aspects of Intellectual Property Rights
- UNFCCC** - United Nations Framework Convention on Climate Change
- WTO** - World Trade Organization

Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally.

- (Keynes, 2018 [1936], p. 138)

Prologue

“I guess everyone is a Keynesian in a foxhole” was stated by neoclassical economist Robert E. Lucas in October 2008, just a month after the financial crisis had shook the global economic system to its core. Interestingly enough, Lucas has throughout his career been an avid critic of Keynesian economics, calling it not only dead but absolutely ridiculous. This is an overall common statement of neoliberal economists. However, when the free market proves itself (once again) to be insufficient of dealing with crises and market failure, Keynesian economic policy and *The General Theory of Employment, Interest and Money* is dusted off once again. Arguably, there is no other economic theory that beats Keynes when in a state of crisis and great risk.

This quote refers to an older saying, “there are no atheists in foxholes”, an aphorism used to claim that all will believe in a higher power in times of extreme stress, during for example times of war. Hence, there are no atheists. Likewise, during times of crisis in our economic system a Keynesian perspective is often regarded as our best bet. Inarguably, climate change is one of our biggest economic, ecologic and social confrontations to date.

As a consequence, there are many of us standing in the trenches fighting climate change. Hope is vital in the search for new ideas and solutions. Though, hope is hard to come by when action seem either futile or nonexistent. Hope is fickle when political action time and again is proven to be based on ideological reasoning rather than scientific evidence. Nevertheless, innovation, action and perseverance does not grow in bitterness nor in anger. I wrote this thesis to make sense of things. For me that means searching for salvation in a flawed system. To illustrate solutions and ease an insistent climate anxiety. For me and hopefully for you.

1 Introduction

Climate change is one of the most pressing issues researched in Sustainability Science. Still, global, national and local governance have proven to be incapable of dealing with it (Evans, 2012; Peet, Robbins, & Watts, 2011). Even though, the risks and consequences of it has been shown (Steffen et al., 2015), we are steadily moving towards exceeding the 2-degree target, causing irreversible and catastrophic changes to our planet (IPCC, 2018).

The United Nations Framework Convention on Climate Change (UNFCCC) is currently the global center for climate policy (Hermwille, Obergassel, Ott, & Beuermann, 2017). This institution established the two most important multilateral environmental agreements (MEA) connected to climate change, the Kyoto Protocol in 1997 and, presently our greatest hope, the Paris Agreement in 2015 (Hermwille et al., 2017). Nevertheless, the Paris Agreement's global concerted will to fight climate change has, yet again, proven to be insufficient in reducing global greenhouse gas emissions (Carlson, 2016).

I argue that potent action is lacking due to the globalized and liberalized trade that has created an economic web that is impossible to exit through national regulation, although this is the basis for the Paris Agreement's success (Hannah, Ryan, & Scott, 2017). Accordingly, there are complex interlinkages with global trade policy and the regulations enforced by the World Trade Organization (WTO) causing a gridlock between global trade and the agreement's action against climate change (Eckersley, 2004).

Be that as it may, The WTO and UNFCCC have stated the necessity of the two organizations "mutual supportiveness" (Tamiotti et al., 2009; WTO, 2012). One might say, where there is a will there is a way. On the contrary, this has in reality proven to be more difficult (ICTSD and World Economic Forum, 2016). Instead, I debate that, the structural forces of our global trade policy have taken the potential agency of UNFCCC's climate policy hostage.

There are many good and profound arguments asserting the ills of our globalized and capitalist system, and the need for revolutionary reform. Ideologically, I agree, but climate change is not primarily an ideological topic, neither time nor the politically plausible solutions are abundant. I state that we need to work within the system and regulate it, using the WTO as a political starting point. At least, as a first step.

I agree that this might seem unconventional, considering that it has been argued time and again that the WTO is pushing a capitalist and neoliberal agenda through trade policy (Peet, 2009). An agenda that is progressively causing both increasing greenhouse gas emissions and social inequality (Klein, 2015). However, I state that if we dissolve the WTO instead of using it in fighting climate change we might dispossess some of its important potentials.

The WTO could be a key agent of change in advancing the implementation of the Paris Agreement, since, theoretically, it could regulate the capitalist and global economy to ensure our future on this planet (ICTSD and World Economic Forum, 2016). It is an institution with a powerful force, regulating a majority of the global trade through multilateral trade agreements (Jones, 2004). It also has an effective regulatory mechanism which makes it very costly to defy the rules, making it an uncommon event (Evans, 2012).

Ultimately, if the WTO was to shift to a force of good and support the Paris Agreement, change could happen faster on a global level. Therefore, the power of the WTO should be used to support the fight against climate change. Though, for this to be achieved there is a need to shift from the neoliberal laissez-faire economics, that is currently governing the WTO, to an interventionist Keynesian policy. We need to regulate capitalism and use the global trade policy for climate policy progression.

Thus, I claim that the sweeping impact of the WTO on global trade policy can be a central agent in advancing the aims and goals of the Paris Agreement. However, there needs to be a Keynesian restructuring of its governance in order to regulate against the neoliberal idealism that is incompatible with solving climate change. To test my claim, I have divided it into the three following research objectives:

- To illustrate how the WTO is currently hindering the success of the Paris Agreement.
- To analyze how a Keynesian shift would be beneficial to meet the targets of the Paris Agreement.
- To discuss how the WTO can act as an important agent of support for the UNFCCC's climate policy.

1.1 What has been Said

To explore potential gaps and what has previously been said about my topic. I conducted a literature survey using a combination of topics relating to my area of research. The results were gathered using Scopus and will be presented in this following section.

When exploring what has been said about the dynamic and clashes between the WTO and established MEAs, I searched "World Trade Organization" and "Multilateral Environmental Agreement" in combination with "MEA" and "WTO". The search conclude in 40 results, they show that there has been a substantial amount of research stating that clashes indeed occur between global trade policy and the MEAs (Ansari, 2007; Belcher, Hobbs, & Kerr, 2005; Cossy & Marceau, 2009; Millimet & Roy, 2015; Schwartz, 2000; Tarasofsky & Palmer, 2006; Yeater & Vasquez, 2001). This has in previous debates been called a "regulatory chill effect" and research has focused on specific trade policies that hinder the agreements' successfulness. Previous research has, to an extent, also focused on climate change policy as well as how the WTO framework in general can have an adverse effect on them (Condon, 2009; Cossy & Marceau, 2009; Ladly, 2012).

Combined, these articles show a scholarly consensus concluding that the WTO and global trade policy do indeed have a chilling effect either directly or indirectly on environmental policy. They also conclude that there are necessary steps that need to be taken in order for the WTO's framework to allow and

support climate policies. However, when narrowing down my search and combining “Paris Agreement and “World Trade Organization” it concludes in only five results, where four relate to economics or law (Gingerich, 2018; Lawrence & Wong, 2017; Miranda, 2018; Moore, 2017), and only one relate to climate policy (Mathews, 2017). This is a quite narrow result, considering when searched separately “World Trade Organization” will conclude in 7517 results and “Paris Agreement” in 1679. This gap is what I aim to explore.

Moreover, previous research has proven the necessity of my case, however, it has not focused on analyzing the overlap, clashes and synergies between the WTO and the Paris Agreement. A case which, I argue, is a central subject when analyzing the relationship between trade and climate change policies. Further, the results lack a theoretical underpinning for change of the WTO. Instead, it has in previous research primarily been used for critical scrutinization of its neoliberal ideology (Hartwick & Peet, 2003; Iida, 2003; Peet, 2009). I view the solutions-oriented approach in Sustainability Science vital, when dealing with climate change especially, since offering solutions are as indispensable as time is short.

1.2 This Thesis’ Contribution to Sustainability Science

Sustainability Science is an emerging field of research that aims to combine natural and social sciences in search of innovative solutions to issues within sustainability, such as: biodiversity loss, land use change, water scarcity and climate change (Jerneck et al., 2011). There is a need for this interdisciplinary approach since these issues are inseparable of the social and natural systems on planet Earth (Kates et al., 2000). Moreover, Sustainability Science aims to incorporate a problem solving attitude while keeping a critical lens (Jerneck et al., 2011). This is especially important given the seriousness of the challenges that we are currently facing and the need for a swift but salient shift in society.

My thesis will contribute to Sustainability Science by discussing how our social and economic systems interlink and pose potential risks and contribute to possible solutions to our environmental crisis, climate change. I will do this through an interdisciplinary analysis of the theoretical underpinnings of the WTO and the potential material effects of changing them. More so, by illustrating the important structural clashes between the WTO’s trade policy and the agency of UNFCCC’s climate policy, embodied in the Paris Agreement.

I also aim to fill a wider gap in Sustainability Science by analyzing the role global trade policy has in helping or hindering global environmental governance. An important aspect since there is a general consensus on the hinderance, but not a clear path on how to change it. Therefore, I emphasize that the WTO’s role in this has not been discussed enough in Sustainability Science (Mathews, 2017). I will

contribute to the academic dialogue within Sustainability Science discussing this through a critical-solutions approach.

1.3 Structure of the Thesis

To achieve and communicate my research objectives, I have divided this thesis into three parts. Firstly, I “set the scene” by building the background and arena for analysis (institutional context). I then proceed by introducing the abilities of entering this arena (three theoretical perspectives). Lastly, I close the section by arguing why I chose Keynesianism as the best solution. Part one of my research has been conducted through the literature survey previously explained “What has been Said”, on page three, following a deeper literature review where I explored both the empirical and theoretical setting of my case.

Secondly, I “let the roles play out” by presenting the results, analysis and discussion of the WTO. I start off by expanding on the clashes that occur between the combined agency of being a party of the Paris Agreement while meeting the structural boundaries of partaking in a globalized trade system. I continue by elaborating how the WTO is currently incompatible with meeting the targets for the Paris Agreement. I then, by using Keynesian theory, show how the WTO could change to support the Paris Agreement and instead, help fight climate change. Part two of my research has been conducted through an extensive literature review with a ‘snowballing’ technique in combination with document analysis from UNFCCC and the WTO. In this section I explore the WTO’s actions and suggested solutions for change found in the literature. I apply my theoretical lens on the results and discuss how a Keynesian shift could be beneficial.

Thirdly, I “look ahead” by exiting the arena. I step down from the ivory tower by illustrating my pathway and how it might come about. Lastly, I finish off with concluding remarks, broader implications for Sustainability Science and suggestions for further research.

PART ONE – SETTING THE SCENE

2 Institutional Context

2.1 The World Trade Organization

The WTO is an international organization dealing with the trade rules between its 164 members. The primary goal of the organization is to ensure that trade between members flow as freely, smoothly and predictably as possible (WTO, 1995). The secondary goal is to increase the global wealth, measured generally by dollars traded and increase in Gross Domestic Product (WTO, 1994). The third goal, which has also been increasing in importance since the formation of the UNFCCC in 1992, is the WTO's role in establishing trade policy that is simultaneously supporting sustainable development and climate policy (WTO, 2012). I will elaborate of WTO's third goal in chapter 5.

2.1.1 A Brief History

The foundations of the WTO started after the Second World War, the same birthing grounds of some of our most important international institutions such as: The United Nations, the World Bank and the International Monetary Fund (Stiglitz, 2017). During the two World Wars there had been a backlash in the previously flourishing international trade that took place of the early 1900s. The time during the two World Wars had instead been colored by protectionism, inflation, war debt and national production that had shifted from global economic expansion to product subsistence (Seth, 2004).

Many countries' economies, especially in Europe and America, had been hurt by the wars and the remnants of the Great Depression in the 1930s were still evident. There was a need to establish an agreement between countries to support free trade, economic growth and peace. This took form in an international trade deal called the General Agreement on Tariffs and Trade (GATT) founded in 1947. GATT was established to lower tariffs and barriers for global trade (Nair, 2011). Still, an important part of the deal is the non-discriminatory act that states that a nation cannot enact policies that favor one's own, or another members products/produce over other members (Eklöf, 2004).

When forming the GATT there was also a wish to create an organization to govern the global trade regulations and negotiations between the parties. This, nonetheless, failed to be established in 1955 and there was a difficulty in shaping the regulatory processes necessary for the GATT to work efficiently. The establishment of the WTO would wait until the Uruguay Round in 1994, which leads to its' final installation in 1995 (Seth, 2004).

2.1.2 Expanding the WTO and its Environmental Ties

As time passed and free trade expanded, other problems started appearing for the WTO to solve. This was evident since the organization has grown from 23 countries primarily located in the Global North to 159 countries including the Global South (Stiglitz, 2017). There was criticism from the new members that parts of the trade regulations did not allow them to enter the global trade on the same terms as the founding members of the organization (Stiglitz, 2013).

Additionally, environmental concerns had spread across the world. The beginning of the new millennium did not only offer us the new research field of Sustainability Science, but an increasing debate on how we are to deal with the rising emissions and climate change on an institutional and policy level (Green, 2005). This, combined with the growing inequality and discontent between the members of the Global South and North, started a new round of negotiations within the WTO, the Doha Round in 2001 (WTO, 2012).

This negotiation is also known as the Doha Development Agenda, since its primary aim is to improve the trading prospects for the members from developing countries, combined with an increased focus on environmental issues (WTO, n.d.-b). Though, these negotiations have so far not lead anywhere. This is argued to be primarily because of the schism that has been created between developed countries that are, generally, for subsidization and environmental protection and developing countries that are, generally, against subsidization and environmental protectionism (Gallagher, 2008).

2.1.3 Tensions in the WTO, Reform or Perish

Today, the WTO faces a stagnation due to the stalled negotiations and difficulty with moving forward with the Doha Development Agenda. There are also two other factors that are threatening the WTO's credibility and legitimacy in the global trade arena. Firstly, there is an increasing fragmentation in global trade where negotiations are made up of primarily pluri- and bilateral trade agreements, instead of the multilateral trade agreements hosted by the WTO (Donnan, 2017). This is creating an increasingly complex global trade network that is difficult to navigate. Additionally, it is decreasing the role and power of the WTO as a governing institution of global trade. Secondly, there is a growing tension, where we simultaneously see increasing efforts of national protectionism. To illustrate, this is evident in the "trade war" between the US and China, where both have implemented protectionist trade sanctions against one another (Krugman, 2018a). Another example is Brexit, where the United Kingdom has decided to leave the European Union, one of the world's most powerful trade unions (Sampson, 2017). Concurrently, this is creating difficulties in the WTO since there is no longer a general

consensus that global trade and low barriers are necessarily something positive for a country's economy and its population.

