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**Towards a Better Understanding of Climate
Change Negotiations**
A Mixed-Method Approach

Bryndís Arndal Woods

Daði Már Kristófersson og Silja Bára Ómarsdóttir

Hagfræðideild

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HÁSKÓLI ÍSLANDS

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Mixed-Method Approach.

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Preface

This thesis is a 60 ECTS final project in the Environment and Natural Resources Program, with a focus in Economics. This undertaking formally began in the fall of 2011, but in reality, began in the fall of 2010 when I was given an assignment to write a research paper about any environmental topic I wished. From the first, the topic which interested me most was climate change and the politics surrounding global climate policy so I wrote my paper about climate change and the North-South divide. As it turned out, the conclusion of that paper became the proposal for this thesis. Now, two years later, my tree has finally borne fruit.

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Abstract

This thesis utilizes a novel mixed-methodological approach to further understanding of the current state of international climate change negotiations. The methodological approach builds upon recent efforts within environmental economics literature – specifically game theoretic analyses – to better account for political realities. By utilizing content and discourse analyses in an innovative fashion, this thesis demonstrates the usefulness of conducting qualitative and quantitative analyses simultaneously to capture the “true” game being played and best represent reality. The structure of this thesis is as follows. Chapter 2 presents a literature review of both game theoretic analyses and discourse analyses as they relate to climate change negotiations. Chapter 3 presents the data under analysis: a summary of the Durban negotiations, key issues, turning points, and the decisions reached. Chapter 4 describes the methodological approach. Chapter 5 includes the results and discussion. First, the results of the content and discourse analyses are presented: the list of players and list of issues under analysis. Next, game theory is applied in order to represent player strategies as strategy continuums and analyze their ‘success’ vis-à-vis the Durban outcomes. The next section in Chapter 5 presents and analyzes players’ reactions to the Durban outcomes. Chapter 6 generates predictions regarding how international climate change negotiations will progress in the future and recommendations regarding how more progressive outcomes may be reached. The main result of this thesis was that players largely achieved the outcomes they desired but the majority of players expressed dissatisfaction with the Durban outcome despite the high degree of ‘success’, which I have explained by uncovering geopolitical shifts and vital political concerns which underlie players’ strategies.

Key Words

Durban Platform; Non-Cooperative Game Theory; Climate Change Negotiations; Discourse Analysis; International Environmental Agreement; Mixed Methods/ Integrated Assessment; International Climate Policy

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List of Acronyms

AOSIS: Alliance of Small Island States

AWG-KP: The Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol

AWG-LCA: The Ad Hoc Working Group on Long-term Cooperative Action under the Convention

BASIC: Brazil, South Africa, India and China

CDM: Clean Development Mechanism

CMP: Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol

COP: Conference of the Parties

ENB: Earth Negotiations Bulletin

GCF: Global Climate Fund

GHG: Greenhouse Gas

G77: Group of 77

IEA: International Environmental Agreement

LDCs: Least Developed Countries

MOP: Meeting of the Parties

MRV: Measuring, Reporting, Verification

NAMAs: Nationally Appropriate Mitigation Actions

NAPs: National Adaptation Plans

OPEC: Organization of the Petroleum Exporting Countries

REDD: Reducing Emissions from Deforestation and Forest Degradation

UNFCCC: United Nations Framework Convention on Climate Change

WWF: World Wildlife Fund

1 Introduction

The bulk of environmental economics literature has been using non-cooperative game theory to examine the stability of International Environmental Agreements (IEAs), most often through the application of complex mathematical models. In the last fifteen years or so, a new trend has emerged in the literature whereby scholars use modified economic approaches to better account for 'reality' as such. This has resulted in updated models which are better able to account for moral concerns and political realities. However, the vast majority of environmental economic analyses of international climate change negotiations remain firmly grounded in economic theory alone. This thesis builds upon the work of Hugh Ward, Frank Grundig and Ethan Zorick who conducted one of the few truly mixed-methodological approaches by combining a non-cooperative game theoretic approach with regime theory in order to create a model of international climate change negotiations which could explain why policy change has been minimal and slow-going in this issue area.

Inspired by Ward, Grundig and Zorick's mixed-methodological approach, I aim to expand upon previous work within the environmental economics literature by combining a game theoretic approach with a content and discourse analysis of the most recent round of international climate change negotiations in Durban, South Africa. Within political science literature, content and discourse analyses have been conducted with regard to climate change as a public issue, but not with regard to international climate change negotiations specifically. To the best of my knowledge, this thesis will be the first to do so. In adopting this novel methodological approach, this thesis addresses the narrow focus on solvable mathematical models – which much of the current environmental economics literature displays – by demonstrating the usefulness of qualitative analyses to uncover important political dynamics. Ultimately, this thesis deals with the "true" game being played in international climate change negotiations by analyzing the most recent round of negotiations in Durban and the political factors which influenced players and their strategies.

The purpose of this thesis is to gain a better understanding of international climate change negotiations as they currently stand. To accomplish this, I present the Durban outcomes and how they were reached by presenting a list of players and issues as well as presenting player strategies, and I interpret and apply the results to the future of these negotiations in order to identify important trends and political concerns which need to be addressed in order to reach more progressive outcomes in the future. The thesis begins with a brief background of international climate change negotiations, followed by a review of the relevant economic and political science literature. A summary of the Durban negotiations follows, including the decisions taken and important turning points at the conference. Next, the methodological approach is explained. The results and discussion section follows, which begins with a presentation of the results of the content and discourse analyses, including the list of players and negotiation issues under analysis. Economic game theory is then applied in order to describe player strategies and measure their degree of success in the negotiations. Next, I present and analyze players' discourses post-Durban in order to demonstrate the usefulness of combining qualitative and quantitative analyses, particularly when the topic under analysis is one as complicated and complex as international climate change negotiations. In the recommendations section, the results are interpreted and analyzed to generate predictions and recommendations regarding the future of these negotiations. Finally, the conclusion summarizes the main results of the thesis, presents the strengths and weaknesses of the study, and generates recommendations for future research in this issue area.

1.1 Background

In 1992, the first international political response to the danger of climate change was made with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC), a framework which aimed to stabilize greenhouse gas concentrations in the atmosphere. The UNFCCC entered into force in 1994 and currently claims 195 participating Parties. In December 1997, ministers from 170 countries met in Kyoto for the 3rd Conference of the Parties (COP) to the UNFCCC; their goal was to set legally-binding targets for greenhouse gas emission reductions. The outcome of this meeting

was the Kyoto Protocol, which required Annex I (developed) nations¹ to reduce their emissions of six major greenhouse gases (GHGs) by 5.2% between 2008 and 2012 from 1990 baseline levels. The Kyoto Protocol was a significant achievement that many hoped would be a first step to stricter, more meaningful and more global emission reduction commitments to come. Unfortunately, in the aftermath of the Kyoto Protocol, the global carbon governance system that was initiated and overseen by the UN has stagnated.²

The Kyoto Protocol exempted developing countries from any legally-binding mitigation targets, which was due – largely – to the application of the principle of “common but differentiated responsibilities” which maintains that although every nation has the responsibility to address climate change, industrialized nations bear historical responsibility for the current climatic state and should therefore be required to demonstrate leadership in addressing the problem. The fact that developing nations were not legally required to reduce their GHG emissions under the Kyoto Protocol resulted in the withdrawal of the United States due to the ‘unfairness’ of the provision, which in turn facilitated the emergence of the European Union (EU) as the central actor pushing climate change negotiations forward. Then-US President George H.W. Bush signed the UNFCCC in 1992, but he did so only “hesitatingly and under pressure” even though the agreement did not place any binding restrictions on the US (Roberts, 2011). And although the Clinton administration was active during the negotiations leading up to Kyoto, its stance was clear: if developed countries were to agree to binding emission reduction commitments, the US would demand developing nations like China and India accept binding limitations as well.³ The EU, on the other hand, pushed for a comprehensive agreement with an ambitious 15% reduction goal through domestic

1 For a full list of Annex I nations, see:
http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php.

² For detailed histories of UN climate change negotiations, see e.g. Luterbacher and Sprinz, 2001; Okereke, 2009; Ott et al., 2008 and Muller, 2008.

³ During the Kyoto Protocol negotiations, the United States’ public position did not promote binding emissions reductions at all. Rather, they called for “the stabilization of emissions at 1990 levels in the 2008-2012 period and a reduction in the period thereafter” (Schneider, 1998; White, 1998 as referenced in Ward, Grundig and Zorick, 2001).

action alone (meaning no access to flexibility mechanisms⁴) for Annex I nations (Ward, Grundig, & Zorick, 2001). During the George W. Bush administration, not only did the US refuse to ratify the Kyoto Protocol, but resisted any efforts to include the US in the negotiations process to the point of complete marginalization. Despite the withdrawal of the US, the Kyoto Protocol managed to gain enough participants to go into effect in February 2005, the year Russia ratified.

In 2007, COP 13/CMP⁵ 3 took place in Bali, Indonesia; a meeting which began to consider long-term issues which had not been previously addressed. These negotiations resulted in the adoption of the Bali Action Plan and Bali Roadmap which served to separate the negotiations process into two tracks: the AWG-LCA and the AWG-KP.⁶ The former was intended to focus on long-term cooperation on issues such as mitigation, adaptation, finance and technology and the latter was intended to focus on the implementation of the Kyoto Protocol and negotiating a successor treaty by the 2009 deadline at COP 15 in Copenhagen.

In the run-up to the 2009 UN Climate Change Conference in Copenhagen (COP 15; the deadline for negotiating a successor treaty to Kyoto), the optimistic anticipation was palpable. There appeared to be a renewed faith in the UN multilateral negotiations system, which had failed to make much progress since the Kyoto Protocol. In addition, it

⁴ The Kyoto Protocol contained three flexibility mechanisms: emissions trading, joint implementation and the clean development mechanism. The flexibility mechanisms were meant to create a carbon market which would provide an additional avenue for countries to meet their mitigation targets under the Protocol. For more information, see Hepburn, 2007 and the UNFCCC website at: http://unfccc.int/kyoto_protocol/mechanisms/items/1673.php.

⁵ COP refers to the Conference of the Parties. CMP refers to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol. The CMP meets annually during the same period of the COP. The functions of the CMP relating to the Kyoto Protocol are similar to those carried out by the COP for the Convention. The Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) also serve the CMP. For more information, see the UNFCCC homepage.

⁶ AWG-LCA stands for the *Ad hoc* Working Group on Long-term Cooperative Action under the Convention. AWG-KP stands for the *Ad hoc* Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol. The AWG-KP was established in 2005 during the first session of the CMP in Montreal, Canada on the basis of Protocol Article 3.9, which mandates consideration of Annex I Parties' further commitments at least seven years before the end of the first commitment period. The AWG-LCA was established at COP 13 and CMP 3 in Bali, Indonesia with a mandate to focus on key elements of long-term cooperation: mitigation, adaptation, finance, technology and a shared vision for long-term cooperative action.

was hoped that the election of US President Barack Obama would finally change the role of the US from one of deadweight to one of constructive partner. Indeed, Obama and the US delegates did participate meaningfully in the negotiations which produced the outcome of the Copenhagen negotiations, the Copenhagen Accord.⁷ Unfortunately, the Copenhagen Accord did not achieve the goals it had set out to and is widely perceived as a complete failure.⁸ Critics emphasized that the Accord outlined a “pledge and review” system for voluntary emissions reductions rather than legally-binding requirements, a successor treaty to Kyoto was not agreed upon, and the Accord was negotiated last-minute behind closed doors by the US and the BASIC countries: Brazil, South Africa, India and China. This led many participating nations and observers alike to claim that the process which had produced the Accord was both ‘non-transparent’ and ‘undemocratic’. For its part, the COP merely ‘took note’ of the Copenhagen Accord rather than formally adopting it, as was done at Kyoto and Bali (Earth Negotiations Bulletin, 2011). It is important to note that the former driving force for progressive outcomes in multilateral negotiations, the EU, was completely left out of the Copenhagen Accord negotiations process, as were smaller developing countries. Many observers attributed the failure of the Copenhagen negotiations to the failed leadership of the two largest greenhouse gas emitters in the world: the US and China. The reluctance of both these nations – the US in particular due to their historical responsibility – to adopt legally-binding emission reduction requirements has been interpreted as playing a major role in the lack of progress that has been witnessed with regard to reaching a global agreement. Additionally, their willingness in Copenhagen to go behind closed doors and hammer out a deal without consulting other key players

⁷ The full text of the Copenhagen Accord can be found at:

http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600005735#beg.

⁸ For example, see articles “Low targets, goals dropped: Copenhagen ends in failure” at: <<http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-deal>>, “Why did Copenhagen fail to deliver a climate deal?” at: <<http://news.bbc.co.uk/2/hi/8426835.stm>>, “Copenhagen – Historic failure that will live in infamy” at: <<http://www.independent.co.uk/opinion/commentators/joss-garman-copenhagen--historic-failure-that-will-live-in-infamy-1845907.html>>, “Copenhagen failure ‘disappointing’, ‘shameful’” at: <<http://euobserver.com/885/29181>>.

served not only to anger those nations who felt left out, but also to shake the public's faith in the multilateral negotiations system at large.

After the failure at Copenhagen, hopes were not particularly high heading into the next round of negotiations in Cancun in late 2010. However, governments made the wise decision to put aside the most contentious issues and focus on formally adopting elements of the Copenhagen Accord into the UNFCCC on which agreement was high. By the end of the conference, decisions had been finalized under both negotiation tracks. These decisions included: recognizing the need to limit global average temperature rise to 2 degrees Celsius, taking note of nationally appropriate mitigation actions (NAMAs), and the need to enhance measuring, reporting and verification (MRV). Parties also agreed to establish several new institutions and processes, such as: the Cancun Adaptation Framework and Adaptation Committee, the Technology Mechanism which includes the Technology Executive Committee, the Climate Technology Centre and Network, and the Green Climate Fund which was designated to be the "new operating entity of the Convention's financial mechanism" (Earth Negotiations Bulletin, 2011). Finally, the negotiations also recognized that developed countries ought to provide US\$30 billion of fast-start finance between 2010 and 2012 and mobilize US\$100 billion per year by 2020 to help developing nations respond and adapt to climate change.

In stark contrast to Copenhagen, the agreements reached at Cancun demonstrated that the UN multilateral negotiations system could still produce tangible results. Observers noted that parties were generally quicker to accept outcomes that fell short of their initial demands in an effort to avoid a potentially crippling breakdown of talks, as in Copenhagen (Pew Center on Global Climate Change, 2010). In addition to the political ramifications which occur when negotiations break down, a psychological phenomenon known as the sunk cost effect can also help to explain why individual negotiators and the negotiations process as a whole continue despite such slow progress. The sunk cost effect is a proven psychological tendency for individuals to continue in an undertaking for the sole reason that an investment of time, money, and/or effort has been made (Arkes & Blumer, 1985). This concept holds particular relevance for international negotiations, where the investment of time, money and effort is on such a grand scale. Although Cancun began to 'pick up the pieces' from

Copenhagen by reaching tangible agreements and fostering trust among parties, many observers remained skeptical about the ability of the UN multilateral governance system to effectively address climate change.⁹ Importantly, the most contentious issues – including the option for a legal agreement and the status of the second commitment period of the Kyoto Protocol – were “kicked down the road” as the mandates of the two AWGs were extended to the next round of negotiations in Durban.

As the end of the Kyoto Protocol signatory period draws near and continued negotiations have thus far failed to produce any post-2012 binding agreements, it is clear that the requirements of the Kyoto Protocol, if met, will have a negligible impact on global atmospheric conditions. Surprisingly, the collective commitment made at Kyoto was never designed to reduce emissions, it was meant to stabilize them among its signatory parties (Ward, Grundig, & Zorick, 2001). In order to reduce emissions on a global scale, developed nations must continue to commit to ever-more demanding emissions reductions, and developing nations – whose emission levels are on the rise; a trend expected to continue in the future – must be incorporated into the process. Scientists and politicians alike recognize the urgency of addressing climate change; the problem is that ever since their success in Kyoto, countries cannot agree amongst themselves on the best way to limit greenhouse gas emissions fairly and cost-effectively.