It is clear that the WTO's role in global governance has changed and there is growing critique against the WTO and its expanding global trade (Cedro, 2018). This is evident since an increase in global GDP is not equal to better living standards (Jones & Klenow, 2016). Instead, there is an increased concentration of economic power where some people and companies get richer at the expense of a heating climate and social inequalities (Klein, 2015). There needs to be a shift in the WTO values and goals for global trade to stand the test of time. The WTO need to reform or perish, as discussed in chapter 6, there is potential in this change!

2.2 UNFCCC: The Global Center for Climate Policy

The UNFCCC was founded during the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 (Ramakrishna, 2000). The secretariat is located in Bonn, Germany since 1995 and has since evolved from a climate change observer to a global center for cohesive climate policy (UNFCCC, n.d.-a). Formerly, the mission of the institution was to concert and oversee the IPCC's advancement in climate science as well as to hold yearly meetings, Conference of the Parties (COP), to interlink and communicate the effort against climate change (Gao, Gao, & Zhang, 2017; UNFCCC, n.d.-b). The role of the UNFCCC has continuously evolved and has now, with the establishment of the Kyoto Protocol in 1997 and the Paris Agreement in 2015, transformed into the global center for creation and negotiation of climate policy (Ramakrishna, 2000; UNFCCC, n.d.-c). Today, the UNFCCC upholds the complex architecture of bodies working to lead the implementation of the Kyoto Protocol and the Paris Agreement (UNFCCC, n.d.-a).

2.2.1 From Top-down to Bottom-up

Despite its reputation as the center of climate policy, UNFCCC and the annual COPs have received a lot of critique for failing on their mission to reduce global greenhouse emissions (Gao et al., 2017). COP 15, in Copenhagen, has especially been perceived as the central failure in UNFCCC history (Winkler & Beaumont, 2010). In contrast, Gao Gao & Zhang (2017) state that exclaiming that UNFCCC's work is a complete failure is equally naive as assigning them too much credit. This, since the UNFCCC has gained momentum for the global fight against climate change while introducing a substantial variety of mitigation activities across the world.

After COP 15 there were discussions on how UNFCCC could change their approach to global climate policy in light of the failure of reaching new consensus and the general let-down of the Kyoto Protocol to lower emissions. There was a general direction away from the top-down approach that was introduced during COP 15 and instead a hope for the bottom-up model, with voluntary and flexible contributions, a change that resulted in the Paris Agreement (Dubash & Rajamani, 2010).

There has been some debate whether the flexible, bottom-up approach of the agreement is the appropriate design. If the lack of legal enforcement of the NDCs could, in fact, be the reason for why it is so far unsuccessful in reducing emissions (Bang, Hovi, & Skodvin, 2016; Clémençon, 2016; Lawrence & Wong, 2017). However, I argue that this is not the most relevant critique of the agreement's failure. Instead, there should be more focus on how the agreement has not considered the structural boundaries of the WTO's global trade policy. I will expand on this in chapter 4.

2.3 The Paris Agreement

The Paris Agreement is a global agreement within the framework of the UNFCCC where 196 countries formed a joint effort to reduce greenhouse gas emissions and fight climate change. The agreement was established to keep the global temperature rise well below 2 degree Celsius pre-industrial levels and to do the utmost to not exceed the 1.5 degree target (Schleussner et al., 2016). It was signed on the 12th of December 2015 and came into effect on November 4th the following year (Hermwille et al., 2017).

The parties agreed, through cooperation and support, to combat climate change. The agreement contains not only the promise of reducing emissions but also some prerequisites for how to succeed- This includes: assisting developing countries with monetary aid, knowledge and technology as well as assisting in adaptive capacity for the most vulnerable nations (UNFCCC, 2015). In the next two sections I will delve deeper into the construction of the Paris Agreement and the necessity of its advancement.

2.3.1 Nationally Determined Contributions

The agreement is based on Nationally Determined Contributions (NDC), meaning that all the parties voluntarily pledge to a certain reduction or plateau of emissions on a five-year basis (Hackmann, 2016). The official first NDC round will start in 2020 and for every five years there is an update, and increased advancement, in the NDCs (UNFCCC, 2015). To ensure a gradual transition towards a more emission-efficient future (Schleussner et al., 2016).

The Paris Agreement's success is primarily dependent on the nations' capability to implement efficient climate policies. In contrast, research has shown that the current NDCs are not ambitious enough and that they would land us on a global warming somewhere between 2.7-3 degrees by 2100 (Winkler et al., 2016). Consequently, the countries need to dramatically increase their NDCs for the next round (Falkner, 2016).

2.3.2 Climate Policy Scenarios

If the targets are not met, and we reach 2 degrees or above, the IPCC (2018) have estimated that it will have drastic, global and irreversible effects on our planet, for instance rising sea levels, increased natural disasters, a loss in food and water availability. The actions leading up to 2030 are central if the goals of the Paris Agreement are to succeed (Zickfeld et al., 2019). As a consequence, there is a need for urgent and efficient policy to lower emissions.

In order to reach the target of the agreement we need to have decreased global greenhouse gas emissions by 45 % in 2030 and hit net zero by 2050 (IPCC, 2018). To be able to accomplish this, there are substantial transitions that need to be in place. In other words, continuing a business-as-usual approach is impossible (Falkner, 2016). Yet, research shows that change is within our reach. If our current fossil fuel intensive infrastructure is phased out with a start from 2018 there is still a 64 % chance that we can stay below the 1.5 degree target.

If we, instead, wait until 2030 to implement measures against the fossil fuel industry the likelihood of reaching that target is drastically reduced (Zickfeld et al., 2019). Yet, there is an issue since emissions have not decreased globally since 2016. As we can see in Figure 1 they have in fact increased. Estimations also show that emissions have an additional increase by 2.7 % in 2018 (Le Quéré et al., 2018), hence, highlighting that the Paris Agreement is, so far, not working.

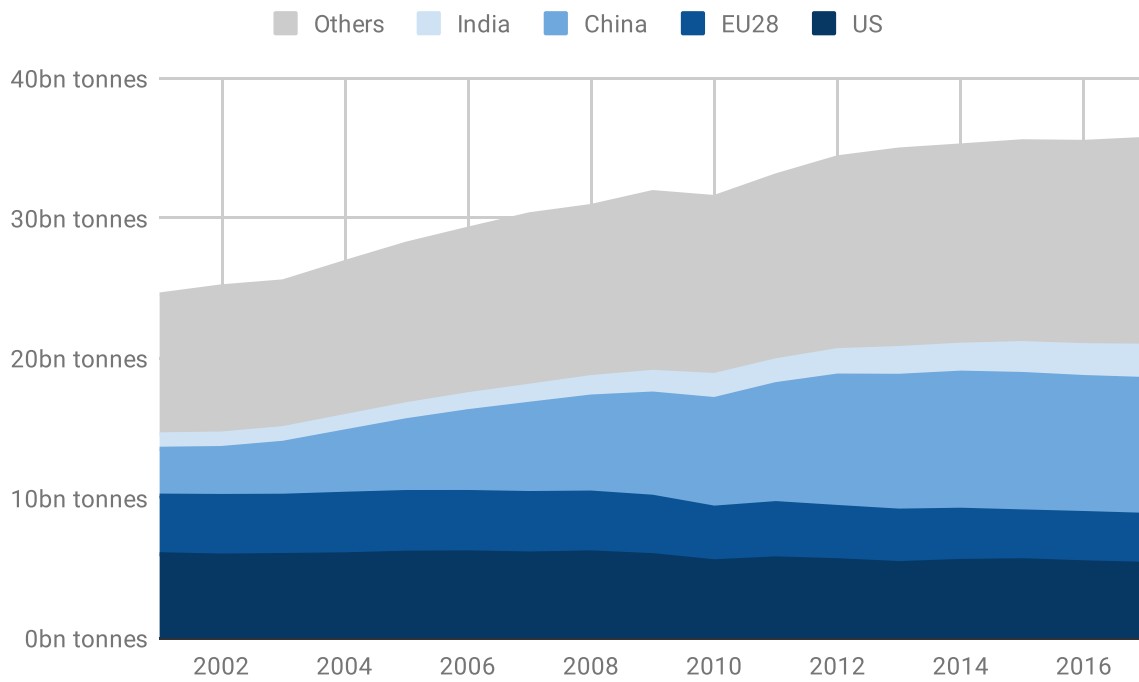


Fig. 1. Figure shows rising global CO₂ emissions from 2000 until 2017. Values are in billion tonnes CO₂ emissions per year. Own graphic based on data from Quéré, C. Le, Andrew, R. M., Friedlingstein, P., Sitch, S., Hauck, J., Pongratz, J., ... Canadell, J. G. (2018). Global Carbon Budget 2018. 2141–2194.

3 Theoretical Perspectives on Capitalism's Role in Fighting Climate Change

Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back... But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.

– (Keynes, 2018 [1936], p. 340)

The solution to climate change and its connections to the economic system will differ depending on which stream of theory you base your argument on. Primarily there are three categories with different connections to, and ways of intervening in the capitalist system. Even though there are several streams of theory for each category I chose to focus on the one with the most coherent theoretical argument and historical importance. I have chosen not to focus on De-growth as this tends to focus more on locally based solutions, rather than global ones.

Firstly, there is Neoliberalism that is pro-capitalist, which suggests that if you set the market free it will, in time, set itself straight (Lal, 2006). Secondly, there is Marxism that is anti-capitalist, which argues that capitalist forces will always be socially and ecologically destructive and that we need a system change to progress (Foster, 2000). Thirdly, there is Keynesianism that is regulated-capitalist, which emphasize that we do not need to change our economic system completely to defeat the ills of it. Instead, we should work to reform and regulate the free market trade to ensure that it can aid in the fight against climate change (Stiglitz, 2017). In this coming chapter I will delve a little deeper into each one of these categories while explaining the most common form of each and their solutions to climate change.

3.1 Neoliberalism (Pro-Capitalism)

Neoliberalism is primarily based on the ideas of Friedrich von Hayek and Milton Friedman. They built on the ideas from the earliest scholars of economy (and capitalism), namely that of Adam Smith and David Ricardo (Harvey, 2005). The core of the theory states that the free market is the superior governor in society and that it should be let free. (Lal, 2006).

This theory grew in influence during the 1900s and eventually gained international governing power in the 1980s when both Margret Thatcher, prime minister of the United Kingdom, and Ronald Reagan, president of the United States, based their neoliberal political project on it (Harvey, 2005). This paradigm shift also shaped big institutions and their work, such as the International Monetary Fund,

The World Bank and the WTO (Stiglitz, 2017). Therefore, it has had a big influence in shaping the foundation of the WTO and its policies in 1995.

The logic of neoliberalism builds on the idea that prices on the market are always right and that supply and demand will steer our economy, and by default, our societies out of all kinds of crisis. If a resource is scarce but desirable on the market the price will become higher and thus less affordable. The intervention of the state can only do harm since the economic system is far too complex to govern. It should only govern itself with as little interference as possible, with a few exemptions to prevent monopolization and incentivizing innovation through patent protection (Lal, 2006).

As a result of its spread through the global institutions, Neoliberalism is also the most common form of fighting climate change. Climate policy should not harm but benefit economic growth through market-based solutions, also known as the win-win narrative. This is related to the applied logic of the Environmental Kuznet's Curve which suggest that when a country is in the early stages of economic development environmental degradation will increase. However, when the country reaches a certain level of development, measured in GDP growth, it will have enough money to invest in more efficient technology as well as the means to protect scarce or vulnerable environmental resources (Tisdell, 2001). Thus, if we just give the market enough time to adjust there will also be a flourishing "green market" with increase in GDP, employment and lowering of emissions (Hediger, 1999).

Consequently, the most important role of the state and international institutions is that they should remove barriers for competition and trade and correct economic incentives, such as the trading of emissions rights, rather than strict regulation. This often results in solutions for climate mitigation through the 'right price' of the market and protecting intellectual property rights to spur innovation for climate technology (Harvey, 2005). This will be elaborated on in chapter 5. The central agents of change within this theory are entrepreneurs and private companies that can create innovative solutions to climate change that can simultaneously create jobs and economic growth (Prudham, 2009).

3.2 Marxism (Anti-Capitalism)

Theories relating to anti-capitalism are not as easily pinned down to one stream of thought. Despite this, Marxism is the earliest and most prominent criticisms of the capitalist system. The theory is based on the works of political economist Karl Marx and Friedrich Engels (Callinicos, 2007). In its simplicity, Marxism argue that capitalism is based on the exploitation of the working class and that a capitalist state will never be based on equity for its citizens. Marxism states that the capitalist system is

destructive and can never bring about positive change since it is always dependent of the capitalization of another (Foster, 2000).

During the 1900s Marxism transformed and expanded and is often used as a political solution to sustainability and climate change. Within the sustainability discourse, Marxists has placed a greater emphasis on how the capitalist mode of production with its need for constant growth is causing a “global ecological rift” between relations between humans as well as her relation to nature (Foster, Clark, & York, 2011). Consequently, the capitalist society has separated us from ourselves, our community as well as the environment (Foster, 2000). Further, they suggest that capitalism has created a consumerist society. As a consequence, capitalist forces have completely devoured culture and made the relationship to ourselves and others depend on consumption instead of genuine connection (Wright & Rogers, 2011). Subsequently, Marxists elaborate that there is a need to dismantle capitalism and its overtake of our culture and institutions, since if we do not, there can never be a truly just sustainable society (Wright, 2015). The transition will not be equitable, and we cannot truly lower our emissions without it, because of capitalism’s innate, contradictory and destructive need for growth (Ghotge, 2018a).

Instead, their solution to climate change and sustainability at large, is to change our economic system so that it is built on a more equal and planned rational use of resources (Ghotge, 2018b). Focusing on a resource’s use value rather than its’ exchange value establish a greater share of cooperatives and co-owning companies (Foster et al., 2011). Ultimately, Marxists see the proletariat and civil society as the main agents for change. This should be done by firstly, replacing capitalism in our societies and secondly, by establishing a true connection between each other and to nature in our communities (Wright, 2009).

3.3. Keynesianism (Regulated Capitalism)

John Maynard Keynes developed his theory of regulated capitalism as a reaction to the consequences of the Great Depression in the 1930s (Adelstein, 2006). He argued that the free market could not be let completely free for there will always be booms and busts causing great stress on the economy, unemployment and poverty (Keynes, 2018 [1936]). His most important and cited work is *The General Theory of Employment, Interest and Money*, which Neo-Keynesian. Paul Krugman (2018a), summarizes into four points:

- Economies often suffer from an overall lack of demand, leading to involuntary unemployment
- The economy's potential in correcting its own flaws is slow and painful
- Government policies can and should be used to increase demand and lower unemployment
- Simply increasing money supply will not be enough to convince the private sector to spend more, instead, government must step in

Keynes created, through his theory, a middle way between Neoclassical and Marxist political economy where he stated that we should regulate capitalism (Keynes, 2013). He asserted that we should not change our economic system completely since growth is not necessarily destructive, but in its right form it can be beneficial for society (Stiglitz, 2013). Consequently, the state needs to have more governing power and manage the economic system so that it works in our favor, transforming the risk of major busts into minor bumps (Krugman, 2009).

Keynesians assert that the state should intervene in the market. Directing trade and investment so that it is not solely favorable for rich (an volatile) investors, but that it should also work for the greater good of society (Berr, 2009). Today, 'Green Keynesianism' is used by applying the theory of state intervention to shift demand and investment for climate policy and -technology (Stiglitz, 2006). The theory suggest that states and institutions should regulate the economy to create incentives for climate change solutions, by investment and subsidization, but simultaneously penalizing emitting industries, by regulation and taxation (Blackwater, 2012). The state should intervene in the market to alleviate the spread of climate change solutions while hindering the dangerous market practices that risk market failure and societal dangers in the future. Hence, Keynesians claim that the state and institutions are the key agent of change in fighting climate change.

3.4 Curing the Immediate Ills of Capitalism Instead of System Change

Keynes wanted to cure the ills of capitalism instead of replacing it (Krugman, 2009). For that reason, I have chosen Keynesian theory as the best fit since it has a potential for critical solutions within the current economic and institutional setting. In this section I will elaborate why I think Keynesianism is the best fit for the analysis and how it could cure the immediate ills of capitalism instead of advocating for system change.

In this thesis I claim that using the potential of the WTO could support the progression of the Paris Agreement. This should arguably be done by shifting demand and investment towards activities that do not worsen climate change, supports an equal transition, and make sure that innovations spread

globally to lower emissions. Experience has shown us that neoliberalism is unable of delivering this, since it relies on a business-as-usual strategy, causing more emissions and social inequity (Hartwick & Peet, 2003; Klein, 2015; Stiglitz, 2017). As exemplified in Figure 2, neoliberal governance of the WTO will inherently lead to clashes with the Paris Agreement. This is because a neoliberal WTO will favour economic growth before climate change policy. Additionally, they expect that a climate solutions and renewable energy dominance will be established solely through market mechanisms (right price and intellectual property rights).

Additionally, I emphasize that, there is not enough time, political will or the correct institutional framework for an anti-capitalist system change. As stated, if we wait beyond 2030 with reducing global emissions the probability of not exceeding the 1.5 degree target is drastically reduced (Zickfeld et al., 2019). Hence, we need prompt solutions. Productive climate change policies need to be in place now. I agree that there are social risks of keeping a capitalist system that is dependent of capitalization of the environment and vulnerable social groups. Yet, if we do not start reducing emissions immediately there is a risk of causing even more social disparity and environmental destruction than in our current economic paradigm.

Instead, as elaborated in Figure 2, we need a solution that will work within the institutions and the economic system that is currently in place. Using a Keynesian framework, we can regulate capitalism and penalize destructive industries, such as fossil fuel, while shifting investment and demand to favor technology in renewable energy and agriculture. Additionally, the WTO need to leave a more defined space for a visible hand in the market through national environmental policy.

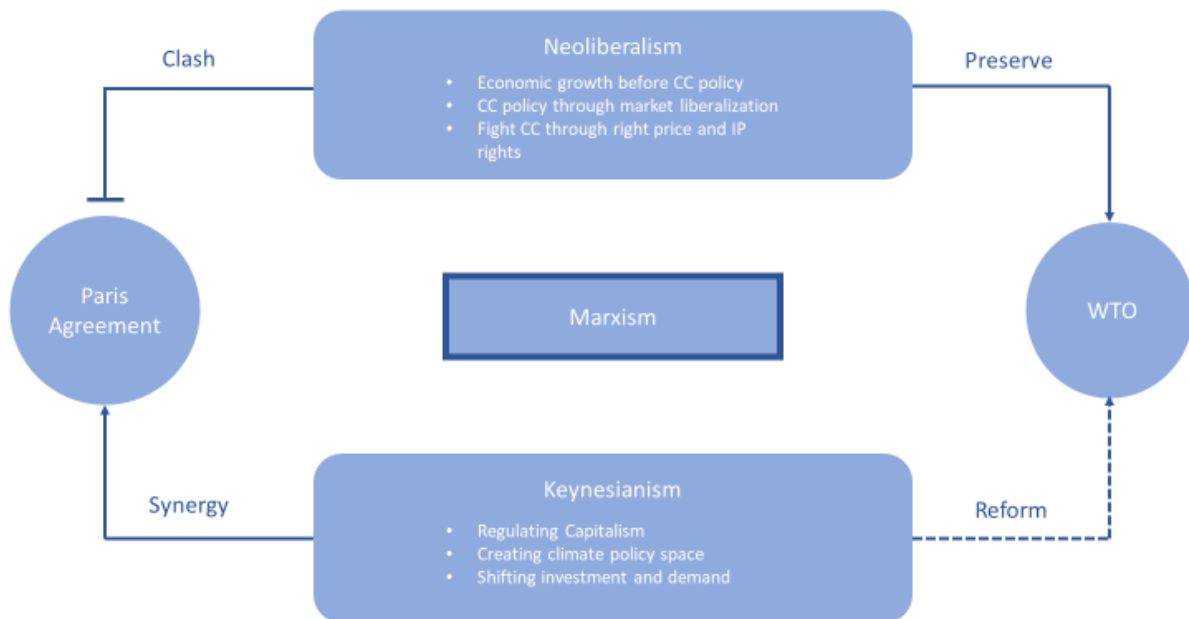


Fig. 2. Figure shows an explanation of the theoretical argument for how change and synergetic effects can be created between the WTO and the Paris Agreement by applying Keynesian economic theory. The Figure also explain why the neoliberal approach is currently causing clashes between the two institutions and how Marxism would not intervene in this way. The author's own design.

Furthermore, in comparison to Neoliberalism which is more prone to simplified and incorrect benefits or rewards (Harvey, 2005), Keynesian theory is foremost centered around alleviating risk (Keynes, 2018 [1936]). This is particularly important in fighting climate change since it is impossible to say exactly what will happen. Accordingly, we should govern by a precautionary principle (Berr, 2015). In my analysis I will primarily use the theoretical framework originally created by Keynes as well as the additional contribution made by Neo-Keynesians Krugman and Joseph E. Stiglitz.

PART TWO – LETTING THE ROLES PLAY OUT

4 The Paris Agreement and the WTO

As mentioned, The WTO and UNFCCC have stated the necessity of the two organizations' "mutual supportiveness" (ICTSD and World Economic Forum, 2016). However, the WTO have time and again been accused of paying lip service to their goals of aiding sustainable development and fighting climate change. Whereas, it is continuously putting the values of free trade ahead of supporting climate policy to reduce emissions (Klein, 2015; Peet, 2009; Stiglitz, 2017).

According to the WTO (2017), 85 % of the parties of the Paris Agreement are also members of the WTO. As a result of the large overlap between members of the WTO and parties of the Paris Agreement, it is absolutely vital that the trade policies implemented by the WTO do not clash with the engagement for the countries to reach their NDCs (Brandi, 2017). Especially since the legal framework of the WTO will always trump voluntary and flexible participation in the Paris Agreement. In the following sections: cooperation meets competition, the diminishing state in a globalized world and agency meets structure, I will expand on the clashes that occur between the combined agency of being a party of the Paris Agreement while meeting the structural boundaries of partaking in a globalized trade system.

4.1 Cooperation meets Competition

The Paris Agreement's success is based on the NDC system, which needs an advanced national environmental policy. As a result, the agreement is dependent on the parties' ability to jointly and voluntarily reduce emissions (Winkler et al., 2016). This is unlike our current global trade system and WTO's regulation that do not promote cooperation but economic competition (Peet, 2009). This was evident when the US decided to leave the Paris Agreement for economic and protectionist purposes, elaborated in the quote below.

As President, I can put no other consideration before the wellbeing of American citizens. The Paris Climate Accord is simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries, leaving American workers — who I love — and taxpayers to absorb the cost in terms of lost jobs, lower wages, shuttered factories, and vastly diminished economic production. (The White House, 2017, para. 6)

The US President, Donald Trump, advocated that the agreement was less about the climate and more about other countries gaining an economic advancement contra the US (H. Bin Zhang, Dai, Lai, & Wang, 2017). He also estimated that 2.7 million jobs would be saved by exiting the deal and that if this was not done, it would be a disaster for the US economy (Landler, Mark, Plumer, Brad, Qiu, 2017). This is a severe threat to the agreement's advancement, since the US is the second highest emitter in the world (Y. X. Zhang, Chao, Zheng, & Huang, 2017). Accordingly, this is an example of the direct clash of values between cooperation for climate and economic competition for growth.

Moreover, as the Kyoto Protocol's cap and trade system has fallen with the price of emissions rights, it is currently more costly to make climate smart decisions (Stiglitz, 2015). Therefore, the incentives to implement effective climate policy and reduce emissions have fallen, making the neoliberal market-based solution inadequate. Hence, the United States is merely an embodiment of the fear of creating competitive disadvantage for its people and companies.

4.2 The Diminishing State in a Globalized World

The acceleration of globalization during the 1900s has made the world's countries progressively interdependent of one another (Stiglitz, 2017). This has increased the need for cooperation on global issues, such as the financial crisis of 2008 as well as the escalation of the climate change issue. Simultaneously, there is a growing discontent with the limited local and national governing space as well as the non-transparency and democratic deficit in our international institutions (Milner, 2019; Stiglitz, 2013).

Globalization has concurrently made it more difficult for countries to implement national policies, especially relating to the global economy (Stein, 2016). The diminishing role of the state in a globalized world is, thus, equal to a weakened state in terms of national policy verses globalized trade (Stiglitz, 2013). As a result, there are multilateral trade policies limiting what parties can do, the pressure or need for economic growth shaping what parties want to do and the spread of a laissez-faire ideology that shapes what they find plausible to do. In addition, there are several accounts pointing to the direct clashes between the Paris Agreement and the WTO, where climate policy have been stopped or hindered by the regulatory framework of the WTO (Espa & Marín Durán, 2018; Karttunen & Moore, 2018).

4.3 Agency meets Structure

The competitive milieu and the diminishing state points to a necessary discussion on agency and structure surrounding this case. There has been some arguments pointing Donald Trump's exit out of the Paris Agreement as the major threat to its progression (Blau, 2018; Saad, 2018; Urpelainen & Van De Graaf, 2017). In fact, a search for "Paris Agreement" and "Donald Trump" on Scopus concludes in 48 results, almost ten times more than the previously mentioned search for "WTO" and "Paris Agreement". In contrast, I claim that it is the structural boundaries posed by the WTO that are the biggest threat to the agreement. Additionally, the United States never ratified the Kyoto Protocol either, making Trump's move quite unoriginal (Pickering, McGee, Stephens, & Karlsson-Vinkhuyzen, 2018).

I emphasize that the problem is not that the parties of the Paris Agreement are apathetic, cowardly or uninformed. Instead, the problem is that the parties and important agents of the Paris Agreement are nested within the economic system and the global trade policy network, enforced by the WTO. The climate agency is cemented within the trade policy structure. Ergo, changing the agents in power will not result in meaningful change.

There is an oxymoron in the system, the Paris Agreement is heavily reliant on the ability of the nations' agency to enforce ambitious NDCs and climate policies to reach them. However, global trade policies enforced by the WTO are hindering this. The WTO has, thus, not considered the necessary changes of trade policy to correctly support the Paris Agreement's success. Likewise, the foundation of the Paris Agreement has not considered the structural boundaries of the WTO's multilateral trade policy and has instead relied upon the nations' possibilities to implement and advance climate policy. In chapter 5 I will exemplify the structural barriers that the WTO pose on the Paris Agreement and in chapter 6 I will elaborate on opportunities for reform.

5 How a Neoliberal WTO is Hindering the Success of the Paris Agreement

The difficulty lies not so much in developing new ideas as in escaping from old ones.

- (Keynes, 2018 [1936], xi)

The WTO's solution to climate change is to make trade freer and increase global growth in GDP (WTO, 2018a). Through this, like the Environmental Kuznet's Curve they state that countries will have more money and opportunity to preserve important environmental areas and increase the market share of sound environmental solutions (WTO, n.d.-c). As a result, The WTO argues that the free market should support the trade of environmental goods and through strong intellectual property rights spur innovation. As the quote suggests, the WTO's strategy in battling social and environmental issues is no different compared to the WTO's normal operations (Hartwick & Peet, 2003; Peet, 2009).

By increasing growth, trade can also make available the necessary resources to implement other development targets in the social and environmental sphere. Trade also contributes directly to poverty reduction by opening up new employment opportunities, and reducing the prices of goods and services for poor consumers, including foodstuffs (WTO, 2018, p. 2).

Ultimately, the WTO advocates that these market based solutions to climate change are not only a solution but simultaneously a way to ensure green global growth, social equity and secure employment for a growing population (WTO, 2018a). There is just one (big) issue with this approach and that is that it has no scientific evidence to back it up. Instead, research states that global emissions keep rising as social inequality is growing (Alvaredo, Chancel, Piketty, Saez, & Zucman, 2018; Le Quéré et al., 2018). Why is that? I will answer that in this chapter by illustrating the parts of the WTO's regulation that is hindering the process of fighting climate change and social equity.