International climate change negotiations have been plagued by a central issue since the outset: how and when to incorporate developing nations to accept binding mitigation targets. In what is most commonly referred to as the North-South divide, international climate change negotiations have consistently boiled down to the differing perceptions of justice, responsibility and capability between the developed countries of the global North and the developing countries of the global South. Within the negotiations process specifically, this divide has tended to manifest itself such that developing nations maintain they should be provided with financial assistance in order

9 See, for example: “Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto” by Matthew J. Hoffmann, “Multipolarity and the new world (dis)order: US hegemonic decline and the fragmentation of the global climate regime” by J. Timmons Roberts and “Governance with multilateral environmental agreements: a healthy or ill-equipped fragmentation?” by Norichika Kanie.

to adapt to the effects of climate change, from which they suffer disproportionately. Developing countries also feel as though they should not be forced to accept binding reduction targets since they do not bear historical responsibility for the current climatic condition. On the other hand, developed nations have, in general, been unwilling to provide the level of assistance that developing countries seek and advocate that all countries of the world should accept binding mitigation targets while simultaneously taking advantage of flexibility mechanisms (such as emissions trading) that provide a degree of cost-effectiveness and level the playing field within and among markets.

However, there are important caveats to such broad brush strokes that should be noted. The EU has stated its recognition that the North bears historical responsibility for the current level of emissions, that the South should be compensated in order to provide incentives to limit emissions, and has consistently been the advocate behind the most comprehensive and ambitious emission reduction plans proposed.¹⁰ There is also the emerging concept of 'climate justice' that has thrown a wrench into the former solidarity of the Group of 77 developing nations negotiating bloc;¹¹ a trend which this thesis will address in depth as it relates to the Durban negotiations. During the negotiations leading up to the Kyoto Protocol, G77 stood united as the non-wealthy nations of the world who did not wish to adopt binding mitigation targets but desired technological transfers and adaptation assistance. In Copenhagen, however, there was a clear fragmentation within the G77, and smaller groupings of developing nations tailored their statements to their national interests; for example, the Association of Small Island States (AOSIS) made radical climate justice statements whereas the Coalition of Rainforest Nations pushed for the implementation of REDD (Reducing Emissions from Deforestation and Forest Degradation)¹² (Roberts, 2011).

It is not difficult to argue that the North-South divide is the fundamental sticking point in global climate change negotiations. Naturally, I am not the first to make this

¹⁰ In fact, the EU has committed to a unilateral 20% reduction in greenhouse gas emissions by 2020, which they will increase to 30% if other countries follow suit; a demonstration of their leadership position regarding climate change mitigation.

¹¹ For a list of members and more information about the Group of 77, see: <http://www.g77.org/doc/members.html>.

¹² More information on REDD can be found at <http://www.un-redd.org/>, more information on the Alliance of Small Island Nations (AOSIS) can be found at <http://aosis.info/>.

observation. There is a wealth of literature concerning the global climate change regime from every perspective imaginable. One of the main objectives of this paper is to further our understanding regarding how the North-South divide manifested itself politically at the Durban negotiations and evaluate the possibilities for these seemingly diametrically opposed sides to come together and take meaningful action to mitigate and adapt to global climate change in the future.

1.2 Purpose and Importance of the Study

One of the most important challenges facing our world today is to reach a global agreement that will address climate change, which requires the participation of developed and developing nations alike. The importance of a global agreement on climate change is attested by the global nature of the problem at hand; the current trend of increasing GHG emissions can only be reversed when a majority of the world's polluters commit to emissions reductions. Such a scenario is unlikely to occur without adequate political and economic incentives, which successful global negotiations could provide. The necessity of stabilizing and reducing global GHG emissions is generally acknowledged in order to avoid the worst impacts of climate change, but many are disillusioned with the UN multilateral governance system. There are those who maintain that the "multilateral governance system has been ineffective in addressing the climate crisis" and assert that the way to move forward is not to impose top-down international policy, but to implement more effective policies at the national and regional levels (Roberts, 2011; Tierney, 2012). Although this is a legitimate and understandable perspective, I maintain that implementing effective policies at the national and regional levels can (and should) be applied simultaneously with a legally-binding global agreement. A truly global, legally-binding agreement would deliver tangible global emission reductions which the Kyoto Protocol failed to do because it did not require developing countries to reduce their emissions. Finally, a global agreement could work in tandem – and even encourage – national and regional action as well.

The ultimate goal of this thesis is to combine the usefulness of game theory when studying situations of conflict and cooperation with a discourse analysis of climate change negotiations as they occurred in order to explain the political dynamics which allowed for the Durban outcome and provide suggestions – multidisciplinary in nature –

to push negotiations forward in the future. Although scholarly research on the problem of pushing global climate change negotiations forward abounds, concentrated efforts to identify realistic, workable solutions based on the analysis of players actual behavior – rather than assumptions regarding player strategies and their interpretations of payoffs – has been lacking. The main contribution of this thesis is methodological in nature. A current trend in the game theoretic literature on climate change negotiations is to modify traditional economic game theoretic approaches in order to better account for important political dynamics. I hope to take this trend one step further by utilizing a novel and *truly* mixed-methodological approach where political dynamics are uncovered using discourse and content analysis and combined with the usefulness of game theory for describing how players’ strategies interacted in order to allow for the Durban outcome.

Throughout this undertaking, a constant eye was kept towards developing realistic, workable, open-ended solutions to push climate change negotiations forward to reach a more global agreement. Rather than being the result of a complex game, the conclusions of this research project are the outcome of a mixed-method approach. First, I performed a discourse and content analysis of the most recent round of climate change negotiations in Durban, South Africa. I chose to analyze the Durban negotiations because they were the most recent COP/CMP meeting at the time of writing. In addition, since my purpose is to describe players’ strategies and make recommendations with regard to how those strategies may be altered to reach more progressive outcomes, analyzing Durban made sense because it enabled me to analyze the situation as it currently stands. Second, I used game theory as a framework within which to interpret the results of the discourse and content analyses in order to represent the strategies of the players and assess how players’ strategies interacted to make the Durban outcome feasible. Finally, the results of this analysis were interpreted in order to generate recommendations to push global climate change negotiations forward in the future. To the best of my knowledge, combining a real-time negotiations discourse analysis with game theory is a novel methodological approach within the

literature.¹³ Coordinated, effective, global implementation of mitigation activities was necessary years ago, and the efforts made today to find realistic solutions should triple now that time is slipping away.

¹³ There have been a number of game theoretic analyses of climate change negotiations, many of which will be covered in the “Literature Review” section which follows. Among many others, these include: Eyckmans and Finus (2003) and Chou and Sylla (2008). There have also been a number of discourse analyses performed related to climate change, such as: Weingart, Engels and Pansegrau (2000) and Hajer and Versteeg (2005). However, to the best of my knowledge, a discourse analysis of climate change negotiations specifically has not been performed, nor has discourse analysis been combined with a game theoretic methodological approach.

2 Literature Review

2.1 Game Theoretic Analyses

The literature on climate change negotiations and international environmental agreements has recognized the importance of working towards more global agreements in order to better address the dangers of climate change; indeed, much of the economic literature deals with achieving successful, stable International Environmental Agreements (IEAs). However, these analyses and their conclusions are based on overly complex mathematical models rather than actual behavior. A review of the current literature suggests that the contributions in the field of economic game theory as applied to climate change negotiations can be broadly divided into three categories: what I shall call the ‘traditional’ economic approach, the ‘modified’ economic approach, and the mixed-method approach.

2.1.1 A Brief Introduction

By definition, game theory is “a collection of mathematical models formulated to study situations of conflict and cooperation,” and has proven itself to be an effective methodology to analyze a wide variety of human interaction, not least the use of shared resources, such as the atmosphere (Forgó, Fulöp, & Prill, 2005). As globalization has turned the fate of shared resources into an ever-more pressing concern, game theory has moved beyond the bounds of economics and has been increasingly utilized by scholars studying law, politics, and other social sciences. Therefore, it should come as no surprise that there is a considerable amount of research which analyzes climate change negotiations using a game theoretic approach. In recent years, the bulk of environmental economics literature has dealt with the formation of IEAs and the problems of forming coalitions. Within this discourse, there are two opposing views as to the nature of the game; one is based on cooperative game theory and the other is based on non-cooperative game theory.¹⁴ Both cooperative and non-cooperative

¹⁴ For more information on the difference between cooperative and non-cooperative game theory see Bloch (1997), Finus (2003), and Finus and Rundshagen (2003).

approaches have been used to demonstrate how coalitions can be formed to achieve stable, long-term agreements through various game designs.

Environmental economics scholars agree that the non-cooperative approach has become the preferred method in the literature because cooperative game theory deals with the analysis of coalitions, determining their value to players or vice versa, but “does not tell us much about the formation of coalitions” (Avenhaus, 2002). In addition, though cooperative game theory assumes the ‘more realistic’ assumption that players are ultimately selfish (which in this case refers to the desire to maximize payoffs) non-cooperative game theory also maintains that it is more realistic to assume that players will always maximize their own utility first (Eyckmans & Finus, 2003). In addition, it is widely acknowledged within both the economic and political science disciplines that nations do not cooperate; as Charles de Gaulle famously stated during his exile in Britain during the Second World War, “France has no friends, only interests” (Bonjour La France). This is not to say that scholars do not acknowledge the shortcomings of the non-cooperative approach. Most significantly, when one adopts a non-cooperative approach, the globally optimal solution will never be reached due to the incentive for players to free-ride on the mitigation efforts of others and the lack of a ‘global planner’ or ‘global enforcer’. To reach the globally optimal solution, some sort of cooperation or coordination is needed (Osmani, 2011).

2.1.2 The ‘Traditional’ Approach

In 1988, Robert Putnam made pivotal observations regarding the interaction between domestic politics and international negotiations. Although scholars before this time had noted that domestic factors influence international affairs and vice versa, Putnam took this observation one step further by developing the metaphor of a ‘two-level game’; where the two levels are the national level and the international level. There are also two stages: the bargaining process between negotiators which leads to an agreement, and the ratification phase of the agreement. In this way, Putnam allowed for the possibility that decision-makers “strive to reconcile domestic and international imperatives simultaneously” (Putnam, 1988, p. 460). Although his work was not fully grounded in a game theoretic model, Putnam introduced a game format which is still the dominant framework used by scholars in this field.

A turning point was reached in terms of assessing the usefulness of game theory with regard to climate change negotiations when Juan Carlos Císcar and Antonio Soria proposed the first non-cooperative, sequential game in 2002. In the game, they sought to allow “for an interpretation of the Kyoto Protocol as a first step in a long-term strategy towards the stabilization of GHG concentrations” (Císcar & Soria, 2002, p. 1328). They created a five-stage sequential game with two large players: Annex B and non-Annex B nations. Players would sequentially choose the best policy from a series of policy options, while reacting to the past moves of other players. At each decision node, players were given three policy options, identical to those found in the Kyoto Protocol: 0%, 5% or 10% reduction from a 1990 emissions baseline. They found that “a fully cooperative framework is unlikely to occur in the international negotiations on climate change, because there are strong incentives to free ride, in addition to the high coordination and enforcement costs,” and created a game whereby each nation could maximize their own utility while taking other players actions into account without having to consider their welfare (Císcar & Soria, 2002, p. 1328). They recognized, however, that their game was ‘deterministic’ in structure and recommended that the next phase move beyond this limitation to a framework where probabilities are attached to the possible moves of each player at each stage.

After that time, the application of non-cooperative, sequential games to climate change negotiations gained momentum and continued to evolve into ever-more sophisticated approaches. In 2004, Caparrós, Péreau and Tazdait applied a sequential game to climate change negotiations and the North-South divide specifically, in order to determine “the conditions under which the Southern countries should act together, or separately, while negotiating with the North about climate change policy and about the conditions for future Southern engagement” and to address the most pressing issue on the negotiation agenda: the involvement of developing nations in a global agreement to address climate change (Caparrós, Péreau, & Tazdait, 2004, p. 455). Caparrós et al. maintained that cooperative game theory tended to ignore both the negotiation process and asymmetrical information and therefore chose to build on the non-cooperative frameworks established by other scholars.

In 2005, Ferenc Forgó fulfilled the recommendation made by Císcar and developed a probabilistic, non-cooperative, sequential game called the “tree-correlated equilibrium” model. His model was essentially identical to the one used by Císcar, except for the fact that Forgó made “assumptions about the reactions of different players and formulate[d] these assumptions as probability distributions” (Forgó, Fulöp, & Prill, 2005, p. 256). He also introduced correlated equilibriums into the game with the objective of inducing players to choose certain strategies by using a global planner or ‘umpire’ to suggest strategies to players which will maximize their utility as long as other players also follow the suggested course of action. Forgó maintained that this type of game could work because in reality, players “form beliefs about the possible behavior of everybody else and then maximize their expected returns” through their choice of mitigation policy (Forgó, Fulöp, & Prill, 2005, p. 259).

Also in 2005, Carlo Carraro, Johan Eyckmans and Michael Finus published a paper that was representative of the direction in which the literature was heading, namely, using non-cooperative game theory to assess the stability of IEAs. Specifically, Carraro, Eyckmans and Finus sought to develop a framework which would allow them to study the role of transfers in encouraging participation in IEAs in a more systematic fashion than their predecessors had done. The authors accomplished this by adopting a more ‘simplistic’ approach: combining a two-stage cartel formation game, where the concepts of internal and external stability were applied under various transfer situations (no transfers, ex-ante and ex-post transfers¹⁵), with an economy-climate model.¹⁶ Ultimately, their conclusion is similar to the majority of scholars who have addressed the role of transfers in IEAs from a non-cooperative game theoretic perspective: all countries are better off with transfers because they help address the otherwise asymmetrical gains from cooperation (Carraro, Eyckmans, & Michael, 2005).

An article titled “Toward Farsightedly Stable International Environmental Agreements” published by Dritan Osmani in 2011 continued the trend of non-

¹⁵ Ex-ante means that countries commit to a certain transfer rule before they decide upon their participation in an IEA. Ex-post means that after an agreement has formed, transfers are used to broaden an existing coalition.

¹⁶ In their article, Carraro, Eyckmans and Finus use the CLIMNEG World Simulation Model. A detailed explanation of the model can be found in Eyckmans and Tulkens (2003).

cooperative game theoretic literature and analyzed the stability of IEAs from this perspective. Osmani used the integrated assessment model FUND to analyze the cost-benefit payoff functions of pollution abatement for sixteen world regions under different scenarios.¹⁷ Once again, in the style of Putnam, Osmani's game consisted of two stages where countries decide whether or not to join the coalition in the first stage and then decide on emission levels in the second stage. Ultimately, Osmani found 56 profitable coalitions (where all members of the coalition do not decrease their profits) and 28 farsightedly stable coalitions (where players are assumed to have perfect foresight and still do not decrease their profits). Osmani maintained that this is one of the 'few optimistic results' within this body of literature. Perhaps not so optimistic is the fact that the profitability requirement precluded the possibility for a grand coalition to form and the highest profit was still found among non-signatory nations (in other words, free riders). Nevertheless, Osmani fulfilled his main objective: to find which coalitions are stable in a "selfish but farsighted world" (2011, p.15).

2.1.3 Towards a 'Modified' Approach

Although in-depth games and economic models are very useful in unraveling many of the complexities of the climate change problem and make valuable contributions to economic theory, their complexity and specificity dilutes their connection to reality and makes it difficult to apply their results to real-world situations. However, a new trend has begun to emerge in the literature, in which scholars are critiquing and modifying the 'traditional' game theoretic approach from both economic and social perspectives in order to better represent 'reality' as they interpret it.

In 2003, Johan Eyckmans and Michael Finus wrote an article very similar in nature to Dritan Osmani's; they analyzed the stability of IEAs using a two-stage non-cooperative game in addition to an integrated assessment model of climate change.¹⁸ Although

¹⁷ Although this is the first it is mentioned in this article, Osmani was not the first scholar to combine game theory with an integrated assessment model. This had been done as early as 2003 by Jonas Eyckmans and Michael Finus. For a more detailed description of the FUND model, see Osmani (2011).

¹⁸ Integrated Assessment Models of climate change combine a simplified version of the world economy with a model of the global carbon cycle and global climate and contain a full feedback of the physical environment on the economy. The most important pioneer models in the field of climate change are DICE by Nordhaus (1993) and RICE by Nordhaus and Yang (1996).

Osmani used an unconventional definition of stability (farsighted stability), it was a definition grounded firmly in economic theory. As Eyckmans and Finus stated, “the bulk of environmental economics literature [had] been using non-cooperative game theory to explain the problems of forming coalitions by applying the concept of internal and external stability” (meaning no member of the coalition wants to leave and no outsider wants to join, respectively) (Eyckmans & Finus, 2003, p. 1). The concepts of internal and external stability also include a couple of implicit assumptions: they restrict the coalition formation to *one* non-trivial coalition¹⁹ and they assume open membership of coalitions, meaning that countries can join a coalition freely, without the consent of its existing members. In their article, Eyckmans and Finus decided to take a “more realistic” approach and relax these assumptions in order to allow for the possibilities of multiple regional coalitions as well as exclusive membership of coalitions, either through majority or unanimous voting. The article concluded that allowing for regional coalition formation increased coalition success because it allowed more flexibility for nations to coordinate their interests. Similarly, allowing for exclusive membership helped make coalitions more stable, particularly if regional coalitions are allowed. What these conclusions meant for the world situation as it existed in 2003 was that neither the grand coalition (when all states are members) nor the Kyoto coalition are stable, because only coalitions with a small number of members were found to be stable. Large coalitions could not be stable because the interests of states were too heterogeneous, which created strong free-rider incentives.