I found that this is done primarily in four ways, which has guided the structure of this section where each is awarded a separate chapter. Firstly, the single focus on the EGA. Secondly, by allowing subsidization for fossil fuels while penalizing the same for renewable energy. Thirdly, the TRIPS agreement's hinderance of climate technology transfer. Lastly, the narrow window for national climate policy, GATT XX.

5.1 The Environmental Goods Agreement

Currently, the most discussed solution to climate change within the WTO is the negotiations regarding the Environmental Goods Agreement (EGA) (De Melo & Vijil, 2016). Within the WTO there are eighteen participants representing 46 WTO members that are presently negotiating the terms of this agreement (WTO, n.d.-a). The goal is to alleviate market penetration by lowering the tariffs of environmental goods (Tamini & Sorgho, 2018). But how is this going to reduce emissions?

5.1.1 A Neoliberal Story

The WTO states that if the tariffs were successfully lowered for environmental goods in the global trade arena then it would inspire more companies to go into the business of environmental goods. As a result, the goods could disperse more easily in the global market, making it more profitable for the producers and more readily accessible for consumers, while simultaneously lowering emissions (WTO, n.d.-a). As a starting point the agreement involves primarily 54 goods, including products that can help achieve climate protection goals such as: renewable energy and resource efficiency (De Melo & Vijil, 2016). The negotiating members are also the big and powerful in the WTO's language, accounting for the majority of global trade (Mathews, 2015). I claim that pushing for an established EGA is detrimental, since it has a single focus on win-win solutions to climate change through marketized products. Further, I claim that this narrow focus will stall the necessary changes in the other policy areas that I will move on to discuss in this chapter.

Presently, the EGA have been stalled since there is a general disagreement between the developed and developing nations. Where the developed countries are, in general, for the agreement while the developing, in general, are against it (Hannah et al., 2017). The market for environmental goods is dominated by developed countries, representing over 90 % of the global supply (Tamini & Sorgho, 2018). Yet, the WTO states that if the agreement still gets a strong majority it will be extended to all the WTO members (WTO, n.d.-a). Therefore, there is a need to include more members from the developing world in the negotiations since the EGA otherwise risk being shaped by the needs and wants of the powerful developed countries that are already reaping the rewards of the EG market (Tamini & Sorgho, 2018).

There is a, general, scholarly consensus that the EGA is primarily focusing on hard trade values, such as reducing tariff barriers, while this is shown to have little effect on both the market of environmental goods as well as lowering emissions (Brewster, Brunel, & Mayda, 2016; De Melo & Vijil, 2016; Dent, 2018; Espa & Marín Durán, 2018; Ottier, Artova, & Hingal, 2009). Instead, it is argued, that the

agreement should focus on softer values such as non-tariff barriers, fostering enabling environments, increasing capacity and knowledge to spread environmental goods and services (Monkelbaan, 2017).

Additionally, the EGA have been criticized of being ill-defined which will most likely will cause disputes, further hindering the market ascendancy of environmental goods' as well as lowering emissions (De Melo & Vijil, 2016). Moreover, the EGA has been claimed to wrongly be focusing on environmental goods and not including environmental services. An issue since the services is estimated to stand for the majority of the value and job opportunities in the agreement (De Melo & Vijil, 2016). As a consequence, if environmental services is not included in the agreement this will most likely clash with the General Agreement on Trade in Services and further hinder the deliverance of positive results from the EGA (Chu & Lee, 2018).

5.2 The TRIPS Agreement

During the Uruguay Round in 1994 there was another important establishment besides the foundation for the WTO, the agreement on Trade Related Intellectual Property Rights (TRIPS) (Sweet & Eterovic Maggio, 2015). The agreement authorizes a minimum standard for the national regulations connected to intellectual property for all the members of the WTO (WTO, 1994a). The WTO states that the agreement encourages innovation by securing that the entrepreneurs will get their invested time and money back through protection of their ideas and revenue from licenses (WTO, 2015). However, the findings show that the TRIPS agreement disfavors cooperation amongst the parties of the Paris Agreement while favoring protection for economic competition.

5.2.1 For Competition Not Cooperation

Defining the boundaries of intellectual property is difficult. One criterion of it is that it has to have novel value. Still, this creates hardship since ideas are based on previous ones in combination with knowledge obtained (Stiglitz, 2013). How does one establish that an idea is new enough to deserve the protection of the TRIPS? Also, how can we determine whether knowledge and ideas should be viewed as public or private good?

The TRIPS agreement is central in the discussion on climate change since the WTO extends the logic of protection of intellectual rights to encouraging innovative solutions, through profitability (Zhou, 2019). They state that the TRIPS agreement can ease the spread of technology to reduce emissions (Littleton, 2009). In contrast, there are scholars arguing that it actually has the opposite effect (Ni, 2015; Sweet

& Eterovic Maggio, 2015). They observe that TRIPS is instead hindering climate technology to spread and its primarily not spreading to the developing countries that needs it most (Barton, 2007).

Additionally, studies show that the TRIPS agreement only increases innovation if the country is at a certain level of development, leaving many countries behind (Sweet & Eterovic Maggio, 2015). This is of great importance in the climate change debate since there are estimates showing that the growing energy demand in developing countries is already estimated to stand for the larger part of the energy related emissions (Le Quéré et al., 2018). Therefore, the transition to renewable energy in developing countries is vital to lower global emissions.

Moreover, studies show that the majority of technological innovations that are protected by TRIPS originate from developed countries (Littleton, 2009). Despite this, there are innovative solutions explored in the developing world but since the architecture protecting intellectual property is not as strong as in many developed countries, there is an issue with entrepreneurs not being able to make profit from climate solutions. This hinders technology spread and decrease accessibility for climate solutions in these areas (Barton, 2007). Indeed, Stiglitz (2013) acknowledge that the TRIPS agreement have been based on the perspective that stronger intellectual property rights will indefinitely lead to improved economic performance. He emphasizes that this view has been used by American and European members of the WTO for corporate interests and to impose intellectual property on developing countries.

Furthermore, the Paris Agreement states that global technology transfer is vital for the agreement's success and that the developed countries should help the developing countries with the necessary, funds, knowledge and technology to help them lower their emissions (Falkner, 2016). More so, 113 countries in the Paris Agreement express that their NDCs rely fully or partly on technology transfer for low emitting solutions (Brandi, 2017). TRIPS is, thus, hindering the Paris Agreement's aims in that it may put competition and private companies profits before the fight for social equity and against climate change (Oh, 2019).

In brief, the TRIPS agreement is currently more of a hinderance than an enabler when it comes to the deliverance and spread of technology and solutions for fighting climate change. It is upholding the dominance of entrepreneurs and companies in the developed. Ultimately, the TRIPS agreement favors competition instead of cooperation in fighting climate change and on an unequal market at that.

5.3 How Fossil Fuels Still Outcompete Renewable Energy

Since the Paris Agreement came into effect the WTO have seen an increase in environmental disputes connected to national policies that have been put in place to successfully reach the NDCs. The disputes have mainly been centered around policies trying to support the establishment of renewable energy to lower emissions (Meyer, 2017). While there has been several disputes concerning renewable energy subsidies, there has nevertheless been none targeting fossil fuel subsidies (Asmelash, 2015; Farah & Cima, 2015; Fischer, 2017). In other words, this is the reason for how fossil fuels outcompete renewable energy within the WTO framework.

5.3.1 Subsidization of Energy

As seen in Figure 3, fossil fuel subsidies outnumber other subsidies related to energy by far (van Asselt, Merrill, & Kulovesi, 2018). In 2014, the IEA estimated that global fossil fuel consumption subsidies were US\$490 billion, included is the US\$444 billion in fossil fuel production subsidies the same year. In comparison, IEA found that in 2014 nations provided only \$135 billion in renewable energy subsidies, consisting of both production and consumption subsidies (Meyer, 2017).

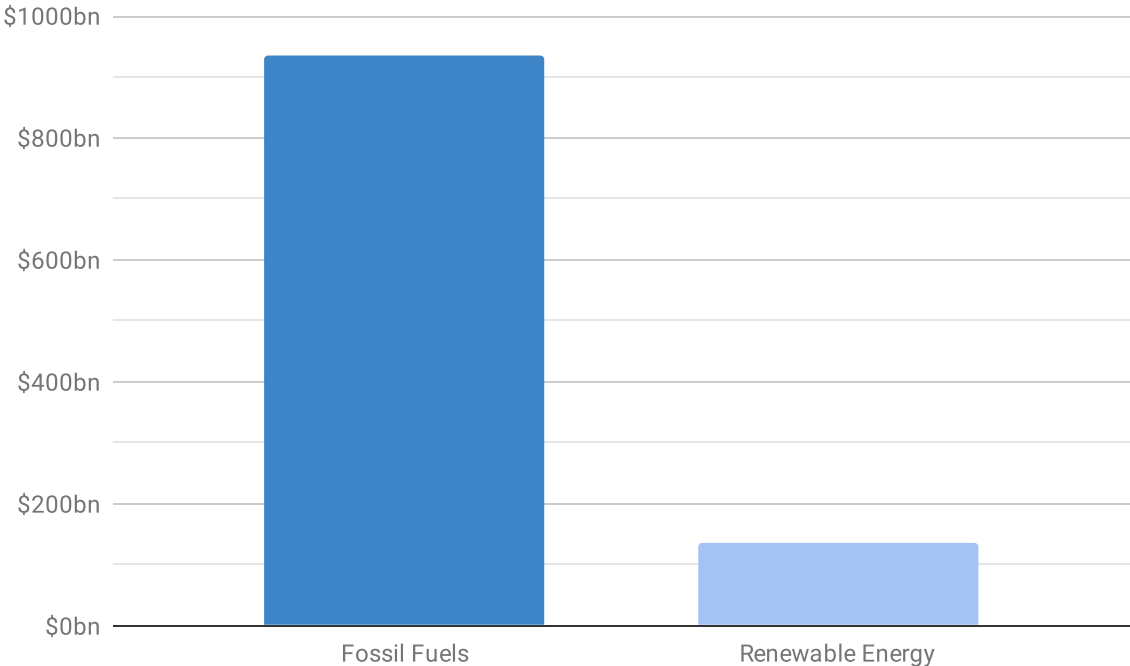


Fig 3. Figure shows a comparison between subsidies for fossil fuels and renewable energy made in 2014. Values show amount in billion US\$ and is a sum up of production and consumption subsidies. The author’s own design based on data from Meyer, T. (2017). Explaining energy disputes at the World Trade Organization. *International Environmental Agreements: Politics, Law and Economics*, 17(3), 391–410.

Research has estimated that eliminating fossil fuel subsidies for coal, oil and gas could actually deliver half of the reductions in emissions to stay within 2 degree target of the Paris Agreement (Merrill, Bassi, Bridle, & Christensen, 2015). This points out the importance of the WTO taking a stance against the fossil fuel subsidies and allowing the necessary exemptions for the support of renewable energy. Consequently, the WTO is not addressing the subsidies for fossil fuel but instead dealing with dispute after dispute on renewable energy (De Bièvre, Espa, & Poletti, 2017). Something that is giving fossil fuel the upper hand on the market and hindering renewable energies potential for market advantage (Espa & Marín Durán, 2018; Mathews, 2017). This is ultimately contradictory since the WTO are allowing energy market disturbances that favors the fossil fuel industry but still expects renewable energy to establish market dominance solely through trade liberalization and market based solutions.

5.4 GATT XX

When the GATT was established in 1947 there was a crucial article called GATT XX included. This article states that nations can enforce national policy that break the GATT regulation if it will hinder harming either the countries people, animals or environment (Seth, 2004). This exemption in the WTO's regulation is made to leave space for countries to enforce necessary policy (Eklöf, 2004). Yet, given the insecure nature of the article, it is risky to appeal to. Research also states that the cases that are referring to Article XX that have been disputed have in general lost, since the qualifications for it to pass it is difficult to prove (Hartwick & Peet, 2003; Moran, 2017). Consequently, there is a need for the WTO to make exceptions more clear in Article XX as well as making it easier to rule in favor of climate policies (Eklöf, 2004). As a consequence, creating a pathway so that courageous climate policies can increase, not decrease.

5.4.1 Ruling Environmental Policy on a Case by Case Basis

Article XX is, as of now, the only exclusion in the WTO that can be used for environmental policy (Moran, 2017). With the increasing attention of environmental matters, and the forming of UNFCC, there has been an increase in environmental-related notifications made by members to the WTO. As seen in Fig. 4, the amount of environmental-related notifications has tripled since the beginning of 2000's (WTO, 2018b).

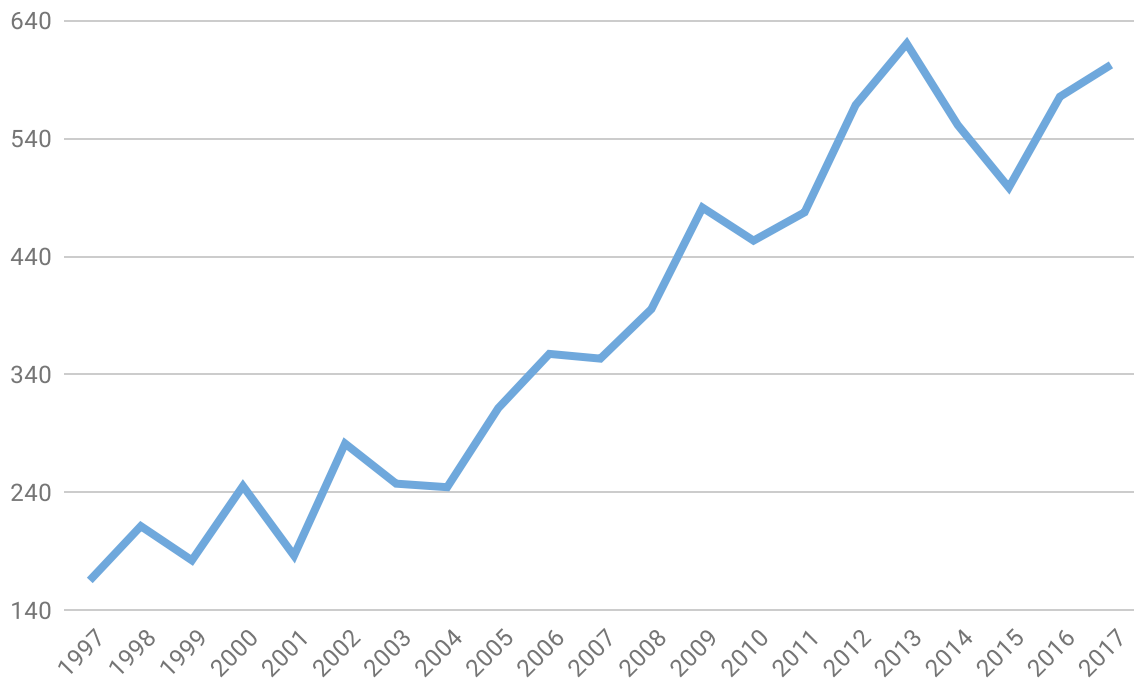


Fig 4. Figure shows the environmental-related notifications by WTO members. Values are in total notifications yearly, between 1997 and 2017. The author's own design based on data from WTO. (2018b). WTO Environmental Database.