A later article by Johan Eyckmans and Snorre Kverndokk written in 2009 took Eyckmans and Finus’ ‘modified’ non-cooperative game theory approach a step further by adding moral concerns into their model in an attempt to describe the ongoing climate change negotiation process and capture the political reality that countries occasionally act according to a moral conscience. In their article, Eyckmans and Kverndokk analyzed how “moral concerns about permit trading affect an endogenous pollution permit trading equilibrium, where governments choose non-cooperatively the

Eyckmans and Finus used the CLIMNEG World Simulation Model. For a detailed description of the model see Eyckmans and Tulkens (2003).

¹⁹ A non-trivial coalition is a coalition of at least two members.

amount of permits they allocate to domestic industries” (Eyckmans & Kverndokk, 2009, p. 1). They captured the ‘moral concern’ of governments in their model through the concept of an ‘identity effect’; essentially, governments are willing to give up the benefits from trading permits in exchange for a better identity from refusing to participate in the trade of an undesirable item like pollution. A brief explanation of why governments may demonstrate moral concerns regarding permit trading is perhaps called for. Under the Kyoto Protocol, a provision was made for permit trading²⁰ in order to provide Annex I nations with a degree of cost-effectiveness in meeting their abatement requirements. However, a number of adverse effects of this system have been observed, such as carbon leakages (when reduced emissions from one country result in increased emissions in another) and hot air (meaning some countries receive an allocation higher than their actual emissions). Ultimately, Eyckmans and Kverndokk found that when they added moral concerns (identity considerations) to a model of international emissions trading based on non-cooperative, endogenous permit allocations by domestic governments, global emissions increased when governments were simply opposed to permit trading in general, but decreased when governments displayed opposition against permit trading *and* a preference for domestic abatement.

In 2008, Porchiung B. Chou and Cheickna Sylla published an article which, similarly to the majority of articles within the “traditional” game theoretic literature, analyzed the stability of IEAs. However, they made an important observation; namely that IEAs are capable of being *both* cooperative and non-cooperative in nature. For example, when the Montreal Protocol was signed first in 1987, it did not include any provisions for utility transfers (non-cooperative), but after it was amended in 1990 it included both financial assistance and technology transfer provisions (cooperative). Therefore, Chou and Sylla took an approach which created a theoretical integration between the two

²⁰ The Kyoto Protocol actually contained three ‘flexibility mechanisms’ as previously mentioned: carbon trading, Joint Implementation and the Clean Development Mechanism. Carbon trading allows all Annex I nations whose emission were lower than their permitted allowance the option to sell their extra emission rights to other, higher emitting Annex I nations. Joint Implementation and the Clean Development Mechanism likewise allow Annex I nations to meet their emissions limitations by purchasing emissions reduction credits from elsewhere by funding projects that reduce GHG emissions either in other Annex I nations or non-Annex I nations, respectively.

methods by exploring how and when countries should engage in utility transfers to achieve a stable IEA, or to expand an existing IEA. Their approach was to use a two-stage exclusive cartel formation game²¹ which allowed existing members to exclude new members and allowed for the option to engage in utility transfers. They structured the game such that the second stage can only end when a stable grand coalition has been achieved. Ultimately, they found that engaging in utility transfers in the first stage accomplishes little, and that it is most efficient for a few developed countries to initiate the IEA formation process by “forming a small stable coalition first before engaging in monetary transfers to form the grand coalition with all the other countries” (Chou & Sylla, 2008, p. 317). The authors maintain that this is the reason that the Kyoto Protocol has not enjoyed the same success as the Montreal Protocol; because the Kyoto Protocol tried to form a grand coalition in stage one of the formation process, rather than a small, stable coalition of symmetric countries first.

In 2010 Thierry Bréchet, Johan Eyckmans, Francois Gérard, Philippe Marbaix, Henry Tulkens and Jean-Pascal van Ypersele combined non-cooperative game theory with an integrated assessment model to analyze the stability of IEAs in the post-2012 era. However, in a departure from the “traditional” approach, Bréchet et al. analyzed the impact of the EU’s 20% reduction by 2020 commitment²² on future international climate change negotiations, thereby taking a markedly political approach rather than a purely economic one. Bréchet et al. analyzed three different scenarios: the reference Kyoto scenario which assumed continued cooperation of those countries which have already ratified the Kyoto Protocol, the EU unilateral commitment scenario which assumed that only the EU commits to 20% reduction, and the Annex-B multilateral commitment scenario which assumed that all Annex I nations commit to a 30% reduction. Ultimately, Bréchet et al. concluded that the EU’s promise to reduce

²¹ The exclusive cartel formation game is a combination of the dominant cartel formation game, proposed first by D’Aspremont et al. (1983), and the exclusive membership game, proposed by Hart and Kurtz (1983).

²² In 2007, the EU announced their “20-20-20” targets. By a 2020 deadline, the EU pledged to cut emissions by 20% from 1990 levels, have 20% of their energy consumption come from renewable sources, and cut primary energy use by 20% compared to projected levels by improving energy efficiency. For more information, see: http://ec.europa.eu/clima/policies/package/index_en.htm.

emissions by 30% rather than 20% if other developed countries follow suit does not provide enough incentive to induce key players like the US. The article maintained that the only way to induce current 'outsiders' to join the global fight against climate change would be to "take into account these countries' "outside options", i.e. the welfare levels they can enjoy when they free-ride on the remaining coalition's emission reduction efforts" through transfers and the initial allocation of permits (Bréchet, Eyckmans, Gérard, Marbaix, Tulkens, & van Ypersele, 2010, p. 161).

2.1.4 The Mixed –Method Approach

The literature reviewed to this point has attempted to demonstrate how 'traditional' non-cooperative game theoretic analyses have developed within the past ten years or so and how scholars in the field have begun to take non-economic factors, particularly political ones, into account in their approaches. Yet, the vast majority of the literature within this field remains soundly grounded in economic theory.

This thesis will adopt a similar focus to that of Hugh Ward, Frank Grundig and Ethan Zorick, who, in their 2001 article "Marching at the Pace of the Slowest: a Model of International Climate Change Negotiations," provided one of the few examples of a truly mixed-method game theoretic approach. In their article, they build on the work of Putnam (1988) by combining a two-level non-cooperative game with regime theory in order to create a model of international climate change negotiations which explains why policy change in this issue area has been minimal. The authors maintained that their mixed-method approach allowed them to assess international climate change negotiations from two opposite perspectives. On the one hand, regime theory allowed them to assess states' bargaining positions as reflective of their domestic and geo-political interests and on the other hand, game theory allowed them to assess states' bargaining positions as reflective of the interests of other states using the "strategic interdependence" which game theory provides (Ward, Grundig, & Zorick, 2001, p. 439).

In their model, Ward, Grundig and Zorick include representations of such various concepts as side payments, issue linkages, leader and veto players, competition between leaders, and incomplete information. They accomplished this by creating a model that treats players as either leaders or veto players, where leaders do not possess a veto. All actors are concerned with policy outcomes in a "single dimensional

issue space,” where the status quo is the origin and any change from the status quo is in the progressive direction (in order to place an upper limit on progress) (Ward, Grundig, & Zorick, 2001, p. 442). All actors have an ideal outcome, from which point payoffs decline linearly as the outcome moves farther away from it. A veto is assumed to block any proposal which has a lower utility than the status quo. The win-set is defined as all the proposals that will not be vetoed by any of the veto players (stable IEAs, in other words). Finally, leaders can use their ‘political capital’ to influence veto players in either a conservative or progressive direction, an action which serves to alter the win-set and can be used to ‘counter’ the move of another leader player.

After running their model in a number of simulations, Ward, Grundig and Zorick proposed four hypotheses: (1) veto players have disproportionate influence due to the fact that one veto can block change, so all veto players must sanction progress; (2) the veto player most resistant to change will receive the highest side payments in an attempt to bring them on board; (3) veto players less resistant to change than the most resistant have a much lesser chance of receiving side payments; and (4) leaders may lobby in a more conservative or more progressive direction than they actually desire as a result of the anticipated actions of other players (Ward, Grundig, & Zorick, 2001).

Ward, Grundig and Zorick concluded with a discussion of how their model can be used as a descriptive framework to describe the results of the Kyoto negotiation round, which they maintained conformed largely to their predictions. In the case of the Kyoto negotiations, the authors classified the EU and the US as the leaders, although they noted that the EU was by far the most progressive player. The veto players were classified as follows: the biggest veto player was the US business lobby (for example the Global Climate Coalition), while the other veto players included the poorer members of the EU (Greece and Portugal, for example), the organization of petroleum exporting countries (OPEC), former Soviet Union states, and developing nations to a limited degree since they were not under consideration for binding commitments. The authors maintained that the EU was forced to use its political capital in order to get veto players to accept the most conservative of the progressive positions, which was that of the US. Ultimately, the end result (the Kyoto Protocol) was very close to the US ideal; the only provision which the US did not manage to get included was one where developing

nations could voluntarily make emissions reduction commitments. Among the side payments made to veto players were: forming the EU bubble to get poorer EU nations on board, emissions trading for the US and Russia, CDM projects as a side payment to developing nations, differing reduction targets among Annex I nations to get hesitant countries on board, and finally, the largest side payment of all was to the biggest veto player, US industry, which received not only the Joint Implementation, CDM and emissions trading flexibility mechanisms but also a 6.3 billion dollar federal initiative from the Clinton administration (Ward, Grundig, & Zorick, 2001).

2.1.5 What's the Problem with the 'Traditional' Approach?

Readers may wonder why the traditional non-cooperative game theoretic approach has been critiqued and modified in order to better represent 'reality' as such. Various authors discussed in this article have drawn out a number of problematic game theoretic assumptions; for example, Eyckmans and Finus questioned stability assumptions, Eyckmans and Kverndokk added moral concerns to a game theoretic model, and Chou and Sylla questioned the divide between the cooperative and non-cooperative approaches.

Critiques of economic theory are not a recent phenomenon; indeed, economic logic has come under fire from a wide variety of academic disciplines both in terms of the ability of economic methodologies to adequately model human interactions and behavior and in terms of the ability of game theoretic approaches to adequately represent reality. This thesis shall address the latter critique. Game theoretic models possess significant value when describing climate change negotiations in terms of identifying their type, gaining insight into the behavior of participants, and giving advice on those grounds – as I hope has been demonstrated sufficiently in the literature review. There is nevertheless a gap which exists between game theoretic analyses of climate change negotiations and application, reality, and practice. I shall now turn to drawing out the shortcomings of game theoretic analyses of climate change negotiations which strain their applicability to negotiations as they have *actually* occurred. This thesis hopes to begin to bridge the gap between theory and reality by utilizing a novel methodological approach – a discourse and content analysis of the Durban negotiations – in order to discover the “true” game being played.

The ultimate shortcoming of game theoretic analyses of climate change negotiations is their failure to account for political incentives and important political processes. This entails not only a very narrow focus on economic incentives and neglect for political ones, but also the neglect of “significant [negotiations] characteristics like information asymmetry, countries’ heterogeneity, or even the possibilities of renegotiation” as a result of the problematic nature of defining players, strategies and payoffs (Caparrós, Péreau, & Tazdait, 2004, p. 457). It is important to note that the assumption of perfect information is most likely a result of the fact that the solution concept most commonly used in dynamic games, subgame-perfect Nash equilibria, and the most common method for determining them, backward induction, cannot be used when there is asymmetric information (Dutta, 1999).²³ Nevertheless, this does not change the fact that the assumption is invalid, because international negotiations are characterized by “barriers to credible information transmission due to conflicts of interest and complex trade-offs and complementarities between choosing persuasion and incentive-changing tactics” (Ward, Grundig, & Zorick, 2001, p. 441). In addition, since the implementation of the Kyoto Protocol has required thorough, transparent reporting actions for Annex I nations, the situation is such that the South will have nearly complete information about the cost and benefit functions of mitigation and abatement for the North. On the other hand, official statistics in the global south are often non-existent or incomplete, which means that the North does not have access to the same information concerning abatement options and costs within southern countries as the South does with regard to northern nations (Caparrós, Péreau, & Tazdait, 2004).

Additionally, although the use of Integrated Assessment Models is worthwhile and helps to illustrate the usefulness and application of game theoretic analyses as well as reveal important issue areas and possible solutions within international climate change negotiations, it is nevertheless the case that because of their complexity, the results depend heavily on the parameters of the model. For example, when Nicolas Stern published “The Stern Review on the Economic Effects of Climate Change” in 2006, one of the most shocking and controversial findings of the Review was that the benefits of

²³ For more information regarding Nash equilibria and backward induction, see Chapters 2 and 3 in Dutta, 1999.

early action on climate change outweigh the costs and if we do nothing, Stern predicted a loss of 5% average global GDP every year “now and forever” (Stern, 2007). In the same year, William Nordhaus published a critique of the Stern review, which maintained that Stern’s results were vastly different from existing analyses for three main reasons: the choice of global welfare function, discount rates, and consumption functions.²⁴ Ultimately, choices like these, which may seem rather insignificant, make big differences in the results.

In conclusion, it is not economic theory per se that this thesis takes issue with; it is the preoccupation of game theoretic approaches when analyzing climate change negotiations with solving mathematical problems rather than political ones, which seriously limits the ability of these analyses to represent reality. This does not mean that these approaches do not uncover truths regarding the utility and motivations of players, but it does mean that the “game” under analysis does not represent what happens in reality.

2.2 Discourse and Content Analyses

As previously stated, this thesis aims to bridge the gap between economic theory and reality by performing a discourse and content analysis of the Durban negotiations in addition to utilizing a game theoretic approach. I maintain that the missing factor in game theoretic analyses is a connection to the actual behavior of players, and, where economic game theory fails to address the many complexities of global climate change negotiations, social theory can step in to fill the gap. In this thesis, I hope to expose the value of social theory (discourse and content analysis in particular) in revealing underlying dynamics integral to understanding global climate change negotiations.

2.2.1 A Brief Introduction

Both discourse analysis and content analysis are very important research techniques in the social sciences. Although discourse analysis has traditionally been associated with the study of linguistics and content analysis has likewise been associated with

²⁴ Nordhaus proposed much more modest emissions reductions than Nordhaus: 14% rather than 25% by 2050. It is also important to note that Stern used a much longer timescale in his analysis than Nordhaus, who terminated his analysis at year 2100.

journalism and communications, they have both taken on a social orientation since the 1980s (Antaki, 2008). Ultimately, the particular methodology used within both content and discourse analysis will vary depending on the intent of the researcher and the particular context specified as the parameters within which the analysis will take place.

Within discourse analysis, not only may the research question originate from any academic field, the analysis itself can take on a variety of forms, such as studying the characteristics of discourse's component parts from a linguistic point of view, systematically answering various research questions, addressing various theoretical perspectives, or performing various tests (Johnstone, 2002). There are a full range of methods available within discourse analysis, none of which claim general veracity and each of which approach 'language' and 'text' differently depending on the nature of the research question (Doulton & Brown, 2009). Despite the broadness of the theoretical approach, discourse analyses share four core features; the speech or text being analyzed is 'naturally found' (meaning not invented), the text is understood within a broader context, the analyst is aware and sensitive to the text's non-literal meaning, and the analyst intends to reveal the social consequences which result from the text (Antaki, 2008).

Content analysis, on the other hand, may be defined as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2004). This means that content analysis, as a technique, is slightly more restrictive than discourse analysis because it involves more specialized and systematic methodological procedures. For example, content analysis has been described as a technique whereby texts are classified, tabulated and evaluated for their key symbols and themes in order to deduce their meanings and probable effects (Krippendorff, 2004). Although this does not dictate that the technique be quantitative in nature, it is often the case; whereas discourse analysis is an inherently qualitative approach.

Although they are separate methodological approaches, it is common practice to conduct discourse and content analyses simultaneously. For my purposes, I decided to use both content and discourse analyses as complementary methodological approaches to reveal common themes and underlying meanings of the texts from the Durban

negotiations; an approach which differs from the previous climate change discourse analysis literature. Unfortunately, there have not been many discourse analyses performed with regard to climate change and the broad array of noteworthy issues which arise from its analysis. To the best of my knowledge, not a single discourse analysis has been performed with regard to climate change negotiations specifically. It is my hope that this thesis demonstrates the usefulness of this methodological approach in unraveling many of the political complexities which can, and should, be a part of climate change negotiations studies.

2.2.2 Discourse Analyses of Climate Change

Dissimilarly to the vast game theoretic literature on climate change negotiations which is available, the search for background literature on discourse analyses of climate change generated a mere five articles total. The articles focus on analyzing interpretations of climate change discourse among various groups of people, most often through an analysis of mass media.

The earliest such article was written by Peter Weingart, Anita Engels and Petra Pansegrau in 2000. The purpose of the article was to investigate the changing perceptions of climate change in Germany and how it became an important issue on the German political agenda. To achieve their purpose, Weingart et al. conducted discourse analyses within the scientific, political and media spheres where they analyzed an approximate total of 500 scientific publications, minutes of plenary and working sessions of governmental commissions, and news articles.²⁵ The authors identified three overarching phases of the climate change discourse; in the first phase, climate change was “discovered” to be an anthropogenic phenomenon which resulted in increased public concern, in the second phase, climate change became a major political issue because scientific claims which called for governmental action gained credibility, and in the third (and current) phase, climate change became institutionalized as a broad range of institutions and committees were established in an attempt to “correct” climate change with “purposeful human action” (Weingart, Engels, & Pansegrau, 2000). The

²⁵ For a more detailed explanation of the methodological approach, including the procedures used for identifying appropriate discourses for analysis and the steps of analysis, see Weingart, Engels and Pansegrau pages 263-4.

main conclusion reached by Weingart et al. was that the communication about climate change varied among the three discourses in systematic ways which were directly related to the risks each discourse faced; scientists tended to politicize the issue, politicians tended to gloss over scientific complexities in favor of straight-forward policy responses, and the mass media tended to ignore uncertainties and emphasize impending catastrophe and immediate action. The authors concluded by asserting that one cannot assume that scientific knowledge is communicated “unequivocally to the rest of society” and that we should acknowledge “the systematic nature of differences in perception and communication” among the discourses of science, politics, and the media (Weingart, Engels, & Pansegrau, 2000, p. 280).

In 2005, Carol Farbotko published an article which conducted a discourse analysis of climate change using discourses from the mass media alone; the same approach adopted by the remainder of the articles in this literature review. The article aimed to explore how an Australian newspaper constructed the identity of the Tuvaluan islands and people. It is important to note that Farbotko entered into this analysis with a hypothesis, namely, that “implicating climate change in the identity of people and place can constitute Tuvaluans as ‘tragic victims’ of environmental displacement, marginalizing discourses of adaptation...and silencing alternative constructions of Tuvaluan identity that could emphasize resilience and resourcefulness” (Farbotko, 2005, p. 279). Farbotko identified a total of 38 texts from a fifteen-year time period where references were made to climate change issues as related to Tuvalu. Subsequently, the texts were probed using a “qualitative, thematic analysis” in order to identify how accounts of Tuvalu and climate change were constructed and organized to create a discourse (Farbotko, 2005, p. 284). The results of Farbotko’s analysis confirmed her hypothesis; she found that Tuvaluans have been represented as disempowered, helpless victims of climate change because of the failure of Western nations to promote mitigation or provide aid. Farbotko maintained that the dominant themes of tragedy and disempowerment in these discourses are problematic because they serve to ignore important alternative discourses, such as the importance of adaptation or the resourcefulness of small island peoples.

A very similar analysis to Farbotko's was performed in 2009 by Hugh Doulton and Katrina Brown. Like Farbotko, Doulton and Brown explored the media construction of climate change discourse in newspapers. They examined 158 articles with a central focus on climate change and development issues in four UK publications over a ten-year period. In an attempt to move away from the "rather deductive research process" whereby researchers identify possible factors influencing news coverage of a topic and then perform a discourse analysis with these factors in mind, Doulton and Brown decided to conduct their analysis without any particular hypothesis in mind. They remained open to the discourse patterns of the texts by tracing their fundamental components after they had been read. The authors identified five general stances towards climate change and development as well as eight associated discourses.²⁶ Doulton and Brown found that over the time period under study, coverage of climate change has been on the rise, a trend which reflects "an increasing sense of impending catastrophe regarding the impacts that climate change will have on development" (Doulton & Brown, 2009, p. 201). This trend is evidenced by the fact that the fourth stance (crisis) was "by far the most common" among the articles under study (Doulton & Brown, 2009, p. 197). Doulton and Brown concluded that the trend towards sensationalism in the news coverage of climate change is problematic for two reasons: first, it serves to gloss over important complexities and uncertainties of climate change itself and second, it serves to portray developing countries as "needing the help of the developed world if they are to deal with the impacts of climate change" (Doulton & Brown, 2009, p. 201).

Also in 2009, J. Arjan Wardekker, Arthur Petersen and Jeroen van der Sluijs performed a discourse analysis of Christian voices in the American public debate on climate change as they relate to public support for climate policies. Their methodological approach differed from the articles reviewed to this point; they employed a 'worldview framework' to identify narratives in the debate and then used

²⁶ The five stances were: climate change will be beneficial, other development issues should be tackled first, mitigation is the key, a crisis – climate change must be tackled urgently, and overcoming climate change can help the poor. The eight discourses were: optimistic, rationalistic, ethical mitigation, self-righteous mitigation, disaster strikes, potential catastrophe, crisis, and opportunity. For a more detailed explanation of the stances and their discourses, see Doulton and Brown, 2009: page 196.

value mapping and an argumentative discourse analysis framework to “segregate and compare the arguments used, and to analyze what things various policy actors agree or disagree on” (Wardekker, Petersen, & van der Sluijs, 2009).²⁷ Wardekker et al. analyzed a broad array of discourses and identified three Christian religious discourses in the climate debate.²⁸ They concluded that all three discourses emphasize the moral dimensions of the climate change issue and that the similarities among the discourses identified could be used to bridge divides in policy objectives because these religious discourse appeal to both sides of the political spectrum.

Finally, my search for relevant background literature did result in one article directly related to climate change negotiations discourses; however, the authors did not conduct a discourse analysis as such and I will therefore only discuss it briefly. In 2007, Karin Backstrand and Eva Lovbrand published a chapter entitled “Climate Governance Beyond 2012: Competing Discourses of Green Governmentality, Ecological Modernization and Civic Environmentalism” which adopted “a discursive framework in order to critically analyze the policy rhetoric permeating debates on contemporary and future climate governance” (Backstrand & Lovbrand, 2007, p. 123).²⁹ Specifically, Backstrand and Lovbrand identified three discourses which have interacted and competed during the course of climate change negotiations: green governmentality, which refers to a top-down, science-driven multilateral negotiation order, ecological modernization, which refers to market-driven, cost-optimal solutions to the climate problem, and civic environmentalism, which refers to more radical and reform-oriented solutions which challenge the status quo. Backstrand and Lovbrand sought to explain how the discursive struggle between the three discourses is manifested in the post-2012 debate on future governance options. They maintained that although each

²⁷ For a more detailed description of their methodology, see Wardekker et al. pages 513-514. The worldview framework used was a “quadrant of four ideal-typical discourses regarding sustainability issues, developed by the Netherlands Environmental Assessment Agency”. Wardekker et al. emphasize that individuals and groups are not easily placed within one box or another, rather, “discourses were compared to the worldviews, and the elements they used from various worldviews are used to structure the debate”.

²⁸ The three discourses were: conservational stewardship, developmental stewardship, and developmental preservation. For more information, see Wardekker et al. pages 515-518.

²⁹ In this case, climate governance refers to both the UNFCCC and the Kyoto Protocol as well as deregulated governance including sub-state and non-state actors.

discourse has 'peaked' at different phases of the climate negotiations, "the post-2012 debate has propelled the discursive contestation over future climate governance options and, once more, opened up the process for a struggle over meaning in the climate domain" (Backstrand & Lovbrand, 2007, p. 124).

In conclusion, I would like to reaffirm that the discourse analysis literature on climate change is far from robust. My approach will differ from the discourse analytic literature reviewed in that my aim is not to understand the various factors which contribute to the construction of climate change discourses per se, but rather to understand how players in climate change negotiations create and interpret discourses within the confines of the negotiations themselves in order to uncover important political dynamics which are essential when analyzing players' strategies from a game theoretic point of view. Essentially, my aim is to discover the "true" game being played; where discourse analysis shall take the place of problematic game theoretic assumptions and overcomplicated mathematical models in order to more accurately represent players and their strategies.+

2.3 The Contributions of the Study to the Existing Literature

The trajectory that the literature on non-cooperative game theory as applied to climate change negotiations has taken in the past ten years or so has been a gradual development towards acknowledging the importance of political factors and an attempt to include them in game theoretic models so as to better represent reality. This thesis will continue on this trajectory, building on the work of Ward, Grundig and Zorick (2001), by taking a truly mixed-methodological approach; combining a game theoretic framework with a discourse analysis of the most recent climate change negotiations round in Durban in order to capture the importance of both political and economic considerations. The discourse analytic methodological approach I adopt is a departure from the previous discourse analytic literature which has focused largely on understanding the construction of climate change discourses in the media as they relate to public information and understanding. My intent is to build on the discourse analytic literature by performing the first ever discourse analysis of climate change negotiations while simultaneously using the discourse analytic methodological approach in a novel fashion.

The ultimate contribution of this thesis is methodological in nature. To the best of my knowledge, the methodological approach adopted – using a discourse analysis of the Durban negotiations in order to determine the ‘true’ game being played and performing a game theoretic analysis on those grounds – is unprecedented. In terms of the outcomes of this novel methodological approach, I agree with a statement made by Juan Carlos Císcar and Antonio Soria: “finding no clear-cut conclusions, but rather some ‘stylized facts’ should not be considered as a symptom of the weakness of the approach. It is just the consequence of the intrinsic complexity of the problem considered” (Císcar & Soria, 2002, p. 1328). As such, my aim is to provide interpretations which help one to understand the vital political dynamics at play in Durban and use the results of the analysis as a tool to look forward in time and consider the circumstances under which a more progressive global agreement may be reached. By combining social and economic methodologies in this manner, I have allowed my focus to remain on the complexities of political processes rather than the complexities of the game model itself. The value of my approach lies in the fact that my conclusions – though not as clear-cut as those reached by complex game mathematical tools – are based on the way countries actually behaved in the Durban climate negotiations. I hope to demonstrate the usefulness of a ‘soft’ tool like discourse analysis, particularly in helping us to understand the true nature of the game being played and to begin to bridge the divide between theory and application.

3 Data

It is slightly unorthodox that the data for this research project was a two-week long negotiation session. Nevertheless, it is necessary to give an overview of the Durban negotiation round – including a summary of the negotiations themselves, the important issues which arose, the turning points of the conference, the decisions made, and their impact – in order to understand the results which follow.

3.1 Key Issues

At the outset, the expectations of players concerning what was achievable at Durban were modest. After the complete breakdown of the Copenhagen negotiations and the more subtle, incremental, trust-building approach taken at Cancun, it is not difficult to understand why this was so. In their opening statements, players generally set their sights on resolving issues where agreement was high, namely the operationalization of various Cancun objectives.³⁰ However, certain players, including the EU, Least Developed Countries (LDCs), and AOSIS set the bar higher. In addition to the operationalization of Cancun objectives (particularly with respect to finance and the Green Climate Fund), two other issues dominated at Durban: reaching agreement on the future of the Kyoto Protocol and on a ‘roadmap’ to strengthen the global climate regime and lay the foundation for a new agreement.

During the first week of negotiations, there was a clear divide in the heavy workload of the delegates between technical, operationalization issues and political, roadmap/Kyoto issues. The second commitment period and the Green Climate Fund (GCF) both received much attention, although other ‘hot topics’ included REDD, increasing ambition, and adaptation. By the end of the first week, progress had been made on draft texts regarding technical issues such as REDD, loss and damage, and National Adaptation Plans (NAPs). However, the process for clarifying these technical

³⁰ The Cancun objectives that remained to be operationalized included, *inter alia*, a technology mechanism to promote clean energy and adaptation-related technologies, an adaptation framework to support developing countries, and a Green Climate Fund.

issues was slow-going and involved painstaking line-by-line review of text. Negotiators and participants alike expressed concerns about the timetable. Delegates felt their workload was too heavy to create draft texts in time for the Ministers' arrival, whereas participants and observers felt that delegates were unaware that time was running out to tackle bigger issues left on the table.³¹ Whereas parties were building on the trust fostered at Cancun and successfully working around the positions of various parties on technical issues, the second commitment period and increasing ambition remained politically divisive issues, largely as a result of the strong bottom-line positions of certain players like the US, Japan, and Russia (Earth Negotiations Bulletin, 2011).³²

By the end of the first week, several notable political dynamics had also become clear. First, after issuing a joint statement prior to the beginning of negotiations, China spoke on behalf of BASIC for the first time ever during the proceedings.³³ It was clear that BASIC would assume an important role as a new, powerful negotiating group which understood its place at the forefront of these negotiations, but at the end of the first week it remained unclear in what manner that role would materialize. Secondly, by the end of the first week, the EU had made it clear that they intended to be a driving force at Durban. Not only had they put forth their roadmap proposal, they also had begun consultations with both developing and developed nations in order to provide options and identify possible elements of an "integrated outcome" (Earth Negotiations Bulletin, 2011).

³¹ Excerpts from the ENB reports on days four and five of negotiations: "With more than fifty items under consideration, many delegates were struggling to keep track of the dozens of contact groups and informal meetings. With negotiators being asked to have their various texts ready by Saturday, one veteran worried, 'it's hard for us to see the forest for the trees on such a short timetable.'"; "One experienced NGO noted that with many issues still left on the table, 'some negotiators don't seem to be aware time is running out.'"

³² Excerpts from ENB reports from days four and five of negotiations: "many participants flagged that philosophical differences remained evident on the second commitment period, the level of ambition and the form and/or substance of a rules-based system. "With key parties holding such strong bottom-line positions, we're definitely walking a minefield here", said one negotiator". "The SBSTA and SBI agendas appeared to be moving quite well through some key issues, while momentum on the AWG-KP and AWG-LCA packages appeared more uneven."

³³ The Joint Statement Issued at the Conclusion of the Ninth BASIC Ministerial Meeting on Climate Change, Beijing, China, 1 November 2011 can be found online at: <http://www.indianembassy.org.cn/newsDetails.aspx?NewsId=267>.

At the beginning of the second week of negotiations as high-level Ministers began to arrive, countries began more clearly specifying their positions. Garnering itself a lot of attention, China held a press conference during which they laid out five conditions that must be met in order for them to participate in a legally-binding deal. Though their conditions were nothing new, many observers felt it was noteworthy that China was demonstrating a “much greater assertiveness” at Durban; positioning itself as a powerful player in the talks rather than “slinking into the background,” which had been their preference in years past (York, 2011). As week two progressed and the AWG-KP and AWG-LCA Chairs made their progress reports, many participants and observers expressed increasing concern about whether or not conclusions could be reached on all major issues.³⁴ On Thursday, the second to last day of negotiations, the outlook of delegates was mixed. “Some delegates despaired that complexity was taking over and an ambitious outcome would be impossible in the time remaining, with one invoking the dark memories of the final hours of Copenhagen” (Earth Negotiations Bulletin, 2011). However, other delegates were relieved that some progress had been made, for example on the GCF.

During the second week of negotiations, it became clear that the Indabas – small, informal consultations organized by the South African Presidency – had become a popular place for problem-solving. On day nine, the South African Presidency announced that they would elevate Indabas to the ministerial level (Earth Negotiations Bulletin, 2011). Ultimately, the importance of the Indabas came into clear focus as the final day of negotiations – Friday 9 December – stretched into a marathon negotiation session lasting Saturday and Sunday.

On Friday evening, the closing plenaries of the COP and MOP opened to adopt decisions; plenaries which continued until the final gavel came down at 6:30 am on Sunday morning.³⁵ During this time, Ministers and other delegates held informal consultations in order to resolve outstanding issues, such as NAPs, the CDM, and

³⁴ Excerpt from the ENB report on day nine of negotiations: “After listening to the reports from AWG-LCA and KP Chairs, however, several delegates commented that it is by no means clear that all issues will be resolved by the end of the conference”

³⁵ A plenary is a term used to define meetings within Conferences where all members of all parties are obliged to attend.

response measures. Come Saturday morning, Ministers were still working on elements of the Durban package, and no timeframe for the plenary had been set. Finally, at 8 pm on Saturday, the AWG-KP and AWG-LCA plenaries began to convene. However, at 11:30 pm, agreement had still not been reached and the plenaries were re-scheduled for 12:30 am on Sunday morning. At 2:55 am on Sunday morning, as agreement continued to elude the delegates, the COP President suspended the joint plenary and called on delegates to meet in a small Indaba ‘huddle’ in order to resolve their outstanding issues. An hour later, the huddle broke and delegates had reached a compromise on the language of the Durban Platform. At 4 am the closing plenary opened, decisions were taken, and the negotiations formally concluded at 6:30 am on Sunday morning.