This increase might give hope that members are moving in the right direction and implementing the necessary policies to reach their signed MEAs. Though, there is concern since appealed notifications to Article XX will be ruled on a case by case basis. As a consequence, it is vulnerable to both subjective reasoning of the Appellate Body as well as disputes from other members (Zelli, 2006).

Additionally, 39 out of 40 cases appealing to GATT XX have already lost when disputed (Moran, 2017), informing of a non-supportive domain to implement environmental policy. This has been interpreted by several scholars as a means of favoring the international trade system at the expense of environmental protection (Eklöf, 2004; Karttunen & Moore, 2018). Consequently, this is making the only loophole in the WTO regulatory system risky to take.

These results illustrate the clash between the WTO's trade policy and the requirements to meet the goals of the Paris Agreement directly (Eklöf, 2004). Additionally, it has been a center for debate since it is, in general, developed countries that file for policies through Article XX while developing countries interpret it as an environmental protectionist scheme. The fact that Article XX is so ill-defined, thus, creates tension between the WTO members and add to the already increasing division between the developed and developing countries (Espa & Marín Durán, 2018). A fact that is preventing an environment for cooperation between its members. More so, several scholars state that the

vulnerability and general failure of applying the Article XX for national climate policy have a real risk of making countries not implementing the policies needed to reach the Paris Agreement (Espa & Marín Durán, 2018; Karttunen & Moore, 2018).

6 How a Keynesian WTO would Aid the Success of the Paris Agreement

“But this long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task, if in tempestuous seasons they can only tell us, that when the storm is long past, the ocean is flat again”

- (Keynes, 1971 [1923], p. 80)

As seen in chapter 5, The WTO’s solution to climate change is to carry on as business-as-usual through market-based solutions (Hartwick & Peet, 2003). This is something that Keynes criticized the neoclassical economists of doing several decades ago and he argued that they did not accurately analyze the messiness of the economic system. He claimed that because of its messiness there is a need for state intervention, with a visible hand, to direct the market where it is failing (Krugman, 2009).

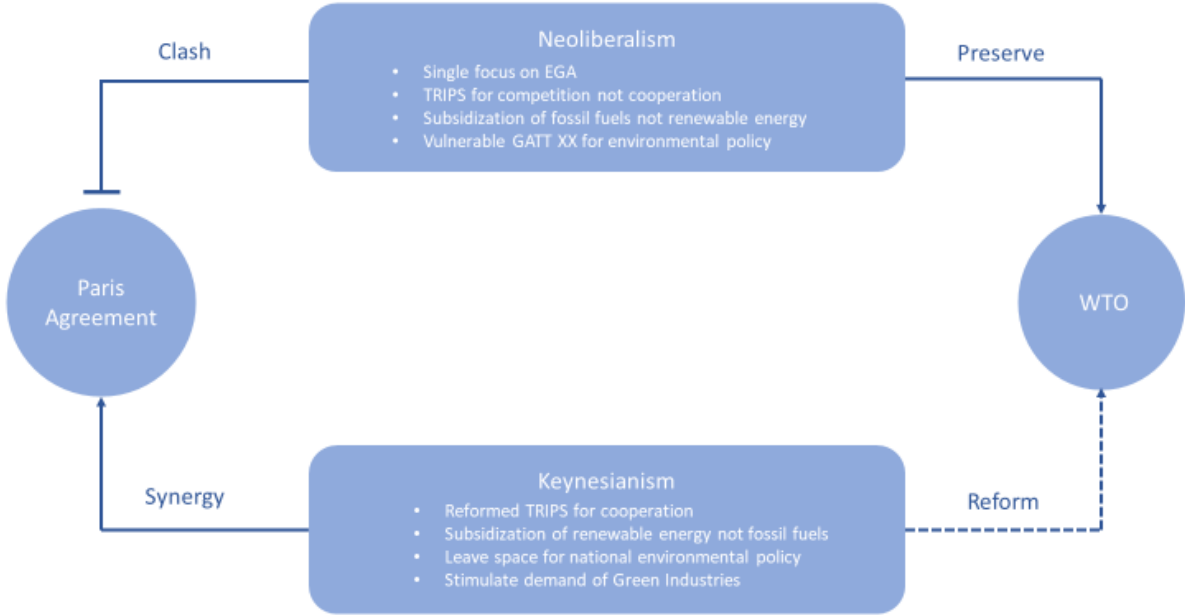


Fig 5. Figure shows the summary of the theoretical and empirical findings of the case. It demonstrates how change and synergetic effects can be created between the WTO and the Paris Agreement by applying Keynesian economic theory. The authors own design.

He emphasized that for some matters we do not have time to wait the market out since, as the quote states, in the long run we are all dead (Keynes, 1971 [1923]). This is certainly the case for climate change and as the previous chapter have discussed, there is a need for the WTO to take a stronger

stance in aiding the fight against it. As seen in my concluding theoretical and empirical findings in Figure 5, I have used the major hinderances from the last chapter to illustrate how, through a Keynesian lens, these can be altered to support a positive transition. This transition could result in a stronger supportiveness between the UNFCCC and the WTO framework, create a stronger bond of cooperation between the parties of the Paris Agreement as well as leave space for national sovereignty to implementing climate policy and stimulate demand for Green Industries. I will, however, not discuss the EGA since it is not necessarily hindering climate action but I criticize the WTO single approach in promoting it as a solution. Consequently, I do not agree with the solution(s) that the WTO have put forward to support the Paris Agreement and suggest a Keynesian reformation of TRIPS, subsidization and GATT XX.

6.1 Reform TRIPS for Cooperation

Property rights was primarily established to incentivize owners to take care of the property and use the resource with efficiency and care. However, property rights have never been completely free and the restrictions that have been stated are there to protect the health of economic competition as well as protecting the health of humans, animals and nature (Stiglitz, 2013). For instance, if the property is used either to monopolize a market or to cause potential danger to another, these rights are restricted.

Intellectual property rights, in contrast, are actually used to create a monopoly and most importantly, this monopoly is created over knowledge (Stiglitz, 2017). This, in spite of the generally accepted idea that knowledge, first and foremost, should be a public good and not a product for economic efficiency (Stiglitz, 2013). In spite of this, the TRIPS agreement intends to restrict usage of these solutions and knowledge. This idea is especially critical when discussing the success of the Paris Agreement (Zhou, 2019).

As seen in Chapter 5, The TRIPS agreement trumps competition and private companies' profitability before supporting the global spread of knowledge and technology. Restricting the use of solutions that can lower greenhouse gas emissions (Sweet & Eterovic Maggio, 2015). Instead, the TRIPS agreement should be used apply a Keynesian perspective, to alleviate future risk and decrease social inequality (Berr, 2015). The technological advancement for climate should be a public good and the WTO should back cooperation to fight climate change instead of supporting economic competition (Stiglitz, 2013). There is great potential in this change. If the trade framework were to support the knowledge and technology distribution it could lower the prices, steer the market and enable market dominance of climate technology, such as renewable energy or technology for efficient agriculture.

An important role of reshaping the TRIPS agreement would be to ease the spread of renewable technologies in order to reduce costs. This is especially important in the developing countries since they are estimated to emit more than the developed world by 2025 (Stiglitz, 2013). Lowering the costs and accessibility of renewable energy is absolutely vital in order for the Paris Agreement' success as well as inspiring more ambitious NDCs from the parties (Littleton, 2009; Stiglitz, 2017). Something that we know is absolutely vital since the established NDCs will not keep us within the 2 degree target (Zickfeld et al., 2019).

A way that this could be done is that the WTO would exempt the technological innovations that are specifically targeting climate change from the TRIPS agreement. This would ensure that more countries could benefit from the research and development within the field (Barton, 2007). Most importantly, these solutions could spread to the developing countries, aiding them in a transition towards lower emissions in energy and agriculture (Stiglitz, 2017). By doing that, the WTO would use its regulation to ensure that the TRIPS agreement is being used for the good of the global population and especially to alleviate social inequality and risk disastrous consequences in the future due to climate change.

6.2 Subsidization and Investment in Renewable Energy

Subsidization and investment in renewable energy is vital in order to outcompete the fossil fuels on the market (Stiglitz, 2006). An important lesson from Keynesian economics is the resistance of the neoclassical idea that supply created its own demand (Keynes, 2018 [1936]). This idea states that, even when in times of crises, such as the great depression or establishing renewable energy market dominance, it will in time solve itself if we just enable the entrepreneurs and private companies to work through the free market.

As stated in Chapter 5, this has not worked very well. The reason for this is that the WTO continues to allow subsidies for fossil fuels but penalizes the same with renewables. As long as this is the case not much will change (Merrill et al., 2015). Instead, Keynes asserted that the reason for many economic crises lies not in the supply but in the demand. When monetary policy is proven to be ineffective and the private sector cannot spend or invest more, there is a necessity for the public sector to take its place in supporting the economy and steer it for the benefit of society (Krugman, 2009). He emphasized that the state needed to intervene in the market and create effective demand instead of waiting out the crisis (Keynes, 2018 [1936]).

Keynesian fiscal stimulus is key when discussing the subsidies and investment in renewable energy for the progression of the Paris Agreement. Market mechanisms are insufficient to stimulate the renewable energy market. It is, thus, the job of the state and our institutions to step in and invest and

thus create demand and lower the prices, until more widespread sources of demand can naturally establish (Krugman, 2010; Taylor, Rezai, & Foley, 2014). The WTO has an important role in creating a clearer framework for favoring renewable energy while disfavoring fossil fuel through market mechanisms and trade law (Blackwater, 2012). By following Keynesian logic, the WTO should thus rule against and penalize fossil fuel subsidies while officially allowing subsidies for renewable energy.

This is especially important since the advancement of the Paris Agreement relies on the voluntary reductions of producers, consumers and nation's climate policy. The NDCs are currently ruled by the logic that one should just behave better (Stiglitz, 2017). By comparison, it is not common practice to rely on voluntarism for optimal use of resources. We should not and, as Chapter 5 showed, cannot rely on it when it comes to implementing climate policy. Subsequently, if the 'better choice' will be either less accessible or more expensive, the choice is most likely not going to be made (Stiglitz, 2013).

In contrast, should the WTO instead allow countries to subsidize renewable energy and penalize subsidization of fossil fuels this could have a big effect. The WTO, thus, has a big role to play and if they were to adjust their trade policies against fossil fuels and for renewable energy this could be a big push on reaching the Paris Agreement goals (Verkuijl et al., 2017). As stated in chapter 5, just prohibiting the subsidization for fossil fuels represents half of the emission reductions to stay within the 2 degree target (Merrill et al., 2015). Hence, I argue that the WTO should intervene in the market and drive the prices down. The prices of energy should be set socially, not economically and make renewable energy affordable. This will also relieve a bigger cost in the future due to climate change consequences.

Renewable energy needs a boost in the market for it to be able to gain the necessary spread and adoption in our society (Pollin, 2018). As seen in the several disputes at the WTO with states subsidizing renewable energy it is clear to see that the WTO need to adapt to these changes and allow space for nations to support the local generation of renewable energy and the products that enable this. The neoliberal governance of the WTO has been unable of solving this unequal access to the market and it is clearly not just free market mechanisms that are in power here. Instead we can also see that there is continuous transgression in trade policy, in the form of fossil fuel subsidies that are not acted upon (Asmelash, 2015).

6.3 Leave Space for National Environmental Policy

In order for the Paris Agreement to work, there needs to be enough leigh way for the parties to implement the ambitious climate policies necessary to stay within the 2 degree target (Falkner, 2016). As discussed in Chapter 5, Article XX is the space that the WTO has set aside for this (Seth, 2004). Nevertheless, this space has been proven to be too vague, narrow and risky for its support of the

agreement (Espa & Marín Durán, 2018). By causing repercussions for ambitious climate policy, consequently there are setbacks for the advancement of the Paris Agreement (Karttunen & Moore, 2018; Marín Durán, 2018).

Instead, The WTO needs to leave space and support a Keynesian visible hand in the form of national environmental policy (Eklöf, 2004). This is especially needed to concert action for the Paris Agreement as well as stimulate domestic demand for Green Industries. For instance, the Green Party in Sweden have suggested to implement tariffs and sanctions on imports from countries that are not parties of the Paris Agreement (Miljöpartiet, 2019). Policies that most likely will be hindered by the non-discriminatory act of the GATT.

Without a defined space for environmental policy it will be impossible for the signatories of the Paris Agreement to reach their NDCs and it will not provide the necessary boost for them to advance their commitments (Winkler et al., 2016). This space could be given by making Article XX clearer so that climate policies will be given enough space. As a consequence, nations have the potential of being more courageous with their policies since they do not risk having them disputed by another WTO member (Eklöf, 2004). This encouragement could potentially result in the parties more ambitious NDC targets, giving the Paris Agreement the boost it needs.

Additionally, by giving climate policy a clearer pathway through Article XX this could also dampen the intensifying clashes between the members of the WTO (Karttunen & Moore, 2018). Since exemptions for climate policy would be clearly stated in the trade regulations and climate policy would be protected whilst limiting space interpretation and therefor dispute. By changing this, the WTO can also state that in some aspects trade should not trump everything. Something that could have an ideological effect and change the mindset of many nations where cooperation can be built upon instead of economic competition.

6.4 Meeting Neoliberal Critique: Economic Growth in Regulated Capitalism

During the 1970s, Keynesianism lost its momentum due to an economic phenomenon that the theory could not explain. The phenomenon is known as stagflation, meaning a stagnated economic growth combined with inflation (Chick & Tily, 2014). This is also the period where the neoclassical theory was brought back into the space of public policy and the influence of neoliberalism grew (Harvey, 2005). The risk of causing stagflation is still the biggest critique of the Keynesian theory and why neoliberals argue that Keynesian policies should not be used again. Though, there is lacking empirical support, as well as, scholarly consensus on what actually caused the stagflation, either national monetary policy, fall of the Bretton Woods System or the oil price shock (Barsky & Kilian, 2002). Additionally, Krugman

(2015) claims that the economic crises with the 1970's stagflation and its social repercussions have been overstated. Instead, it was primarily the top 1 % earners that had a real change in median income, not the general population (Piketty & Saez, 2003).

Moreover, Keynes never stated that the economic system would be completely issue free, but rather, that regulated capitalism would transform the major busts into minor bumps (Krugman, 2009). The economic system is messy and that is also why the state and our institutions need to use their regulatory power to direct it towards the greater good of society (Stiglitz, 2017). The progression of the Paris Agreement is a good example of this since, as shown, if we do not allow more regulation in our economic system that favors climate policy, the Paris Agreement will be hindered by the forces of the free market.

PART THREE – LOOKING AHEAD

7 Pathways for Change: A Global Green New Deal

Globalization exacerbated the financial crises for many countries, making the bankruptcy of some banks result in drastic consequences with global effects (Horgan, 2014). As I have shown, it is also responsible for shaping an overarching trade policy structure which is hindering agency for climate. On the contrary, it is not globalization as a fact, but rather its form that is responsible (Michie, 2018). Moreover, globalization is in a state of fragmentation with an opportunity for intervention.

This pathway is called a Global Green New Deal, and is an embodiment of the necessary changes that I have discussed in this thesis. It would not dissolve or overthrow globalization, but use its potential for a just transition to fight climate change (Michie, 2018). The Green New Deal, as presented by Pollin (2018), has three objectives. Firstly, it will revive the world economy, saving and creating jobs while protecting vulnerable social groups. Secondly, it will improve energy efficiency in housing and extend public transport. Thirdly, it will invest in renewable energy and remove reliance on fossil fuels.

The origin of the Green New Deal was formed in the remnants of the economy after the financial crises, where the economic stimulus packages were estimated to 3 % of GDP during 2009. Money put in the system, without much change and stimulating industries, such as non-renewable energy and agriculture, that are detrimental to the fight against climate change. Consequently, the Green New Deal was a revolt against this and advocated a stimulus package of 1.5-2 % of GDP yearly for a sustainable economy (Barbier, 2010). Projects that will include investing in renewable energy, green infrastructure and reload the economy for green jobs as climate policy (Sundaram, 2013).

Today, the promise of the Green New Deal has spread in both social movements and political advancement. In the United States the Sunrise Movement gains momentum for the Green New Deal in the political sphere (Sunrise Movement, 2019b, 2019a). A movement who is also using political leverage by collaborating with democrat and Congresswoman Alexandra Ocasio-Cortez who is spreading the ideas in the political system (Friedman, 2019). Additionally, in Europe there is a partnership between the green parties, European Greens, that are also advocating for a Green New Deal within the European Union (European Greens, n.d.).

This movement shows that there are changes happening outside of the academic walls that concretize the change that I discuss in this thesis. Furthermore, this thesis can contribute in this transition since it demonstrates both the structural boundaries that the WTO pose in making change happen as well as the specific trade policies that should be targeted when discussing the Green New Deal.

The Green New Deal has had its fair share of criticism. Mostly relating to its resuscitation of the destructive capitalist system, through buying our way out of troubles caused by overconsuming the world's resources (Bernes, 2019). Essentially, there is an acute need for investment in Green Industries, and renewable energy specifically, to ensure its market dominance over fossil fuels. Unfortunately, investment also seeks return, and as Pollin (2018, p. 8) states "addressing these matters in terms of their specifics is more constructive in addressing climate change than presenting broad generalities about the nature of economic growth, positive or negative". Even though it is important, it will not suffice by culturally establishing a decreased demand of energy or food. Neither is an anti-capitalist revolution likely to happen within the timeframe of 2030.

8 Concluding Remarks

8.1 Summary

At the outset of this thesis I argue that the encompassing influence of the WTO embodies through trade policy, is currently hindering the Paris Agreement's progress. Simultaneously, I express, that WTO could be a key agent of change for its advancement. Nevertheless, there needs to be a shift in the theoretical underpinnings for the WTO to effectively support the Paris Agreement's framework. Since the current neoliberal paradigm is incompatible with a potent climate policy to reduce emissions. Additionally, I articulate that an anti-capitalist approach would not be adequate since it demands system- and institutional change, which is lacking both in time and political plausibility. Instead, I suggested, a Keynesian restructuring of the WTO, which can cure the ills of capitalism, still, within the current economic and institutional setting.

I found that the WTO's framework and trade policy is, indeed, hindering the members of the Paris Agreement to reach their NDCs. I also found that these hinderances are directly related to the neoliberal governance of the WTO. As a consequence, free trade and global economic growth trumps the fight on climate change. This neoliberal ideology has shaped four important trade policies at the WTO. Firstly, the single focus on the EGA. Secondly, allowing subsidization for fossil fuels while penalizing the same for renewable energy. Thirdly, the TRIPS agreements hinderance of climate technology transfer. Lastly, the (too) narrow window for national climate policy, GATT XX. This thesis shows that the neoliberal fabric of the WTO is hindering the UNFCCC's framework for fighting climate change, and consequently, the Paris Agreement's success.

On the contrary, through a critical-solutions approach, this thesis also illustrates that the WTO could in fact be a force of good and complement the aims of the Paris Agreement. This could primarily be done by targeting the named policies that are currently hindering the Paris Agreement's advancement, by applying Keynesian theory of risk management and capitalist regulation. This demonstrated the necessity of the WTO using trade regulation to support climate policy. Otherwise, trade policy will always clash with whatever global agreement there is, impeding and delaying the process of lowering emissions.

This thesis highlights the necessity for change. A shift that should be installed to create an environment where the members of both the WTO and the UNFCCC can cooperate instead of competing for economic growth. Additionally, it presents the potential of this change, especially since the UNFCCC's and the Paris Agreement's climate policy framework is built on voluntary contribution and lack the necessary force and regulatory power to ensure that emissions are lowered, while the WTO's trade

policy framework is stringent with an efficient enforcement mechanism. If synergies between the two institutions would be established it has a potential for significant and global impact.

8.2 Limitations of this Thesis

In this thesis I have used the Paris Agreement as an illustrative case of the UNFCCC's climate policy, to substantiate how the WTO could both hinder and help global action on climate change. Even though this thesis is based on a case, the Paris Agreement is the only current embodiment of the global concerted will to fight climate change. On the contrary, I have not analyzed how the WTO could fight climate change in general, but instead my analysis was limited to how they could support the aims and goals of the Paris Agreement. While, it is just one case it nonetheless spans over the dynamic between the two most important institutions for climate change and trade policy, creating a complete picture of my claim and research objectives.

I did not, however, discuss how the WTO could contribute in general to the global multilateral environmental agreements, as it would risk the results being too generalized. Nonetheless, I maintain that the conclusions of this research can be applied to other broader and more specified cases in environmental policy and governance. Consequently, this thesis can stand as solid foundation for further research, where it could act as a platform to test other hypotheses and research objectives in multilateral environmental policy.

I have collected secondary data and have not created my own empirical material through, for example, interviews or participatory observation. The purpose was to analyze the structural boundaries that the WTO have posed on the Paris Agreement agency in climate policy. Therefore, there was no need to collect primary data in the form of interviews of members, parties or secretaries of the WTO or the Paris Agreement. Instead, I used a methodologically limited focus by doing a literature review in combination with a document analysis. I decided to do this because I want to analyze what the WTO "does" in terms of agreed trade policy and regulations. I am, thus, not researching what selected members or staff "say" about the work or their reflections on the WTO's trade policy and regulations.

Due to limitations of time and scope I have not done a complete archival research of the WTO and UNFCCC which could have resulted in a more complete analysis. In addition, there is a risk of using secondary data since the results will always depend on existing data and previous research. This is especially important since many of the negotiations in the WTO and UNFCCC take place behind closed doors.

Lastly, I have primarily focused on institutional change through economic theory and trade policy as a pathway in fighting climate change for two reasons. The first reason is due to the dynamic between climate change policy and trade policy have been under researched in Sustainability Science. The second reason is since the current economic system causes structural boundaries to climate policy, consequently, to derive politically plausible solutions for climate change there needs to be a linkage to the economic system.

I find this to be an important part of the analysis, but of course not the only one. Other pathways that are equally important to address are individual and/or cultural change on a societal, institutional and individual level. Something that would not have led me to choose the WTO as the most important target. Alternately, in that case the public sphere and social movements would have been more important in the analysis. Still, I find this thesis' contribution as an important first step when discussing the bigger structural changes that are hindering the individual, local and national agency. This since, according to the results of this thesis, the structural forces will hinder any big change in the fight against climate change. My analysis can, thus, be an important leverage point to targets of entry and critique for social movements.

8.3 Further Research in Sustainability Science

My thesis illustrates that there are important clashes between the Paris Agreement and trade policy in the WTO. This shows that any wider solutions that are concluded in Sustainability Science targeting national policy will not suffice unless they also address the global trade dynamic. This dynamic between global trade policy, environmental policy and -governance is something that the field should focus more on in the future. I state my thesis can serve as a good starting point.

Future research projects ought to focus on how these changes could be put in practice and how the transformation of the WTO might become a reality. Within this I primarily see two pathways for further research. The first one may address how these necessary changes might occur from institutional influence. Focusing primarily on internal change and particularly how the WTO, in collaboration with UNFCCC, which conceivably might result in a transition to support the MEAs. The institutional and social dynamics could be researched combined with some effective ways to create change from inside the organization, using the political leverage from the Green New Deal for instance. The second one could discuss the role of civil society and social movements as potential agents of external change, using examples of social movements such as the Sunrise Movement. Some important entries for analysis are the lack of transparency in the organization and the anti-democratic way of electing representatives for each member country, as well as what is decided behind closed doors. I suggest

that social movements as a potentially important agent of change here and this potential could benefit from an academic analysis. Hence, further research focusing on institutional change could be very important to understand how the WTO could change through forces and movements from outside of the organization.

9 References

- Adelstein, R. P. (2006). "The Nation as an Economic Unit": Keynes, Roosevelt, and the Managerial Ideal. *The Journal of American History*, 78(1), 160. <https://doi.org/10.2307/2078092>
- Alvaredo, F., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2018). The Elephant Curve of Global Inequality and Growth. *AEA Papers and Proceedings*, 108(December), 103–108. <https://doi.org/10.1257/pandp.20181073>
- Ansari, A. H. (2007). Article information : GATT / WTO and MEAs : Resolving the Competing Paradigm. *Journal of International Trade Law and Policy*, 6(2), 2–13.
- Asmelash, H. B. (2015). Energy Subsidies and WTO Dispute Settlement: Why only Renewable Energy Subsidies Are Challenged. *Journal of International Economic Law*, 18(2), 261–285. <https://doi.org/10.1093/jiel/jgv024>
- Bang, G., Hovi, J., & Skodvin, T. (2016). The Paris Agreement: Short-Term and Long-Term Effectiveness. *Politics and Governance*, 4(3), 209–218. <https://doi.org/10.17645/pag.v4i3.640>
- Barbier, E. (2010). How is the Global Green New Deal going? *Nature*, 464(7290), 832–833. <https://doi.org/10.1038/464832a>
- Barsky, R. B., & Kilian, L. (2002). Do We Really Know that Oil Caused the Great Stagflation? A Monetary Alternative. *NBER/Macroeconomics Annual*, 16(1), 137–183. <https://doi.org/10.1162/088933601320224900>
- Barton, J. H. (2007). Intellectual property and access to clean energy technologies in developing countries: An analysis of solar photovoltaic , biofuel and wind technologies. *ICTSD Programme on Trade and Environment*, (2).
- Belcher, K., Hobbs, A. L., & Kerr, W. A. (2005). The WTO and environmental sustainability: is there a conflict? *International Journal of Environment and Sustainable Development*, 2(1), 2. <https://doi.org/10.1504/ijesd.2003.002360>
- Bernes, J. (2019). Between the Devil and the Green New Deal • Commune. *Commune*. Retrieved from https://communemag.com/between-the-devil-and-the-green-new-deal/?fbclid=IwAR0CCZlb32j-rPVoWJQ8lkRqNaICS_wJPI1qvCx5_Yd9U3Z-LPvKBb4dkuA
- Berr, E. (2009). Keynes and Sustainable Development. *International Journal of Political Economy*, 38(3), 22–38. <https://doi.org/10.2753/ijp0891-1916380302>
- Berr, E. (2015). Sustainable development in a post Keynesian perspective: why eco-development is relevant to post Keynesian economics. *Journal of Post Keynesian Economics*, 37, 459–480. <https://doi.org/DOI: 10.1080/01603477.2015.1000173>
- Blackwater, B. (2012). Two Cheers for Environmental Keynesianism. *Capitalism Nature Socialism*, 23(2), 51–74. <https://doi.org/10.1080/10455752.2012.675232>
- Blau, J. (2018). Trump Has Committed a Crime Against Humanity. *Sociological Forum*, 33(4), 1101–1106. <https://doi.org/10.1111/socf.12462>
- Brandi, C. (2017). Trade Elements in Countries' Climate Contributions under the Paris Agreement Climate and Energy. *Climate and Energy*, March 2017(March). Retrieved from https://www.ictsd.org/sites/default/files/research/trade_elements_in_countries_climate_contributions.pdf