During the final marathon negotiation session, the most divisive political issues which had plagued the negotiations throughout remained the final sticking points. These issues included: the length of the second commitment period, sources of funding for the GCF, long-term cooperative action, and the legal standing of the new agreement. Ultimately, agreement was reached on all of these issues, however, the degree of consensus varied. The length of the second commitment period remained unclear in the final decision; it remains to be decided if it will end in 2017 or 2020. The GCF was designated as an operating entity of the Financial Mechanism of the Convention.³⁶ It was decided that the GCF “will receive financial inputs from developed Parties to the Convention” and “may also receive financial inputs from a variety of other sources, public and private, including alternative sources” (UNFCCC Conference of the Parties, 2011). However, the details remain to be worked out between the COP and the Fund at COP 18. On long-term cooperative action, it was agreed to continue to work towards “identifying a global goal for substantially reducing emissions by 2050 and a time frame for global peaking of greenhouse gas emissions” at COP 18 (UNFCCC Conference of the Parties, 2011). In other words, the agreement merely stated the intention to continue

³⁶ The financial mechanism of the UNFCCC was created in order to provide financial resources to assist developing country Parties in implementing the Convention. The entities entrusted with the operation of the mechanism are subject to periodical review. For more information, see:

http://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php.

to work on these issues, although a handful of decisions were made with regard to reporting protocol.

The issue on which it was most difficult to reach consensus was the legal standing of the Durban agreement. Ultimately, the situation boiled down to a standoff between developing giants India and China, those nations most vulnerable to climate change (for example the LDCs and AOSIS) as represented and supported by the EU, and the US. Tensions ran high as the EU pushed for a progressive outcome with strong legal language, while India and China stood firm in their opposition. They maintained that the principles of equity and common but differentiated responsibilities entailed that developed countries ought to be held to a higher, stricter standard than themselves. During the final plenary sessions, it appeared that China seemed content to allow India to do the heavy-lifting for the side of the opposition. Connie Hedegaard, European climate commissioner, was quoted saying that India was taking “a relatively tough stand here,” making statements such as, “don’t take our cooperation to be weakness” and that India would never be “intimidated by threats” (Powers, 2011; Earth Negotiations Bulletin, 2011; Hull, 2011).

Meanwhile, the US maintained its long-held position that the only way it would sign on to an agreement is if countries like India and China do as well. During a press conference prior to the final plenary sessions, US deputy climate change envoy Jonathan Pershing stated

We’re not looking for a mechanism in which we would have an obligation to reduce emissions in a legal form and the major emerging economies would have a voluntary program. That’s kind of the Kyoto structure. We are not a party to Kyoto, in no small measure, because of that constraint (Xinhua, China Daily, 2011).

During the final plenary session, it appeared that the US had softened its position somewhat. Climate envoy Todd Stern said, “I think [The Durban Accord] is a powerful package and a major opportunity. The United States supports you in advancing this package and urges that it be moved expeditiously, and **together;**” a statement which indicated that the US was willing to sign the agreement so long as China and India did as well (Hull, 2011; emphasis added).

Although the EU stood alone at the final negotiating table versus China, India and the US, they held a strong bargaining chip: a coalition of more than 120 climate-vulnerable and least developed countries had signed onto the EU roadmap, as demonstrated by a joint statement issued by the EU, AOSIS and LDCs on December 9th which stated that these nations were all “ready to undertake concrete obligations to manage the climate change challenge” (European Commission, 2011). Their ability to claim the support of nearly two-thirds of the world’s nations gave the EU the political momentum needed to secure the support of important players like Brazil, South Africa, Canada and Japan before heading into the final negotiating round to face off with the final three hold-outs: China, India and the US (Murray, 2011). Speaking to reporters on Friday morning, British Energy and Climate Change Secretary Chris Huhne affirmed that a “high ambition coalition” had emerged and stated that “it’s increasingly clear that the EU is speaking for the vast majority of participants” (Murray, 2011). Ultimately, the EU and their allies were able to successfully lobby the “big three” to reach a compromise position. It may be said that the formation of the alliance between EU and the LDCs and AOSIS was a turning point of the Durban Conference, and this thesis shall now turn to outlining all the turning points of the Durban Conference and how they helped set the stage for the Durban outcome.

3.2 Turning Points

During the course of my data collection, which involved closely following the Durban negotiations as they occurred, I perceived a number of turning points; all of which are noteworthy in order to understand how the Durban outcome was reached. Most of these turning points were mentioned briefly in the previous section; in this section, I will address them one by one in more detail, including how each turning point influenced the Durban outcome.

3.2.1 Turning Point One: BASIC Speaks as a Group

On October 31-November 1, 2011 the BASIC countries meet in Beijing, China for the ninth BASIC ministerial meeting in order to work out a joint strategy for the Durban Conference. Although the BASIC negotiation grouping has existed and worked together in this way for some time, it was noteworthy when a Chinese representative spoke in the opening plenary session on behalf of BASIC because “this [was] the first time the

BASICs [spoke] as a bloc” said Tasneem Essop of the WWF (Clark, 2011). Additionally, all the members of BASIC are also members of G77 and China, a negotiation group within which there have been tensions developing for some time as a result of the fact that a handful of countries which are still categorized as developing nations are now richer per capita than a majority of developed nations in Eastern and Central Europe, and, are among the world’s largest polluters. China, India and Brazil together account for about half of all global emissions, a figure estimated to jump to 65% by 2030 (Hood & Ingham, 2011). In the lead-up to Durban, these tensions boiled over within the once solid G77 bloc when the BASIC countries stated their preference to delay any new emission reduction pledges until at least 2020; a very worrying prospect for small island nations and least developed nations. It appears that the BASIC nations are beginning to accept their changing role from being a spokesman for the poor to being co-managers of the planet along with the other industrialized, top polluting nations. The importance of BASIC speaking as unified negotiation group lies in the fact that it helped clearly delineate the lines along which the Durban outcome was to be negotiated. BASIC – aware of the importance of securing their participation in any agreement – positioned themselves as a collective identity of emerging powers, capable of acting as a counterweight to both the US and the EU. The clear break-up of the G77 allowed its members to state their national interests and place their political capital where they pleased; a change which shifted the geo-political ground on which the negotiations took place.

3.2.2 Turning Point Two: China’s Openness

At the end of the first week of negotiations, China’s top climate negotiator Xie Zhenhua laid out the conditions under which China would accept a legally-binding climate deal. These conditions included: that legally-binding reduction requirements would not go into force until 2020 when the current voluntary pledges made at Copenhagen expire, that developed countries renew the Kyoto Protocol for a second commitment period, that developed countries provide financing to poorer ones in the form of fast start finance and the GCF, and that any agreement respect the relative capacity of countries to deal with global warming (Clark, 2011). While both Xie and other commentators acknowledged that these conditions were nothing new, the mere act of the world’s

largest emitter and notoriously private negotiator making a public statement which indicated a measure of flexibility in their position was enough to spark excited discussion among participating parties and observers, some of whom were optimistic that China's flexibility may help move the negotiations towards a progressive outcome, while others remained skeptical about China's meaning and intent. There were additional signs of China's openness apart from their public announcements. For example, allowing top negotiators to give journalists interviews,³⁷ participating in side events, giving speeches, holding daily media events and, for the first time ever, setting up a "China Pavilion" to promote its national environmental policies (York, 2011). To many observers, it seemed as though China was beginning to let go of its status as a developing country by demonstrating much greater assertiveness and a more savvy public-relations approach. In other words, China's behavior at Durban indicated a shift in their position and – regardless of their intent – it was an important turning point in the conference because it sparked discussion, analysis, and injected week two of the negotiations with a degree of optimism that conclusions could be reached and issues could be hashed out.

3.2.3 Turning Point Three: Indabas and the Role of the South African Presidency

It could easily be argued that the final Indaba huddle – where China, India, the US and the EU were ordered to resolve their issues and agree upon the text of the Durban Platform – was the most important turning point of the entire conference. However, this final turning point was facilitated by two noteworthy trends from the course of the conference: the role of the Indabas and the role South Africa played as host. South Africa had a number of competing national priorities to contend with during the Durban conference. As host, South Africa clearly had an interest in building bridges and ensuring that divergent positions came together to reach an agreement. As an African nation, South Africa had an interest in being a voice for the developing countries in Africa, where – as South African President Jacob Zuma said in his opening statement – "climate change is a matter of life and death" (Associated Press, 2011). As a member of BASIC,

³⁷ Clark (2011) stated that China allowing senior negotiators to give interviews with foreign and Chinese journalists was a "departure from past years".

South Africa had to balance their alignment with African nations which desired ambitious mitigation action in the near-term, with their alignment with BASIC which favored postponing action until 2020. Finally, South Africa had its own national interests to further, including supplying an ever-growing demand for energy, which, despite national emission reduction targets, has largely been achieved with coal-derived power (Hood & Ingham, 2011). Fortunately, the role that South Africa played as host was highly influential in shaping the circumstances which allowed for the Durban outcome. Over the course of the conference, COP President Maite Nkoana-Mashabane called for a series of Indabas which drew on African traditions and the spirit of Ubuntu (interdependence) in the hope that parties would “come together to solve common challenges for the larger community” (Earth Negotiations Bulletin, 2011). Indabas ranged from plenary hall reports, to technical sessions for negotiators, to tables of over 50 ministers in the final days. In the beginning of the second week, the positive response to the Indabas resulted in the COP Presidency elevating them to the ministerial level. As it became clear that Indabas had run their course over the second week of negotiations and their usefulness as problem-solving arenas was diminishing, “certain parties began to push the Presidency to take a more proactive approach to identifying and brokering outstanding issues” (Earth Negotiations Bulletin, 2011). As a result, the Presidency began distributing helpful conference room papers and, most importantly, ordered the final Indaba huddle which resulted in the agreement on the text of the Durban Platform.

3.2.4 Turning Point Four: The European Roadmap

After years of playing the mediator, trying to find middle-ground and smooth over differences between the rich, industrialized nations and poor, developing nations, the EU adopted a tougher stance at Durban. In order to agree to take on a second commitment period under the Kyoto Protocol, the EU demanded a parallel legal agreement³⁸ which would cover all parties and come into force by 2015 at the latest. Observers noted that this move reflected frustration with their diminishing role in the negotiations as other nations have taken their dovish stance for granted, particularly

³⁸ “Legal parallelism” refers to the idea that both developed and developing nations sign an international, legally-binding treaty.

after the Copenhagen summit in 2009 when the EU was “pointedly left out of last-minute negotiations to forge a partial agreement and officials were visibly flummoxed when the US led China, Brazil, India and South Africa in proclaiming a deal had been done without Europe” (Harvey, *The Guardian*, 2011).

The EU also held an important bargaining chip at the beginning of the Durban round: their status as the lone group of countries who would seriously consider a second commitment period under Kyoto. Japan, Russia and Canada – Europe’s main partners in Kyoto – had already abandoned the accord and the US had long since ruled out signing up. The fact that renewal of the Kyoto Protocol was one of the main demands of the developing nations gave the EU considerable leverage to negotiate how to address the issue. This, in addition to the debate over how to manage the window between the termination of the Kyoto Protocol in 2012 and the Copenhagen and Cancun pledges until 2020, “created the space for the ‘roadmap’ championed by Connie Hedegaard, EU Commissioner for Climate Action, and her colleagues in the EU” (*Earth Negotiations Bulletin*, 2011). The EU’s demand for legal parallelism and the Roadmap they championed helped “draft the script for the central plot in Durban by setting out their stall early in the process and offering to do the heavy lifting³⁹ to save the Kyoto Protocol within the context of a roadmap that put up a challenge to other parties – developed and developing” (*Earth Negotiations Bulletin*, 2011). The fact that the EU put forth a legitimate proposal and was willing to do the dirty work to negotiate the specifics of its contents was an important turning point in the conference because, as it turned out, the EU’s roadmap was the first draft of the Durban Accord.

3.2.5 Turning Point Five: The EU Alliance

Although it was unclear at the outset how the EU roadmap would be received, by the second to last day of negotiations, delegates were focused on finalizing the details of the EU’s proposal. After the roadmap secured high-profile support from the group of 48 LDCs and the 42 members of AOSIS – notable because of developing nations’ reservations that they could end up facing binding mitigation targets, a costly and

³⁹ This refers to the EU’s offer at Copenhagen to increase their level of ambition to a 30% reduction in greenhouse gases by 2020 from 20% if other countries agree to adopt mitigation targets as well.

demanding enterprise – the EU was able to claim that they had the support of 120 nations out of the 190 nations present at Durban (Murray, 2011; Krukowska & Morales, 2011). Knowingly or not, this was brilliant strategy on behalf of the EU, AOSIS and LDCs. By creating their alliance, they effectively identified the “opposition” to a legal outcome: BASIC and the US. This put BASIC in the uncomfortable position of being lumped together with the US as a regressively-oriented player, which exposed tensions within their bloc. As the talks entered their final day, a senior EU official told *The Guardian* that “Indonesia, South Africa and Brazil are “sympathetic” to the EU roadmap alongside China” (Joselow, 2011). There also appeared to be limited support for the deal from the US and Canada, although it remained unclear whether or not any of these parties would be willing to agree to legally-binding commitments.⁴⁰ Among the BASIC nations, only India remained firmly opposed to the EU’s roadmap and any legally-binding targets. The ability of the EU to claim that nearly two-thirds of the world’s nations were on board with their roadmap ultimately gave them the political leverage needed to gain the tentative support of larger players like the US and China as the negotiations were winding down. Ultimately, the EU’s momentum proved sufficient to successfully pressure the “Big Three” – the US, China and India – to reach a compromise in the form of the Durban Accord.

3.3 The Decisions Reached

When one considers the failures of multilateral climate change negotiations since Kyoto as well as the modest expectations at the outset of the Durban round, the Decisions passed at COP17/CMP7 render themselves remarkably progressive. In total, there were 19 COP decisions and 17 CMP decisions passed. The most notable decision was the document which was hammered out early on the morning of Sunday, December 11th, two days after the negotiations were meant to conclude, a document called

⁴⁰ Todd Stern, US special envoy for climate change, stated in a press conference that “The EU has called for a roadmap. We support that.” This statement was later clarified by Emily Cain, a State Department spokeswoman, “Todd Stern said in his press conference today that the United States could support a process to negotiate a new climate accord, he did not say that the United States supports a legally binding agreement as the result of that process.” Similarly, the countries which the EU stated were ‘sympathetic’ to the Roadmap had merely stated their willingness to discuss the proposal rather than any willingness to agree to binding commitments (Krukowska & Morales, 2011; Harvey & Vidal, *The Guardian*, 2011).

“Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action”. In the media, it is referred to as the ‘Durban Platform’ and it is notable because it established a working group whose mandate is to begin work immediately “to launch a process to develop a protocol, another legal instrument or an agreed outcome **with legal force**” by 2015 which includes a raised level of ambition of mitigation pledges, to be implemented from 2020 (UNFCCC Conference of the Parties, 2011, emphasis added).⁴¹ The Durban Platform also decided to extend the work of the Ad Hoc Working Group on Long-term Cooperative Action by one year in order to meet its mandate. Other notable decisions taken at Durban include:

- Establishment and extension of the second commitment period of the Kyoto Protocol. The second commitment period is to begin on 1 January, 2013 and end either on 31 December, 2017 or 31 December, 2020, to be decided by AWG-KP 17. It was also decided that Annex 1 nations need to convert their emissions reduction targets (from the first commitment period) to Quantified Emission Limitation and Reduction Objectives (QELROs) by 2012 to be considered at AWG-KP 17.
- Operationalization of the Green Climate Fund in 2012. The GCF is meant to support projects, programs and policies in developing countries related to mitigation, adaptation, capacity-building and technology development and transfer. At Durban, countries began submitting pledges in order to reach the goal of mobilizing 100 billion USD by 2020.
- Establishment of an Adaptation Committee designed to improve the coordination of adaptation actions on a global scale. The Committee will report to the COP.
- Operationalization of the Technology Mechanism in 2012. The full terms of reference for the operational arm of the Mechanism, the Climate Technology Centre and Network were agreed upon in addition to a clear procedure to select the host.
- Agreement on a registry to record developing country mitigation actions that seek financial support with the purpose of matching these requests with support. The registry will be a flexible, dynamic, web-based platform.
- Agreement that carbon-capture and storage projects will be allowed under the Kyoto Protocol’s Clean Development Mechanism.