- Brewster, R., Brunel, C., & Mayda, A. M. (2016). Trade in Environmental Goods: A Review of the WTO Appellate Body's Ruling in US - Countervailing Measures (China). *World Trade Review*, 15(2), 327–349. <https://doi.org/10.1017/S1474745615000713>
- Callinicos, A. (2007). *Social theory : a historical introduction*. Oxford: Polity.
- Carlson, D. L. (2016). WTO reforms, sustainable development and climate clubs: Calls for new thinking. *Journal of Energy and Natural Resources Law*, 34(1), 126–136. <https://doi.org/10.1080/02646811.2016.1120579>
- Cedro, R. R. (2018). Development and the WTO: Freedom for Whom? *Austral: Brazilian Journal of Strategy & International Relations*, 4(7), 190–208. <https://doi.org/10.22456/2238-6912.45846>
- Chick, V., & Tily, G. (2014). Whatever happened to Keynes's monetary theory. *Cambridge Journal of Economics*, 38(3), 681–699. <https://doi.org/10.1093/cje/beu011>
- Chu, C. Y. C., & Lee, P. C. (2018). Paris Needs Geneva, and Vice Versa. *Global Policy*, 9(4), 570–577. <https://doi.org/10.1111/1758-5899.12584>
- Cléménçon, R. (2016). The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough? *Journal of Environment and Development*, 25(1), 3–24. <https://doi.org/10.1177/1070496516631362>
- Condon, B. J. (2009). Climate change and unresolved issues in WTO law. *Journal of International Economic Law*, 12(4), 895–926. <https://doi.org/10.1093/jiel/jgp033>
- Cossy, M., & Marceau, G. (2009). Institutional challenges to enhance policy Co-Ordination — How WTO rules could be utilised to meet climate objectives? *International Trade Regulation and the Mitigation of Climate Change: World Trade Forum*, 371–394. <https://doi.org/10.1017/CBO9780511757396.020>
- De Bièvre, D., Espa, I., & Poletti, A. (2017). No iceberg in sight: on the absence of WTO disputes challenging fossil fuel subsidies. *International Environmental Agreements: Politics, Law and Economics*, 17(3), 411–425. <https://doi.org/10.1007/s10784-017-9362-0>
- De Melo, J., & Vijil, M. (2016). The critical mass approach to achieve a deal on green goods and services: What is on the table? How much should we expect? *Environment and Development Economics*, 21(3), 393–414. <https://doi.org/10.1017/S1355770X15000285>
- Dent, C. M. (2018). Clean Energy Trade Governance: Reconciling Trade Liberalism and Climate Interventionism? *New Political Economy*, 23(6), 728–747. <https://doi.org/10.1080/13563467.2018.1384456>
- Donnan, S. (2017, November 6). Globalisation marches on without Trump. *Financial Times*. Retrieved from <https://www.ft.com/content/d81ca8cc-bfdd-11e7-b8a3-38a6e068f464>
- Dubash, N. K., & Rajamani, L. (2010). Beyond Copenhagen: next steps. *Climate Policy*, 10(6), 593–599. <https://doi.org/10.3763/cpol.2010.0693>
- Eckersley, R. (2004). The Big Chill: The WTO and Multilateral Environmental Agreements. *Global Environmental Politics*, 4(2), 24–50. <https://doi.org/10.1162/152638004323074183>
- Eklöf, G. (2004). *Miljön på undantag : de internationella miljöavtalen och WTO [The environment on exception: the international environmental agreements and the WTO]*. Stockholm: Forum Syd förlag.

- Espa, I., & Marín Durán, G. (2018). Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada – Renewable Energy/Fit Program. *Journal of International Economic Law*, 21(3), 621–653. <https://doi.org/10.1093/jiel/jgy031>
- European Greens. (n.d.). Green New Deal. Retrieved May 1, 2019, from <https://europeangreens.eu/content/green-new-deal>
- Evans, J. (2012). *Environmental governance*. New York: Routledge.
- Falkner, R. (2016). The Paris Agreement and the new logic of international climate politics. *International Affairs*, 5(December 2015), 1107–1125.
- Farah, P. D., & Cima, E. (2015). WTO and Renewable Energy : Lessons from the Case Law. *Journal of World Trade*, 49(6), 1103–1116. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=edshol&AN=edshol.hein.kluwer.jwt0049.56&site=eds-live&scope=site>
- Fischer, C. (2017). Environmental Protection for Sale: Strategic Green Industrial Policy and Climate Finance. *Environmental and Resource Economics*, 66(3), 553–575. <https://doi.org/10.1007/s10640-016-0092-5>
- Foster, J. B. (2000). Metabolism of Nature and Society. *Marx's Ecology: Materialism and Nature*, 141–177. Retrieved from <https://static1.squarespace.com/static/53c91652e4b09f1cf07c75bc/t/57286ae63c44d8d1105c1755/1462266612706/Foster%3B+Marx%27s+Ecology+%5BCh+5%5D.pdf>
- Foster, J. B., Clark, B., & York, R. (2011). *The ecological rift : capitalism's war on the earth*. New York: Monthly Review Press.
- Friedman, L. (2019). What Is the Green New Deal? A Climate Proposal, Explained. *The New York Times*. Retrieved from <https://www.nytimes.com/2019/02/21/climate/green-new-deal-questions-answers.html>
- Gallagher, K. P. (2008). Understanding Developing Country Resistance to the Doha Round. *Source: Review of International Political Economy*, 15(1), 62–85. <https://doi.org/10.1080/09692290701751308>
- Gao, Y., Gao, X., & Zhang, X. (2017). The 2 °C Global Temperature Target and the Evolution of the Long-Term Goal of Addressing Climate Change—From the United Nations Framework Convention on Climate Change to the Paris Agreement. *Engineering*, 3(2), 272–278. <https://doi.org/10.1016/J.ENG.2017.01.022>
- Ghotge, S. (2018a). Climate Change and Marx in the 21st Century, Part I,. *Capitalism Nature Socialism*, 29(2), 29–42. <https://doi.org/10.1080/10455752.2018.1467366>
- Ghotge, S. (2018b). Climate Change and Marx in the Twenty-First Century, Part II. *Capitalism Nature Socialism*, 29(3), 11–20. <https://doi.org/10.1080/10455752.2018.1474565>
- Gingerich, E. (2018). Generation and storage of renewable energy: Rising parity of emerging economies. *International Journal of Energy Economics and Policy*, 8(1), 17–26. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040984982&partnerID=40&md5=e07d185ccc0b3b499ddd6fd5a013fd84>
- Green, A. (2005). Climate Change, Regulatory Policy and the WTO: How Constraining are Trade Rules? *Journal of International Economic Law*, 8(1). <https://doi.org/https://doi.org/10.1093/jielaw/jgi008>

- Hackmann, B. (2016). *The NDC Cycle in the Paris Agreement Webinar #2 NDC cycle*. Retrieved from https://unfccc.int/files/focus/application/pdf/ndc_cycle_webinar2.pdf
- Hannah, E., Ryan, H., & Scott, J. (2017). Power, knowledge and resistance: between co-optation and revolution in global trade. *Review of International Political Economy*, 24(5), 741–775. <https://doi.org/10.1080/09692290.2017.1324807>
- Hartwick, E., & Peet, R. (2003). Neoliberalism and Nature: The Case of the WTO. *Annals of the American Academy of Political and Social Science*, 590, 188–211. <https://doi.org/10.1177/0002716203256721>
- Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford: Oxford University Press.
- Hediger, W. (1999). Reconciling “weak” and “strong” sustainability. *International Journal of Social Economics*, 26(7/8/9), 1120–1144. <https://doi.org/10.1108/03068299910245859>
- Hermwille, L., Obergassel, W., Ott, H. E., & Beuermann, C. (2017). UNFCCC before and after Paris—what’s necessary for an effective climate regime? *Climate Policy*, 17(2), 150–170. <https://doi.org/10.1080/14693062.2015.1115231>
- Horgan, S. (2014). The Impact of Globalisation and the Global Financial Crisis: Lund University Libraries. *International Trade and Business Law Review*, 17(1), 43–65. Retrieved from <http://heinonline.org.ludwig.lub.lu.se/HOL/Page?handle=hein.journals/itbla17&div=6>
- ICTSD and World Economic Forum. (2016). Global Rules for Mutually Supportive and Reinforcing Trade and Climate Regimes. In *International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum*. Geneva.
- Iida, K. (2003). Why does the World Trade Organization appear neoliberal? The puzzle of the high incidence of guilty verdicts in WTO adjudication. *Journal of Public Policy*, 23(1), 1–21. <https://doi.org/10.1017/S0143814X03003015>
- IPCC. (2018). Summary for Policymakers. In *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change*,. <https://doi.org/10.1017/CBO9781107415324>
- Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., ... Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. <https://doi.org/10.1007/s11625-010-0117-x>
- Jones, C. I., & Klenow, P. J. (2016). Beyond GDP? Welfare across Countries and Time †. *American Economic Review*, 106(9), 2426–2457. <https://doi.org/10.1257/aer.20110236>
- Jones, K. A. (2004). *Who’s afraid of the WTO?* Oxford: Oxford University Press.
- Karttunen, M., & Moore, M. O. (2018). India-Solar Cells: Trade Rules, Climate Policy, and Sustainable Development Goals. *World Trade Review*, 17(2), 215–237. <https://doi.org/10.1017/S1474745617000647>
- Kates, R. W., Clark, W. C. W., Hall, J., Jaeger, C. C., Corell, R., Hall, M., ... Svedin, U. (2000). *Sustainability Science*. 292(5517), 21. <https://doi.org/10.1126/science.1059386>
- Keynes, J. M. (1971 [1923]). *Collected writings of John Maynard Keynes. Vol. 4 A tract on monetary reform* (New ed.). London: Macmillan.
- Keynes, J. M. (2013 [1930]). Economic Possibilities for our Grandchildren. *Revisiting Keynes*, 17–26. <https://doi.org/10.7551/mitpress/9780262162494.003.0002>

- Keynes, J. M. (2018 [1936]). *The General Theory of Employment, Interest, and Money*. Cham: Springer International Publishing.
- Klein, N. (2015). *This changes everything : capitalism vs. the climate*. New York: Simon & Schuster.
- Krugman, P. (2009, September). How Did Economists Get It So Wrong? *The New York Times*. Retrieved from https://www.nytimes.com/2009/09/06/magazine/06Economic-t.html?_r=1&em=&pagewanted=all
- Krugman, P. (2010, April). Building a Green Economy. *The New York Times*. Retrieved from https://www.nytimes.com/2010/04/11/magazine/11Economy-t.html?rref=collection%2Fbyline%2Fpaul-krugman&action=click&contentCollection=undefined®ion=stream&module=stream_unit&version=search&contentPlacement=2&pgtype=collection
- Krugman, P. (2015). Slandering the 70s. *The New York Times*. Retrieved from <https://krugman.blogs.nytimes.com/2015/03/08/slandering-the-70s/>
- Krugman, P. (2018a). Bumbling Into a Trade War. *The New York Times*. Retrieved from https://www.nytimes.com/2018/03/22/opinion/trade-war-china-trump.html?rref=collection%2Fbyline%2Fpaul-krugman&action=click&contentCollection=undefined®ion=stream&module=stream_unit&version=search&contentPlacement=2&pgtype=collection
- Krugman, P. (2018b). Introduction by Paul Krugman. In *The General Theory of Employment, Interest and Money* (pp. xxv–xlili). Cham: Springer International Publishing.
- Ladly, S. D. (2012). Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities. *International Environmental Agreements: Politics, Law and Economics*, 12(1), 63–84. <https://doi.org/10.1007/s10784-011-9153-y>
- Lal, D. (2006). *Reviving the invisible hand : the case for classical liberalism in the twenty-first century*. Princeton, N.J.: Princeton University Press.
- Landler, Mark, Plumer, Brad, Qiu, L. (2017). Trump, Prioritizing Economy Over Climate, Cites Disputed Premises. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/06/01/us/politics/fact-check-climate-change-trump.html?action=click&module=RelatedCoverage&pgtype=Article®ion=Footer>
- Lawrence, P., & Wong, D. (2017). Soft law in the paris climate agreement: Strength or weakness? *Review of European, Comparative and International Environmental Law*, 26(3), 276–286. <https://doi.org/10.1111/reel.12210>
- Le Quéré, C., Andrew, R. M., Friedlingstein, P., Sitch, S., Hauck, J., Pongratz, J., ... Zheng, B. (2018). Global Carbon Budget 2018. *Earth System Science Data*, 10(4), 2141–2194. <https://doi.org/10.5194/essd-10-2141-2018>
- Littleton, M. (2009). The TRIPS Agreement and transfer of climate-change-related technologies to developing countries. *Natural Resources Forum*, 33(3), 233–244. <https://doi.org/10.1111/j.1477-8947.2009.01228.x>
- Marín Durán, G. (2018). Sheltering Government Support To ‘Green’ Electricity: the European Union and the World Trade Organization. *International and Comparative Law Quarterly*, 67(01), 129–165. <https://doi.org/10.1017/s0020589317000537>
- Mathews, J. A. (2015). Trade policy, climate change and the greening of business. *Australian Journal of International Affairs*, 69(5), 610–624. <https://doi.org/10.1080/10357718.2015.1048782>

- Mathews, J. A. (2017). Global trade and promotion of cleantech industry: a post-Paris agenda. *Climate Policy*, 17(1), 102–110. <https://doi.org/10.1080/14693062.2016.1215286>
- Merrill, L., Bassi, A. M., Bridle, R., & Christensen, L. T. (2015). *Tackling Fossil Fuel Subsidies and Climate Change: Levelling the energy playing field*. <https://doi.org/http://dx.doi.org/10.6027/TN2015-575>
- Meyer, T. (2017). Explaining energy disputes at the World Trade Organization. *International Environmental Agreements: Politics, Law and Economics*, 17(3), 391–410. <https://doi.org/10.1007/s10784-017-9356-y>
- Michie, J. (2018). Forms of globalisation: from ‘capitalism unleashed’ to a global green new deal. *European Journal of Economics and Economic Policies: Intervention*, 15(2), 163–173. <https://doi.org/10.4337/ejeep.2018.02.08>
- Miljöpartiet. (2019). Miljöpartiets green new deal - för en rättvis klimatomställning! [The Green Party’s green new deal - for a just climate transition]. Retrieved May 13, 2019, from Miljöpartiet Website website: <https://www.mp.se/just-nu/miljopartiets-green-new-deal-en-rattvis-klimatomstalling>
- Millimet, D. L., & Roy, J. (2015). Multilateral environmental agreements and the WTO. *Economics Letters*, 134, 20–23. <https://doi.org/10.1016/j.econlet.2015.05.035>
- Milner, H. V. (2019). Globalisation, Populism and the Decline of the Welfare State. *Survival*, 61(2), 91–96. <https://doi.org/10.1080/00396338.2019.1589087>
- Miranda, M. S. (2018). Liberalization at the Speed of Light: International Trade in Electricity and Interconnected Networks. *Journal of International Economic Law*, 21, 67–101. <https://doi.org/10.1093/jiel/jgy010>
- Monkelbaan, J. (2017). Using trade for achieving the SDGs: The example of the environmental goods agreement. *Journal of World Trade*, 51(4), 575–604.
- Moore, M. O. (2017). Carbon Safeguard? Managing the Friction Between Trade Rules and Climate Policy. *Journal of World Trade*, 51(1), 43–66.
- Moran, N. (2017). The First Twenty Cases Under GATT Article XX: Tuna or Shrimp Dear? In G. Adinolfi, F. Baetens, J. Caiado, A. Lupone, & A. G. Micara (Eds.), *The American Journal of International Law* (pp. 4–21). <https://doi.org/10.1007/978-3-319-44645-5>
- Nair, M. D. (2011). GATT, TRIPS, WTO and CBD - Relevance to agriculture. *Journal of Intellectual Property Rights*, 16(2), 176–182.
- Ni, K.-J. (2015). Legal Aspects (Barriers) of Granting Compulsory Licenses for Clean Technologies in Light of WTO/TRIPS Rules: Promise or Mirage? *World Trade Review*, 14(04), 701–719. <https://doi.org/10.1017/S1474745614000524>
- Oh, C. (2019). Political Economy of International Policy on the Transfer of Environmentally Sound Technologies in Global Climate Change Regime. *New Political Economy*, 24(1), 22–36. <https://doi.org/10.1080/13563467.2017.1417361>
- Ottier, T. C., Artova, O. N., & Hingal, A. S. (2009). The Potential of Tariff Policy for Climate Change Mitigation : Legal and Economic Analysis. *Nature*, 5(5), 1007–1037.
- Peet, R. (2009). *Unholy trinity : the IMF, World Bank, and WTO* (2nd ed.). New York: Zed Books.
- Peet, R., Robbins, P., & Watts, M. (2011). *Global political ecology*. London ; New York: Routledge.

- Pickering, J., McGee, J. S., Stephens, T., & Karlsson-Vinkhuyzen, S. I. (2018). The impact of the US retreat from the Paris Agreement: Kyoto revisited? *Climate Policy*, 18(7), 818–827. <https://doi.org/10.1080/14693062.2017.1412934>
- Piketty, T., & Saez, E. (2003). Income inequality in the United States, 1913–1998. *Quarterly Journal of Economics*, 118(1), 1–39. <https://doi.org/10.1162/00335530360535135>
- Pollin, R. (2018). Degrowth vs. a Green New Deal. *New Left Review*, 112(4), 5–25.
- Prudham, S. (2009). Pimping climate change: Richard Branson, global warming, and the performance of green capitalism. *Environment and Planning*, 41, 1594–1613. <https://doi.org/10.1068/a4071>
- Ramakrishna, K. (2000). The UNFCCC-History and Evolution of Climate Change Negotiations. *Climate Change and Development*, 47–62. Retrieved from <https://environment.yale.edu/publication-series/documents/downloads/o-u/Ramakrishna.pdf>
- Saad, A. (2018). Pathways of Harm: The Consequences of Trump’s Withdrawal from the Paris Climate Agreement. *Environmental Justice*, 11(1), 47–51. <https://doi.org/10.1089/env.2017.0033>
- Sampson, T. (2017). Brexit: The Economics of International Disintegration. *Journal of Economic Perspectives*, 31(4), 163–184. <https://doi.org/10.1257/jep.31.4.163>
- Schleussner, C. F., Rogelj, J., Schaeffer, M., Lissner, T., Licker, R., Fischer, E. M., ... Hare, W. (2016). Science and policy characteristics of the Paris Agreement temperature goal. *Nature Climate Change*, 6(9), 827–835. <https://doi.org/10.1038/nclimate3096>
- Schwartz, R. (2000). Trade measures pursuant to multilateral environmental agreements - developments from Singapore to Seattle. *Review of European Community and International Environmental Law*, 9(1), 63–70. <https://doi.org/10.1111/1467-9388.00233>
- Seth, T. (2004). *WTO och den internationella handelsordningen [WTO and the international trade regime]*. Lund: Studentlitteratur.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., ... Sörlin, S. (2015). Sustainability. Planetary boundaries: guiding human development on a changing planet. *Science (New York, N.Y.)*, 347(6223), 1259855. <https://doi.org/10.1126/science.1259855>
- Stein, A. A. (2016). The great trilemma: are globalization, democracy, and sovereignty compatible? *International Theory*, 8(2), 297–340. <https://doi.org/10.1017/S1752971916000063>
- Stiglitz, J. E. (2006). A new agenda for global warming. *Economists’ Voice*, 3(7), 1–4. <https://doi.org/10.2202/1553-3832.1210>
- Stiglitz, J. E. (2013). Making globalization work. *Choice Reviews Online*, 44(06), 44-3398-44-3398. <https://doi.org/10.5860/choice.44-3398>
- Stiglitz, J. E. (2015). Overcoming the Copenhagen Failure with Flexible Commitments. *Economics of Energy & Environmental Policy*, 4(2), 29–36. <https://doi.org/10.5547/2160-5890.4.2.jsti>
- Stiglitz, J. E. (2017). *Globalization and its discontents revisited : anti-globalization in the era of Trump*. New York: W.W. Norton & Company.
- Sundaram, J. K. (2013). A Global Green New Deal. *Economic and Political Weekly*, 48(34), 17–19. <https://doi.org/10.1017/cbo9780511844607>
- Sunrise Movement. (2019a). About - Sunrise Movement. Retrieved May 7, 2019, from <https://www.sunrisemovement.org/about>

- Sunrise Movement. (2019b). Green New Deal Strategy — Sunrise Movement. Retrieved May 1, 2019, from <https://www.sunrisemovement.org/gnd-strategy>
- Sweet, C. M., & Eterovic Maggio, D. S. (2015). Do stronger intellectual property rights increase innovation? *World Development*, 66, 665–677. <https://doi.org/10.1016/j.worlddev.2014.08.025>
- Tamini, L. D., & Sorgho, Z. (2018). Trade in Environmental Goods: Evidences from an Analysis Using Elasticities of Trade Costs. *Environmental and Resource Economics*, 70(1), 53–75. <https://doi.org/10.1007/s10640-017-0110-2>
- Tamiotti, L., Teh, R., Kulaçoğlu, V., Olhoff, A., Simmons, B., & Abaza, H. (2009). *Trade and Climate Change. A report by the United Nations Environment Programme and the World Trade Organization*. Geneva: WTO publications.
- Tarasofsky, R., & Palmer, A. (2006). The WTO in crisis: Lessons learned from the Doha negotiations on the environment. *International Affairs*, 82(5), 899–915. <https://doi.org/10.1111/j.1468-2346.2006.00577.x>
- Taylor, L., Rezai, A., & Foley, D. K. (2014). *An Integrated Approach to Climate Change, Income Distribution, Employment, and Economic Growth* * (No. 3). Retrieved from http://epub.wu.ac.at/4557/1/EcolEcon_WorkingPaper_2015_3.pdf
- The White House. (2017). Statement by President Trump on the Paris Climate Accord | The White House. Retrieved April 5, 2019, from <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>
- Tisdell, C. (2001). Globalisation and sustainability: environmental Kuznets curve and the WTO. *Ecological Economics*, 39(2), 185–196. [https://doi.org/https://doi.org/10.1016/S0921-8009\(01\)00234-8](https://doi.org/https://doi.org/10.1016/S0921-8009(01)00234-8)
- UNFCCC. (n.d.-a). About the Secretariat. Retrieved April 25, 2019, from <https://unfccc.int/about-us/about-the-secretariat>
- UNFCCC. (n.d.-b). Conference of the Parties. Retrieved April 25, 2019, from <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop?page=0%2C0%2C0%2C2%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0%2C0>
- UNFCCC. (n.d.-c). The Paris Agreement. Retrieved April 25, 2019, from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
- UNFCCC. (2015). *Adoption of the Paris Agreement - Conference of the Parties COP 21*. <https://doi.org/FCCC/CP/2015/L.9/Rev.1>
- Urpelainen, J., & Van De Graaf, T. (2017). Climate Policy United States non-cooperation and the Paris agreement. *Climate Policy*, 18(7), 839–851. <https://doi.org/10.1080/14693062.2017.1406843>
- van Asselt, H., Merrill, L., & Kulovesi, K. (2018). *Fossil Fuel Subsidies and the Global Climate Regime*. Cambridge University Press. <https://doi.org/http://dx.doi.org/10.1017/9781108241946.010>
- Verkuijl, C., Van Asselt, H., Moerenhout, T., Casier, L., Wooders, P., Asmelash, B., ... Young, M. A. (2017). Tackling Fossil Fuel Subsidies Through International Trade Agreements: Taking Stock, Looking Forward. *Virginia Journal of International Law*, 58(May), 309. Retrieved from https://vjilorg.files.wordpress.com/2019/02/verkuijl_final-draft.pdf
- Winkler, H., & Beaumont, J. (2010). Fair and effective multilateralism in the post-copenhagen climate negotiations. *Climate Policy*, 10(6), 638–654. <https://doi.org/10.3763/cpol.2010.0130>

- Winkler, H., Höhne, N., Rogelj, J., Fransen, T., Schaeffer, R., Riahi, K., ... den Elzen, M. (2016). Paris Agreement climate proposals need a boost to keep warming well below 2 °C. *Nature*, 534(7609), 631–639. <https://doi.org/10.1038/nature18307>
- Wright, E. O. (2009). *Envisioning Real Utopias*. Retrieved from https://www.ssc.wisc.edu/~wright/ERU_files/ERU-full-manuscript.pdf
- Wright, E. O. (2015). Eroding Capitalism: A Comment on Stuart White's "Basic Capital in the Egalitarian Toolkit." *Journal of Applied Philosophy*, 32(4), 432–439. <https://doi.org/10.1111/japp.12128>
- Wright, E. O., & Rogers, J. (2011). *American society : how it really works*. New York: W.W. Norton & Co.
- WTO. (n.d.-a). Environmental Goods Agreement. Retrieved March 31, 2019, from https://www.wto.org/english/tratop_e/envir_e/ega_e.htm
- WTO. (n.d.-b). The Doha Round. Retrieved March 31, 2019, from https://www.wto.org/english/tratop_e/dda_e/dda_e.htm
- WTO. (n.d.-c). Trade and environment. Retrieved March 28, 2019, from https://www.wto.org/english/tratop_E/envir_e/envir_e.htm
- WTO. (1994a). *Decision on Trade and Environment*. Retrieved from https://www.wto.org/english/tratop_e/envir_e/issu5_e.htm
- WTO. (1994b). *Marrakesh Declaration of 15 April 1994*. Retrieved from https://www.wto.org/english/docs_e/legal_e/marrakesh_decl_e.pdf
- WTO. (1995). *Agreement Establishing the World Trade Organization*. Retrieved from https://www.wto.org/english/docs_e/legal_e/04-wto.pdf
- WTO. (2012). *Harnessing trade for sustainable development and a green economy*. 24. Retrieved from https://www.wto.org/english/res_e/publications_e/brochure_rio_20_e.pdf
- WTO. (2015). *Trips agreement; changing the face of IP trade and policy-making*. Retrieved from https://www.wto.org/english/thewto_e/20y_e/trips_brochure2015_e.pdf
- WTO. (2017). *Matrix on Trade-related Measures Pursuant to Selected Multilateral Environmental Agreements*. Retrieved from https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S006.aspx?DataSource=Cat&query=@Symbol=WT/CTE/W/160/*&Language=English&Context=ScriptedSearches&languageUIChanged=true
- WTO. (2018a). Mainstreaming Trade to Attain the Sustainable Development Goals. *Mainstreaming Trade to Attain the Sustainable Development Goals*, 69. <https://doi.org/10.30875/9c96f135-en>
- WTO. (2018b). WTO Environmental Database. Retrieved May 1, 2019, from <https://edb.wto.org/>
- Yeater, M., & Vasquez, J. (2001). Demystifying the relationship between CITES and the WTO. *Review of European Community and International Environmental Law*, 10(3), 271–276. <https://doi.org/10.1111/1467-9388.00286>
- Zelli, F. (2006). The World Trade Organization. Free Trade and Its Environmental Impacts. In *Handbook of Globalization and the Environment* (pp. 177–216). <https://doi.org/10.4324/9781315093253-10>

- Zhang, H. Bin, Dai, H. C., Lai, H. X., & Wang, W. T. (2017). U.S. withdrawal from the Paris Agreement: Reasons, impacts, and China's response. *Advances in Climate Change Research*, 8(4), 220–225. <https://doi.org/10.1016/j.accre.2017.09.002>
- Zhang, Y. X., Chao, Q. C., Zheng, Q. H., & Huang, L. (2017). The withdrawal of the U.S. from the Paris Agreement and its impact on global climate change governance. *Advances in Climate Change Research*, 8(4), 213–219. <https://doi.org/10.1016/j.accre.2017.08.005>
- Zhou, C. (2019). Can intellectual property rights within climate technology transfer work for the UNFCCC and the Paris Agreement? *International Environmental Agreements: Politics, Law and Economics*, 19(1), 107–122. <https://doi.org/10.1007/s10784-018-09427-2>
- Zickfeld, K., Forster, P. M., Millar, R. J., Rogelj, J., Smith, C. J., Fuglestvedt, J., & Allen, M. (2019). Current fossil fuel infrastructure does not yet commit us to 1.5 °C warming. *Nature Communications*, 10(1), 1–10. <https://doi.org/10.1038/s41467-018-07999-w>