⁴¹ For the full text of the Durban Platform, see:
http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf.

- Additional agreements on loss and damage, monitoring, reporting and verification (MRV), Reducing Emissions from Deforestation and Forest Degradation (REDD+), and National Adaptation Plans (NAPs).

4 Methodology

In order to address the oft problematic focus of game theory, this article takes a new mixed-methodological approach. By replacing complex Integrated Assessment Models with discourse and content analyses of the Durban negotiations, I was able to capture important political dynamics that would remain ‘unseen’ in many game theoretic frameworks. I decided to use both content and discourse analyses as complementary methodological approaches to reveal common themes and underlying meanings of the texts from the Durban negotiations. Content analysis was useful for systematically coding country’s opening statements for references to various issues, in order to deduce which issues were emphasized by which countries and to identify areas of overlap. Discourse analysis proved more useful for analyzing the day-to-day events during the Durban negotiations. In this case, country representatives verbal communications (as reported in written documents) were under scrutiny, and ‘reading between the lines’ was necessary in order to reveal intent and underlying meaning. By using game theory as an interpretive framework within which to understand the results of the discourse and content analyses, my methodological approach retained the usefulness of game theory for understanding important aspects of interrelated behavior and decision-making. My hope is that this novel approach facilitates understanding of the circumstances which allowed for the Durban outcome and helps to identify problematic issue areas on which to focus our attention and effort in order to push negotiations in a more progressive direction in the future.

4.1 The Methodological Approach in Detail

In order to capture the “feel” of the Durban negotiations as they happened in real-time, the first part of the methodology involved following their progression closely, from start to finish. First, detailed summaries of each day’s events were obtained online from the Earth Negotiations Bulletin (ENB). In addition, at the end of each day, the UNFCCC website offered links to news articles from a variety of sources offering coverage, interpretations of, and reactions to the negotiations. After I read and analyzed these resources, I wrote a journal entry to summarize the central issues and themes which

dominated that day's coverage. At the end of each day, I saved all the documents (the ENB summary, all news articles, and my journal entry) in a single labeled folder, for example: "Day One – 28 November". Studying the negotiations as they occurred enabled me to identify those countries and negotiation groupings which were most active, or whose positions were most influential during the course of the negotiations.

The second part of the methodology was conducted once the negotiations had concluded. This involved obtaining all the official documents from the Durban negotiations on the UNFCCC website relevant for my purposes. These documents included: 19 COP decisions, 17 CMP decisions, and opening statements. First, I conducted a content analysis of countries opening statements in order to identify which issues were mentioned by which players, the number of times each issue was mentioned, and identify players' positions regarding those issues (i.e. whether they desired progressive or regressive action).⁴² Second, I conducted a discourse analysis of the ENB summaries from each day of the negotiations in order to identify which issues were stressed, identify important political developments, and identify important turning points, the results of which were presented in the previous section.

The results of the content and discourse analyses enabled me to create a list of primary and secondary players. Next, I used a game theoretic approach to create representations of players' strategies by plotting their issue positions on a strategy continuum. After this was completed, I was able to cluster the continuums by issue and compare players' positions to the Durban outcomes. This enabled me to assess which issues enjoyed consensus, which issues were contentious, and the relative success of each player's strategy. Lastly, I conducted a final discourse analysis of players' reactions to the Durban outcome in order to demonstrate the value of qualitative approaches to uncover and explain vital political concerns which underlie strategy but traditionally fall outside the scope of game theoretic approaches.

⁴² This thesis does not include an Annex. However, should readers wish to view the data tables which were used in the content analysis, they should feel free to contact me personally.

5 Results and Discussion

For the sake of simplicity, the results of this study will be presented in separate sections which represent the results of the content analysis, discourse analysis, and game theoretic analysis. However, it should be noted that this is merely an exercise in straight-forward presentation rather than a clear-cut divide between the various approaches. Ultimately, all three approaches were complementary throughout the course of the study; the results from any one approach helped inform the results of the other approaches and shed light on the interpretation of various issues.

5.1 Defining Players

After reading and summarizing the relevant texts from Durban, the first task to be completed was to compile a list of players. A number of game theoretic approaches split the world into politically irrelevant groupings, such as North and South. In order to accurately capture political dynamics, this study compiled a list of players from the various individual nations and negotiation groupings active at Durban. I define a negotiation grouping as any group of nations that speak with one voice; for example, the EU. For the sake of simplicity, my list of players has been narrowed down to those players whose opinions were *most* influential and whose representatives were *most* active and vocal during the course of negotiations: I do not claim to present an exhaustive list. To demonstrate this point is the fact that AOSIS has been included in my list of players even though it is comprised of 42 small island nations which, under normal circumstances, would be politically irrelevant. I have included them because AOSIS has played a key and very active role in climate change negotiations throughout the years. For example, during negotiations for the Kyoto Protocol, AOSIS proposed much of the final text (Depledge, 2000). In order to best represent the variety of interests and strategies which exist, my list of players includes not only negotiation groups like AOSIS which are strongly concerned about the effects of climate change, but also large industrialized nations like the US and EU, up-and-coming developing nations like India and China, and the least developed nations. In order to capture important political dynamics, the list of players was separated into primary players and secondary

players. I identified **primary players** as those countries and negotiation groupings which were present at the final negotiating table for the Durban Accord:

- the US⁴³
- China
- India
- the EU

The **secondary players** are those who were active and vocal at Durban but were not among the players involved in the final, all-important Indaba huddle:

- AOSIS
- LDCs
- South Africa
- Brazil⁴⁴
- Japan
- Russia
- Canada

Three negotiation groupings who were active at Durban but have not been included in our list of players are G77 and China, BASIC, and UMBRELLA.⁴⁵ The reasoning behind the decision to exclude these groups is that they exhibited enough diversity of strategy that it is difficult, if not impossible, to treat them as a uniform entity. In the case of G77 and China, their member nations used to share a common identity as those countries that were not among the league of wealthy nations and stood united in their desire for industrialized nations to take the lead on addressing climate change. However, in the time that has passed since Kyoto, G77 and China has fragmented not only along lines of

⁴³ It is important to note that I used every player's individual opening statement, except the United States. This is because the United States did not submit an individual opening statement. Instead, I used the opening statement they aligned themselves with: the UMBRELLA Group.

⁴⁴ Brazil is defined as a secondary player but has not been included in the quantitative analysis because Brazil did not submit an opening statement.

⁴⁵ The UMBRELLA group usually consists of Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the U.S.

wealth, but also along lines of vulnerability as certain nations remain poor and become increasingly vulnerable to the effects of climate change, whereas others are developing rapidly and hold new and unprecedented amounts of political capital (Roberts, 2011). At Durban, though G77 and China still spoke as a unified negotiation group as a formality, all of its member nations tailored their statements to their own national interests along these lines of fragmentation. The reasoning for excluding BASIC and UMBRELLA is similar. The strategies of their member states during the Durban negotiations were too fragmented to treat them as unified groups. For these reasons, I have decided to exclude the G77 and China as a player⁴⁶ and treat the BASIC and UMBRELLA member countries as individual players in order to capture their differing interests and strategies.

5.2 Applying Content Analysis and Defining Issues

As referenced in the methodology section, the next stage of data interpretation included reading through each player's opening statement in order to compile a list of all issues which were mentioned and determine which issues were stressed by which players. By completing this task, a first step was taken towards understanding each player's strategy. For example, if Player A demanded the enactment of a second commitment period to the Kyoto Protocol by 2015, but later agreed to its implementation by 2020, it can be said that their position on the deadline date was flexible. In addition, compiling a list of key issues stressed by the players allows one to see where countries exhibited overlap; helping to identify the issues on which we could expect to see agreement.

After reading through each players' opening statement (all of which were available except for Brazil and the US⁴⁷), a total of 24 issues were mentioned.⁴⁸ Since my objective was to deduce which issues countries desired to see progress on internationally, I excluded any mention of the issues which referenced actions being

⁴⁶ I do include the negotiation groupings of LDCs and AOSIS, both of which fall under the G77 and China umbrella.

⁴⁷ See footnotes 43 and 44 for an explanation of how I dealt with this issue.

⁴⁸ All the opening statements can be found online at:
<http://unfccc.int/meetings/durban_nov_2011/statements/items/6584.php>

taken domestically. For each player, I then identified how many issues were mentioned total as well as the number of times each issue was mentioned. Finally, I summed up the total mentions of each issue, as well as the total number of countries which mentioned each issue.

It is interesting, and moreover important, to note that the top five issues mentioned most often by the players were almost identical to the top five issues mentioned by the largest number of countries: the operationalization of Cancun objectives⁴⁹, finance (in general), the GCF (specifically), technology development and/or transfer, and adaptation. However, reference to the second commitment period of the Kyoto Protocol stood in fourth place on the list of issues mentioned most often, whereas it was not among the top five issues mentioned by the largest amount of players. This indicates that although specific players like the EU and G77/China felt very strongly about a second commitment period and mentioned it frequently, the rest of the players did not (Statement on behalf of the Group of 77 and China, 2011) (Statement on behalf of the European Union, 2011). These results suggest that players had modest expectations of what was accomplishable at Durban. Most players emphasized the operationalization of the various Cancun objectives rather than the more politically divisive issues of the second commitment period or any comprehensive, legally-binding, post-2012 agreement. This interpretation is supported by the progression of the negotiations themselves, which has already been covered.

5.3 Applying Game Theory

In addition to shedding light on the key issues, turning points and player dynamics during the course of the Durban negotiations round, the discourse analysis performed is crucial in enabling this analysis to now turn to game theory. Creating a list of players, analyzing their positions and expectations immediately prior to the Durban round, and summarizing the course of negotiations – including identifying key issues, turning points and decisions made – all assist in next stage of this analysis: representing players' strategies visually and comparing them to the Durban outcomes.

⁴⁹ See footnote 30 for a list of the Cancun objectives which remained to be operationalized.

In this section, I draw on the work of Ward et al. and represent players' strategies as a continuum where players are concerned with policy outcomes in a single dimensional issue space. The center point of the continuum represents the status quo, points to right represent progressive change and points to the left represent more conservative outcomes than the status quo. However, the purpose of Ward et al.'s article was not to capture the full negotiation process – as is my purpose – but rather to capture the importance of leader players in forging final proposals (Ward, Grundig, & Zorick, 2001). Thus, my methodology now departs from the framework used by Ward et al. in an effort to explain the political dynamics which allowed for the Durban outcome from a more general point of view.

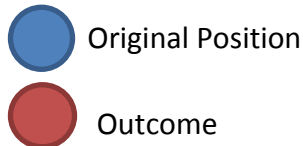
In order to create the strategy continuums of the players, I read each player's opening statements through in order to create a list of all negotiation issues they mentioned. Of the 24 issues recorded in the opening statements, decisions were ultimately taken on ten.⁵⁰ Subsequently, the opening statements of the primary players and secondary players were analyzed for reference to these ten issues, and it was recorded whether they desired progressive action on the issue, moderately progressive action, maintenance of the status quo, moderately regressive action, or regressive action. After this was completed, the Durban outcomes with regard to each negotiation issue were also plotted on the continuums in the regressive, status quo or progressive direction. Creating player strategy continuums in this manner allowed me to identify which issues exhibited high consensus and which issues did not, which players compromised on which issues, and which issues were the most stressed. This analysis also helped me to identify the reasoning behind the order in which negotiation issues were taken up; namely, those issues where players ideal points converged most closely were the issues addressed first whereas those issues where ideal points fell at many points across the continuum were left for last.

⁵⁰ The ten issues on which decisions were taken were: a legal outcome, the second commitment period to the Kyoto Protocol, the Green Climate Fund, the Adaptation Committee, the Technology Mechanism, Carbon Capture and Storage in the Clean Development Mechanism, Monitoring, Reporting and Review guidelines, REDD+, National Adaptation Plans, and a mitigation assistance registry for developing nations.

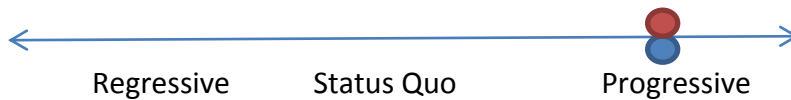
5.3.1 Strategy Continuums

Of the ten central issues on which decisions were taken at Durban, nine were addressed by the primary and secondary players.⁵¹ What follows are condensed strategy continuums, bunched by issue, in order from those with the highest amount of consensus to those with the lowest amount of consensus.

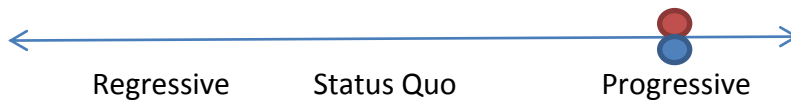
Key:



Green Climate Fund – Three of the four primary players (US, China and India) and five of the six secondary players (AOSIS, LDCs, South Africa, Russia, Canada) desired a progressive outcome on the GCF and a progressive outcome was achieved.⁵² In total, eight out of eight players achieved a satisfactory outcome on the GCF.



MRV – Two of the four primary players (US and EU) and three of the six secondary players (AOSIS, Japan and Russia) desired a progressive outcome on MRV and a progressive outcome was achieved.⁵³ In total, five out of five players achieved a satisfactory outcome on MRV.

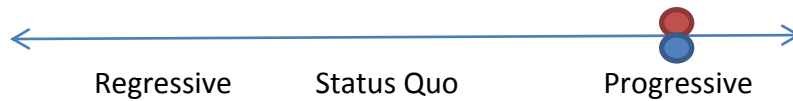


⁵¹ The only issue which was not addressed by the primary and secondary players in their opening statements was the issue of Carbon Capture and Storage in the Clean Development Mechanism in the Kyoto Protocol.

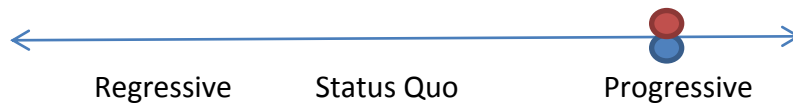
⁵² Statements in support of a progressive outcome on the GCF included being in favor of its “launch” or “operationalization” at COP17.

⁵³ Statements in support of a progressive outcome on MRV included a desire to “finalize MRV processes,” being in support of “robust MRV,” or supporting scientific reviews. It is important to note that a separate decision on MRV was never taken, but MRV guidelines and enhancements were included in the decisions on REDD, the Adaptation Committee, the mitigation assistance registry, and capacity building.

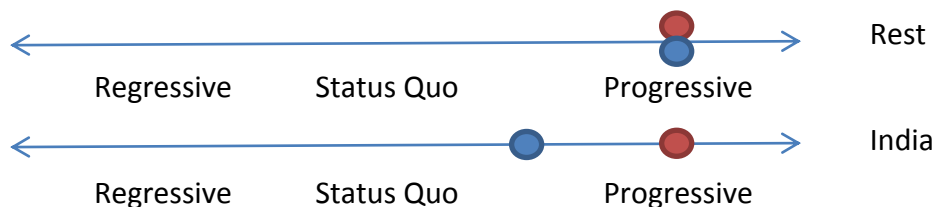
Adaptation – One of the four primary players (China) and four of the six secondary players (AOSIS, LDCs, South Africa and Russia) desired a progressive outcome on Adaptation and a progressive outcome was achieved.⁵⁴ In total, five out of five players achieved a satisfactory outcome on Adaptation.



Legal Outcome – Two of the four primary players (India and the EU) and two of the six secondary players (LDCs and South Africa) desired a legal outcome as a part of the Durban package and a legal outcome was achieved. In total, four out of four players achieved a satisfactory legal outcome.⁵⁵



Technology Mechanism – One of the four primary players (China) and three of the six secondary players (AOSIS, South Africa and Russia) desired a progressive outcome on the Technology Mechanism, and a progressive outcome was reached. One of the four primary players (India) favored a moderately progressive outcome.⁵⁶ In total, four out of five players achieved a satisfactory outcome on the Technology Mechanism.

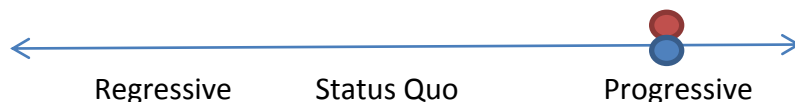


⁵⁴ Statements in support of a progressive outcome on Adaptation included favoring the “operationalization” of adaptation mechanisms or the adaptation committee. I also counted LDCs statement in favor of kick-start adaptation mechanisms.

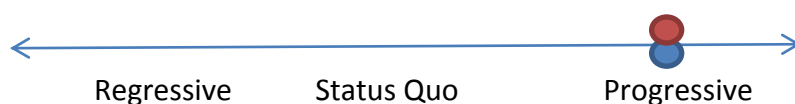
⁵⁵ It is important to note that the Durban Platform established a “process to develop a protocol, another legal instrument or an agreed outcome with legal force” by 2015 to be implemented by 2020. Many players desired a legal outcome before that time, and in addition, it remains to be seen what form the legal outcome will take. It is therefore slightly problematic to say this outcome was “satisfactory” for the four players in question, but for the sake of ease of analysis, I decided to ignore these complications during data processing and address them in more depth in the discussion section of this paper.

⁵⁶ The players who supported a progressive outcome on the Technology Mechanism favored its operationalization. India, on the other hand, rather supported the development of Intellectual Property Rights to facilitate technology transfer and development.

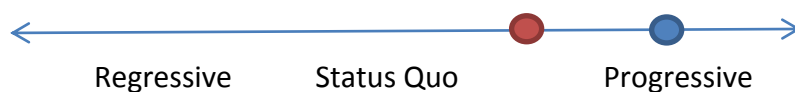
National Adaptation Plans – Two of the secondary players (LDCs and South Africa) desired a progressive outcome on NAPs and a progressive outcome was reached.⁵⁷ In total, two out of two players achieved a satisfactory outcome on NAPs.



REDD+ – Two of the secondary players (LDCs and Japan) desired a progressive outcome on REDD+ and a progressive outcome was reached.⁵⁸ In total, two out of two players achieved a satisfactory outcome on REDD+.



Mitigation – One primary player (US) and no secondary players desired a progressive outcome on mitigation and a moderately progressive outcome was reached.⁵⁹ In total, zero out of one player achieved a satisfactory outcome on mitigation.



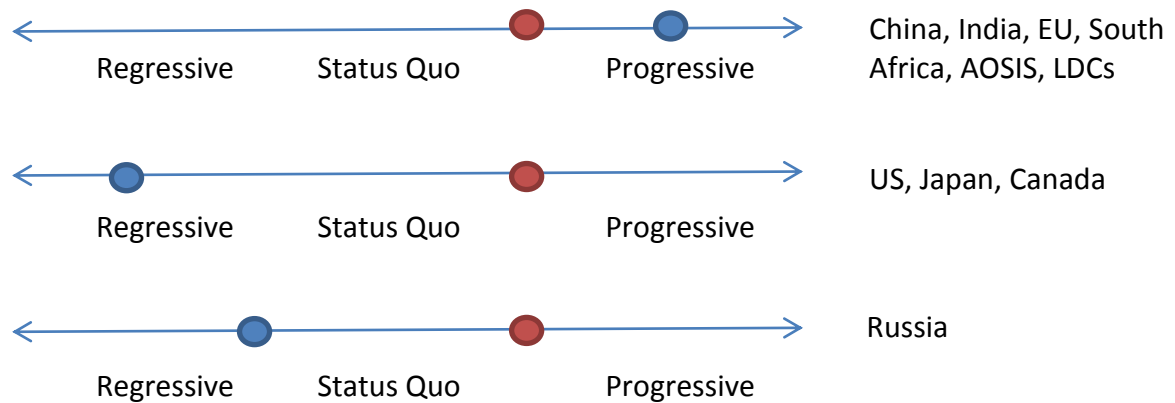
Second Commitment Period – Far and away the least successful issue for all Parties involved was the second commitment period of the Kyoto Protocol. Three of the four primary players (China, India and EU) and three of the six secondary players (South

⁵⁷ Statements in support of a progressive outcome on NAPs included favoring the establishment of guidelines and/or assistance for LDCs to develop NAPs. The decision on NAPs outlined the process to enable LDCs to adopt NAPs, including financial arrangements.

⁵⁸ Statements in support of a progressive outcome on REDD+ included favoring the establishment of “guidelines” or “systems” to better help nations in implementation. The decision on REDD+ included setting guidelines for reporting and how to set forest reference emissions levels as benchmarks for performance.

⁵⁹ The US statement in support of a progressive outcome on mitigation stated that the US was “in favor of enabling transparent mitigation by all countries”. The decision on mitigation established a transparent assistance registry for developing countries only.

Africa, AOSIS and LDCs) desired a progressive outcome.⁶⁰ One of the four primary players (US) and two of the six secondary players (Japan and Canada) desired a regressive outcome.⁶¹ One of the secondary players (Russia) desired a moderately regressive outcome.⁶² Ultimately, a moderately progressive outcome was achieved.⁶³ In total, zero out of ten players achieved a satisfactory outcome on the second commitment period.



⁶⁰ Statements in support of a progressive outcome on the second commitment period included favoring its “establishment” such that it will be a clear and ratifiable option for all developed Parties to the Protocol.

⁶¹ Statements in support of a regressive outcome on the second commitment period included stating “opposition” to the Kyoto Protocol and a refusal to participate in the second commitment period on those grounds.

⁶² While Russia also refused to participate in the second commitment period of the Kyoto Protocol, they did not state outright opposition to the Protocol itself. Rather, they supported concluding the negotiations on the Kyoto Protocol and stated their understanding that other Parties to the Protocol desired a second commitment period, and stated their support for their participation.

⁶³ Certainly, a case could be made for the fact that since a ratifiable second commitment period was achieved, this should be called a “progressive” outcome rather than a “moderately progressive” one. However, since only the EU, Norway and Switzerland are currently on board (Australia and New Zealand will pledge their commitments after studying the impact on domestic actions) and countries in favor of a progressive outcome demanded more comprehensive participation among developed nations, I have decided to call this a “moderately progressive” outcome.

5.4 Strategy ‘Success’

If we measure the ‘success’ of the Durban negotiations by examining the degree to which players achieved their desired outcomes on the issues addressed in their opening statements, then we may say that Durban achieved a high degree of success. In their opening statements, the primary and secondary players combined addressed nine of the ten central issues on which decisions were taken at Durban. Of these nine issues, a progressive outcome was desired by all players – and reached – on seven.⁶⁴ The eighth issue, mitigation, was addressed only by the US, who desired a progressive outcome but only a moderately progressive outcome was reached.⁶⁵ The final remaining issue was the second commitment period of the Kyoto Protocol, which proved to be one of the most problematic at Durban. Not only was it the only issue mentioned by all ten primary and secondary players in their opening statements, it was the only issue where some players stated a desire for a regressive outcome, and it was the only issue where not a single player achieved its desired outcome. Given the fact that the second commitment period has been a divisive issue in the UNFCCC negotiations for some time, this is perhaps unsurprising.

There is an alternative method to measure the ‘success’ of Durban, namely, to examine the degree to which players were flexible in their positions. For example, imagine two players, player A and player B, are negotiating on the same four issues where both players must take a progressive, status quo, or regressive position. Imagine player A desires progressive outcomes on all four issues and player B desires regressive outcomes on all four issues. If a progressive outcome is reached on two issues and a regressive outcome is reached on two issues, then one may say that these negotiations were equally successful for the two players. If a progressive outcome was reached on all four issues, then the negotiations were very successful for player A but unsuccessful for player B, and so on.

⁶⁴ The seven issues are as follows: GCF, legal outcome, MRV, Adaptation Committee, Technology Mechanism, NAPs and REDD+. There is one exception to this statement. On the technology mechanism, India desired only a moderately progressive outcome.

⁶⁵ The U.S. stated that they were in favor of enabling transparent mitigation by all countries. The decision taken at Durban was to establish an assistance registry for developing countries only.

In our case, every single player achieved their desired outcomes on at least half of the issues they addressed in their opening statements. There were no clear ‘winners’ or ‘losers’ in this particular respect. Overall, the players addressed an average of 4.2 issues in their opening statements and achieved their desired outcomes on an average of 3 issues. Upon closer inspection, the biggest difference was to be found between the primary and secondary players. The primary players addressed an average of 3.75 issues and achieved their desired outcomes on an average of 2.25 issues. The secondary players addressed an average of 4.5 issues and achieved their desired outcomes on an average of 3.5 issues. Thus, one can observe that not only did the secondary players address a larger number of issues overall, they also achieved their desired outcomes on a larger percentage of the issues they addressed. Among the primary players, India and the US were the ‘losers’ achieving their desired outcomes on two of four issues, the EU ranked second at two of three, and China was the ‘winner’ with three of four. The rankings of the secondary players were as follows: Canada was the ‘loser’ having achieved their desired outcome on one of two issues, Japan placed fifth with two of three, AOSIS and Russia ranked fourth with four of five, and the ‘winners’ were LDCs and South Africa with five of six. If we take all the players together, then the rankings (from lowest to highest) are as follows: Canada, US, and India were the ‘losers’ followed by the EU and Japan, China ranks third, Russia and AOSIS rank second, and the ‘winners’ were LDCs and South Africa.

5.5 Players’ Reactions

Given these results, it is surprising to find that many of the players – including ‘winners’ such as the LDCs and ‘losers’ like India – expressed dissatisfaction with the Durban outcome. The objective of this section is not to endorse the view of any player in particular nor is it to take sides concerning whether or not Durban was a success. Rather, my objective is to present the reactions of the players involved in this analysis to the Durban outcome, in order to demonstrate the usefulness of mixing qualitative and quantitative approaches, particularly when attempting to understand a phenomenon as complex as international climate negotiations.

Both the LDCs and AOSIS voiced their concerns and criticisms that the Durban Platform does not go far enough, fast enough. Representatives from both groups were

quoted as saying the deal marked the lowest common denominator and was not ambitious enough to ensure their survival amidst the worsening effects of climate change. AOSIS, in particular, stated that they went along with the deal only because it helped them more than no deal at all. Selwin Hart, the chief negotiator on finance for AOSIS said, "I would have wanted to get more, but at least we have something to work with" (Chestney & Herskovitz, 2011). Tosi Mpanu-Mpanu, the head of the African Group, was quoted as saying "It's a middle ground, we meet mid-way. Of course we are not completely happy about the outcome, it lacks balance, but we believe it is starting to go into the right direction" (Chestney & Herskovitz, 2011).

India and China also expressed their dissatisfaction with the Durban Platform, although their reasons differed from those of AOSIS and the LDCs. Indian Environmental Minister Jayanthi Natarajan argued that the proposal on the table by the EU undermined the principle of common but differentiated responsibilities, a principle which states that developed countries maintain more responsibility to tackle climate change since they are historically responsible for the emissions that cause it. "The equity of burden-sharing cannot be shifted," she was quoted as saying "in angry tones" (USA Today, 2011). At this, China offered its support for India's sentiments. Chinese negotiator Xie Zhenhua said the industrial nations have not lived up to their promises while countries like China and India have already launched ambitious green programs. "We are doing whatever we should do. We are doing things you are not doing," Zhenhua said (USA Today, 2011). In the final hours of negotiations, as the EU clashed with India and China over the language which would determine the legal form of the new treaty, Natarajan was quoted as saying, "Am I to write a blank check and sign away the livelihoods and sustainability 1.2 billion Indians, without even knowing what [the new agreement] contains? I wonder if this is an agenda to shift the blame on to countries who [sic] are not responsible [for climate change]" (J.A., 2011). Ultimately, however, acceptable legal terminology was proposed by Brazil and both China and India agreed to the Durban Platform despite their reservations. On the Durban Platform, Minister Jayanthi Natarajan of India was quoted as saying "We've had very intense discussions. We were not happy with reopening the text but in the spirit of flexibility and accommodation shown by all, we have shown our flexibility... we agree to adopt it" (Chestney & Herskovitz, 2011).

Joining China and India among the most reluctant supporters of the Durban Platform was the US, which – despite the difficulty in getting them on board – seemed pleased with the outcome. US climate envoy, Todd Stern, was quoted as saying, “I think in the end it ended up quite well,” because it represented “the first time you will see developing countries agreeing, essentially, to be bound by a legal agreement”; a long-standing demand of the US to participate in any international climate agreement (Hood & Ingham, 2011). “We got the kind of symmetry that we had been focused on since the beginning of the Obama administration. This had all the elements that we were looking for” (Chestney & Herskovitz, 2011). However, in a statement which served to temper the US’s positive sentiment, Stern was also quoted as saying, “none of us likes everything in [the package]. Believe me, there is plenty the United States is not thrilled about” (USA Today, 2011). However, it would appear that the US was not referring to the Durban Platform but rather the structure of the GCF, which it worried was being too tightly bound to the slow-moving UN process (J.A., 2011).

In a position similar to that of the US, Japan also stated their opposition to the Kyoto Protocol on the grounds of its asymmetry, noting that they would not renew their Kyoto pledges. However, Japan also stated that their “ultimate goal is to start discussions and adopt as soon as possible, a comprehensive and legal document which establishes a fair and effective international framework” as stated by their climate envoy, Masahiko Horie (Reuters, 2011). Horie also confirmed Japan’s willingness to join a global deal such as the EU roadmap, stating “I think we share common ground with the EU” (Reuters, 2011). Japan also echoed the US sentiment that the sources of GCF funding ought not to be too closely tied to the UN process, favoring a design whereby each country individually raises its share of the funds. From their stated position, one may assume that Japan was displeased with the initial GCF design outcome as was the US, but pleased with the Durban Platform. Indeed, Japanese Prime Minister Yoshihiko Noda confirmed that COP17 produced a “welcome series of decisions...this meeting has brought a significant outcome, in line with Japan’s stance, such as clarifying the pathway to the establishment of a new legal framework in which all economies participate” (Noda, 2011).

Similarly to both the US and Japan, Canada's position at Durban was that the Kyoto Protocol was outdated and they did not plan to enter into a second commitment period, although they would support a new international arrangement as long as it covered all major emitters. However, only a few days after Canada agreed to the Durban Platform, they announced their decision to formally withdraw from the Kyoto Protocol; the first country to do so. Observers noted that this decision reflected the fact that Canada has been unable to meet its emission reduction requirement (6% from 1990 levels by 2012) and are in fact headed for an increase of about 30% (ACT News, 2012). However, in order for sanctions to be placed on Canada, they would have to agree to adopt targets in the second commitment period, an action Canada had already made clear it would not do. Canada's decision to legally withdraw may therefore be interpreted as a demonstration of the limitations of international law. Indeed, what meaning does a legally-binding treaty truly have when nations can avoid sanctions by simply withdrawing from the process? During the course of the Durban negotiations, Canada appeared uninterested and disengaged, earning criticism from the international community.⁶⁶ Although its official position at Durban ought to place Canada with the US and Japan in terms of its reaction to the Durban outcome, Canada's behavior during the course of the negotiations in addition to their withdrawal from the Kyoto Protocol shortly afterwards demonstrates Canada's disenchantment with the international system as they have made a point to highlight its limitations to force countries to "play by the rules".

Russia's position at Durban was also similar to that of its fellow UMBRELLA members; it emphasized the shortcomings of the Kyoto Protocol and stated its refusal to sign up for a second commitment period. However, Russia also stated its understanding that other countries desired a second commitment period and urged that negotiations regarding the Protocol be completed in Durban, including consideration of their proposal to review the Annexes to the Protocol in order to "facilitate a more appropriate and fairer dispensation of obligations to reduce GHG emissions" (Statement

⁶⁶ Canada won the "Fossil of the Year Award" from the Climate Action Network "for refusing to sign onto a second Kyoto commitment period, calling critical climate financing "guilt payments," and bullying least developed countries into leaving the Kyoto Protocol" (McKinnon, 2011).

on behalf of the Russian Federation, 2011). Russia also stated its desire for a new global agreement that would cover all major emitters. Interestingly, although the international response to Canada pulling out of the Kyoto Protocol was overwhelmingly negative, one country came out in support of Canada's action: Russia. Russian foreign ministry spokesman Alexander Lukashevich stated in a briefing that Russia supported Canada's decision to pull out of the Kyoto Protocol adding, "this is yet another example that the 1997 Kyoto Protocol has lost its effectiveness in the context of the social and economic situation of the 21st century" (The Guardian, 2011). Based on their stated position and their reaction to Canada's withdrawal from the Kyoto Protocol, one may deduce that Russia was pleased with the Durban outcome in-so-far as it applies to all major emitters but that it was displeased with the outcome on the Kyoto Protocol, because a second commitment period was agreed upon without any review of the Annexes, as Russia proposed.

South Africa took a position similar to that of China and India in their opening statement; they stressed the importance of a legally-binding second commitment period under the Kyoto Protocol with commitments for developed nations as well as the adoption of nationally appropriate (but not legally-binding) mitigation actions for developing nations as the principle of common but differentiated responsibilities dictates. However, South Africa's allegiances were split from the outset; they joined BASIC in releasing a collaborative paper which proposed a new framework that focused on climate equity and sustainable development but South Africa's chief negotiator Alf Wills also stated that the country would take an "African" position at the meeting (Naidoo, 2011; Macleod, 2011). Once negotiations concluded, Wills acknowledged that the Durban outcome was a "compromise position" but maintained that South Africa had come away from COP17 with more than they had hoped for. Wills stated that South Africa realized that a legally-binding second commitment period would not be possible to achieve and instead decided to focus on issues such as capacity building, the GCF, the technology network, and adaptation measures – "a priority area for Africa" (Parker, 2011). Wills continued, "not only did we get that, we also got a process towards negotiating a legally binding protocol or a legal instrument or an outcome that has legal force. These are huge steps forward. Three weeks ago, myself as a negotiator, could only dream of an outcome like this in practical terms" (Parker, 2011). Even when

confronted with disappointed environmental groups, South African officials remained steadfast that Durban had been a success. “We have closed the gap on the second commitment period of the Kyoto Protocol and the outcomes indicate that urgent and meaningful action is needed now” said Wills (Creamer Media Reporter, 2011). Edna Molewa, South African Minister of Water and Environmental Affairs, added, “the outcome of Durban is a historical achievement and will substantially advance the global climate agenda” (Creamer Media Reporter, 2011). One may therefore state that South Africa was pleased with the Durban outcome, although both Wills and Molewa acknowledged that the deal contained gaps and loopholes which would need to be addressed in coming negotiations.

Finally, the driving force behind the creation of the Durban Platform, the EU, had a more positive outlook regarding the Durban outcome than any of the other players. European Climate Commissioner Connie Hedegaard said the deal reflected the shift that has taken place in the 20 years since the Kyoto Protocol, which divided the world into rich and poor nations where only the rich were forced to adopt emission reduction targets. She said, “the BASIC countries took some significant new steps in acknowledging that the world of the 21st century is not the same as the 20th century,” reflecting Europe’s (and UMBRELLA’s) position that big, developing nations are now among the highest emitters in the world and should take on their share of the responsibility to reduce global emissions (Hood & Ingham, 2011). Chris Huhne, energy and climate secretary for the UK stated that the Durban Platform was “a great success for European diplomacy,” because, “we’ve managed to bring the major emitters like the US, India and China into a roadmap which will secure an overarching global deal” (Chestney & Herskovitz, 2011). He also stressed that the deal would ensure that the efforts being made by the EU to tackle climate change would be met by others, a key demand during the negotiations. “We know that we are working very hard on this, but we need to be sure that other countries are working just as hard – that’s very important for our industry and our competitiveness,” he said (Harvey & Vidal, The Guardian, 2011).

5.5.1 The Devil is in the Details

Despite the fact that every primary and secondary player achieved their desired outcomes on at least half of the issues mentioned in their opening statements, their reactions to the decisions taken at Durban ranged from positive to negative. Of all our primary and secondary players, only the EU and South Africa went so far as to call Durban a “success”. These results suggest that the devil is in the details, and a more in-depth, qualitative analysis of players’ strategies must be undertaken in order to understand why our players reacted as they did to the Durban outcome.

To illustrate this point, take the issue of the GCF, which enjoyed the highest degree of consensus among our players heading into Durban: eight of the ten primary and secondary players stated their desire for a progressive outcome, and a progressive outcome was achieved. Nevertheless, the GCF negotiations were time-consuming and painstaking; parties agreed that it should be launched but disagreed about details regarding funding bodies, rules, regulations and so forth. It turns out that details such as these hold importance that cannot be overlooked. For instance, both the US and Japan achieved their desired outcomes regarding the launch of the GCF and the establishment of a global agreement covering all major emitters. However, their demand that the sources of funding for the GCF be independent from UN processes was not met. This ‘detail’ was important enough to these players to result in reactions to the Durban outcome which were positive overall, but fell short of calling Durban a “success”. The reasons for the reactions of the US and Japan are very similar to the Russian case, where its reaction to the Durban outcome was moderately negative because the decision on the second commitment period of the Kyoto Protocol covered only a few countries and did not include a consideration of Russia’s proposal to review the Annexes.

The reasoning behind China’s and India’s less-than-pleased reactions is less complicated. They caved to the demand of both industrialized and least developed nations that they agree to adopt legally-binding commitments (though they succeeded in pushing the start-date back to 2020 from 2015), but failed to win any new references to equity and common but differentiated responsibilities as they had demanded (ACT News, 2012). Less straight-forward is the reasoning behind the negative reactions of

AOSIS and the LDCs. The strategy of these nations was to throw their weight behind the EU. It is likely that they were aware that this strategy would lead to a sub-optimal result, but they were also aware that throwing their weight behind a more powerful player with a negotiation position parallel to their own was the most effective way to secure an agreement that worked in their favor. One may assume that AOSIS and LDCs would be pleased that a global, legally-binding agreement had been reached – indeed, they said it was better than no deal at all – but their demands for a 2015 start-date and a higher level of ambition were important enough to warrant negative reactions. These demands were based the science of climate change, which maintains that to keep global average temperature rise within 2°C (the UNFCCC acknowledged threshold for avoiding dangerous climate change), global emissions need to peak and decline by the middle of this decade. The failure of the Durban negotiations to agree on a deal which operationalized legally-binding emission reduction requirements by that date is also the reason that many scientific and environmental organizations were disappointed with the Durban outcome.

As already discussed, the EU alliance played a major role during the Durban negotiations; it was the first time a new geopolitical alliance of developed and developing nations ‘called the shots’ so to speak. Once their joint statement was released, they had effectively identified the opposition to the EU roadmap proposal and shattered the traditional negotiation divide between the global North and the global South. It is reasonable to assume that the strategy of AOSIS, LDCs and other progressive allies⁶⁷ was influenced by the way negotiations have progressed in the past. For example, the Copenhagen Agreement was negotiated behind closed doors by a few primary players: the US and BASIC. This time around, developing nations were determined to have their say. They demanded increased transparency, and once it was clear their demand had been met in the form of Indabas, the secondary players were more comfortable throwing their weight behind the EU, a primary player they knew would be present at the final negotiating table. Ultimately, all the players included in this analysis were either present at the final negotiating table or had adopted a strategy which allowed another country to represent their interests there. AOSIS and LDCs

⁶⁷ Such as Colombia and Costa Rica.

formally threw their weight behind the EU, China and India formally represented BASIC, and the US shared a parallel position with, and served to represent, – albeit informally – the interests of Japan, Canada, and Russia.

In conclusion, whether or not Durban can be deemed a ‘success’ depends on the method one uses to assess the negotiations. Constructing players’ strategy continuums and evaluating the degree to which countries achieved their desired outcomes on the issues addressed in their opening statements would lead us to the conclusion that Durban was indeed a success. However, the reactions of the players themselves would lead us to a more mixed conclusion. Regardless of whether or not one deems Durban a ‘success’, the end result indicates that all players exhibited a degree of flexibility in their positions. In true international negotiation fashion, not a single player obtained the exact outcome they desired. In any case, the ultimate test of the Durban’s success lies in the future as countries hammer out the details of the decisions taken there.

6 Recommendations

One of the main objectives of this thesis was to identify ways in which countries' strategies may be altered to achieve more progressive outcomes in the future. The analysis conducted to this point has uncovered a number of important political dynamics and trends which assist in predicting how negotiations will progress in the future. It is to these predictions and recommendations to which I now turn.

One of the most important trends seen at Durban – and as far back as Copenhagen – is that only a handful of nations are present at the final negotiation table where the most pivotal decisions are made. At Copenhagen, it was the US and BASIC, to the dismay of the majority of the world's nations. At Durban, it was the US, India, China and the EU. Determined not to make the same mistake twice, a majority of the world's nations had thrown their weight behind – or at least allowed themselves to fall into line with – the player with the closest negotiation position to their own. Particularly in the case of the EU Alliance, this was smart strategy, not to mention effective. The importance of geopolitical alliances is not to be underestimated. In the future, we should be aware of the ways in which the formation of new geopolitical alliances (particularly ones which cross traditional negotiation divides) can alter primary players' strategies, such as how the EU Alliance effectively swayed the stance of both BASIC and the US towards the progressive.

Another effect the formation of the EU Alliance had was to expose cracks within the BASIC bloc. Brazil and South Africa played the role of BASIC mediators; demonstrating willingness to sign onto the EU roadmap and adopt legally-binding emission reduction requirements. Brazil's chief negotiator was the one who proposed adding the term “an agreed outcome with legal force” which forced the compromise between India and the EU on the wording of the Durban Platform. China played the role of swing voter. While it touted its domestic climate policies and indicated early on that it may be prepared to adopt legally binding commitments, it simultaneously maintained its allegiance to

BASIC's position and dismissed rumors of a rift (Xinhua, China Daily, 2011).⁶⁸ Finally, India played the role of stick in the mud, insisting that the distinction between the responsibilities of developed and developing nations remained clear and rigid despite BASIC members' growing economies and geopolitical power. India was the last hold-out at the final negotiation table, agreeing to the Durban Platform only once the legal wording had been changed in such a way that Environment Minister Jayanthi Natarajan was able to assure her parliament post-Durban that India "will not sign up to any binding agreement for carbon emission reduction" (IANS, 2011).

To be sure, the cracks that were exposed within BASIC the first time they spoke as a unified bloc will play an important role in the next round of negotiations. India has made it clear that they do not intend to sign up for any legally-binding commitments, which most likely means that they will try to take advantage of loopholes in the wording of the Durban Platform. What remains to be seen is whether or not the remaining members of BASIC follow suit. At Durban, South Africa, Brazil and China (though less so) largely left India to fend for itself in the final negotiation sessions. If this was reflective of genuinely more progressive positions (rather than, say, scapegoating), then there is hope that China, South Africa and Brazil will use their collective weight to influence India's – and by extension BASIC's – position. One can be fairly certain that BASIC will have learned from their experience in Durban and will attempt to present a more united front and more secure negotiating position. To be sure, there are benefits to be had for BASIC nations from an agreement where all major polluters adopt legally-binding emission reductions in line with their acknowledgement of the "significant emissions gap" (UNFCCC Conference of the Parties, 2011). At Durban, it appeared as though China, South Africa and Brazil recognized the benefits that could be accrued by agreeing to the Durban Platform while simultaneously pushing for references to the emissions gap and securing a 2020 start-date. The question remains whether or not they will be able to get India on board with that particular strategy, not to mention whether or not they will even stick to that strategy themselves. Whatever their approach, BASIC will

⁶⁸ Chief Chinese negotiator Xie Zhenhua refuted rumors that the BASIC countries had split due to their differences over the issues under discussion at COP17 stating, "The BASIC countries are united firmly...we'll speak with the same voice."

need to present a more united front next year in Qatar or else risk being divided and conquered, as they were in Durban.

The concerns of the US, Canada, Russia and Japan (which I will refer to as UMBRELLA from here on out) are strikingly similar heading into COP18 in Qatar. They all conceded to be bound by an international legal instrument, but in return won a bigger prize: the acknowledgement by the emerging economies that they must take on emission reduction requirements as proportionate to their economic power and contribution to global pollution. UMBRELLA has made it clear that the only way they will sign up to legally-binding emission reduction requirements is if the BASIC countries do so as well. Seeing as the break-down of the Durban Platform negotiations would not hurt UMBRELLA economically – nor politically if blame could be directed at BASIC for failing to come through on their side of the bargain – one cannot rely on any of these nations to play a central role in pressuring BASIC to follow through on their commitment. However, it may be possible to sway UMBRELLA in a more progressive direction by offering concessions regarding the sources of GCF funding, for example.

Therefore, we may expect that the role of the EU and their progressive allies will continue to play a very important role at Qatar. In addition to the EU Alliance, the Cartagena Dialogue played an important role at Durban, backing the roadmap championed by the EU, AOSIS and LDCs. The Cartagena Dialogue is a network of countries⁶⁹ including the EU and nations from across the development spectrum and almost every negotiation grouping working for progressive and constructive solutions within international climate change negotiations. The Cartagena Dialogue was born in 2010 at a meeting in Colombia where it was “envisaged that a small group could draw on the voices of compromise in the negotiations and empower the ‘middle ground’” by combining and representing the interests of countries from across the North-South divide (Australian Government, 2011). And though the Cartagena Dialogue has been active since 2010 and demonstrated considerable influence at the Cancun negotiations,

⁶⁹ The Cartagena Dialogue includes Antigua & Barbuda, Australia, Bangladesh, Belgium, Chile, Colombia, Costa Rica, Denmark, Dominican Republic, Ethiopia, EU, European Commission, France, Germany, Ghana, Guatemala, Indonesia, Malawi, Maldives, Marshall Islands, Mexico, Netherlands, New Zealand, Norway, Panama, Peru, Rwanda, Samoa, Spain, Tanzania, Thailand, Timor-Leste, United Kingdom and Uruguay.

it was not until Durban that they managed to impact outcomes so directly by forging a set of common positions in pursuit of progressive outcomes like a legally-binding treaty and a continuation of the Kyoto Protocol.

Later this year in Qatar, the 'middle ground' will continue to play the all-important role of progressively ambitious mediator between BASIC on the one hand and UMBRELLA on the other. Whereas issues like the GCF are particularly important to western nations, BASIC places more emphasis on issues such as common but differentiated responsibilities and equity. The task at hand for the 'middle ground' is to balance the equation between the most powerful players by 'trading' favorable outcomes on issues of importance to UMBRELLA and BASIC in exchange for commitments to legally binding emission reductions. The 'middle ground' has come to include a large enough group of countries that they were able to use their status as the 'world's majority' as political capital in order to pressure the most economically powerful nations to accept more progressive outcomes than they may otherwise have done. Whether or not this strategy will prove equally effective at Qatar remains to be seen, but the Cartagena Dialogue and the EU Alliance have proven themselves as a mediating force to be reckoned with.

International climate change negotiations have been justly criticized for their slow pace, which has led many commentators to question – or outright deny – the ability of the UNFCCC system to address the climate crisis. It would be difficult to argue that the UNFCCC system alone would be able to effectively address the climate crisis but it would be equally difficult to argue that a global, legally-binding agreement including mandated emission reductions would not be a meaningful and important step in the right direction. The history of climate negotiations has demonstrated time and time again that progressive outcomes are achieved through rigorous and time-consuming negotiations regarding their every detail, *even* when the desired outcomes of the issues under discussion enjoy a high degree of consensus. This is not only due to the fact that climate issues are scientifically and morally complex but also that UNFCCC climate change negotiations, almost uniquely among international decision-making bodies, operate by consensus. Though this makes for a slow paced decision making, it also means that countries like Grenada and Gambia for whom climate change is a life or

death issue sit at the negotiation table as equals with the US and China. In the past, this has not counted for much since the voices of the most economically powerful nations dominated the scene. However, Durban witnessed a geopolitical shift that created a new, powerful middle ground alliance which was able to operate as effectively as it did because of the fact that decisions are taken by consensus. If this trend continues at Qatar and beyond, it is possible that a truly progressive, global agreement may be reached which will result in meaningful global emissions reductions.

7 Conclusions

In this thesis, I utilize a novel mixed-methodological approach to further understanding of the current state of international climate change negotiations. Building on the work of Hugh Ward, Frank Grundig and Ethan Zorick, this thesis shed light on the 'true' game being played in international climate change negotiations by adopting a modified game theoretic approach which allowed the analytic focus to remain on relevant political realities rather than overly complex mathematical models. This was accomplished by utilizing the results of a content and discourse analysis of the Durban negotiations in order to compose a list of players and articulate their strategies. The majority of environmental economics literature assesses international climate change negotiations in terms of their ability (or inability) to produce stable IEAs using complex integrated assessment models. In recent environmental economics literature, these mathematical models have been updated in a variety of fashions in order to account for various political or moral considerations which would normally fall outside the scope of such analyses. I have taken this trend one step further by adopting a truly mixed-methodological approach which replaces overly complex mathematical models with a content and discourse analysis of the Durban negotiations round in order to more accurately capture 'reality' and perform a modified game theoretic analysis from this starting point. This thesis also builds upon the the previous literature by demonstrating the usefulness of mixed qualitative-quantitative analyses for environmental economists, particularly where innately political issues such as international climate change negotiations are concerned.

The most significant findings of this thesis may be broadly separated into two categories: the results of the content and discourse analyses and the results of the game theoretic analysis. The main results of the qualitative analyses of the Durban negotiations included that players had modest expectations at the outset of the negotiations, which influenced the issues they addressed in their opening statements. Players emphasized a desire for progressive action on issues which they expected would exhibit a high degree of consensus, such as the operationalization of the Cancun

objectives and the GCF, rather than more politically divisive issues such as the second commitment period of the Kyoto Protocol or a legally-binding post-2012 agreement. The qualitative analysis also uncovered evidence of shifting geopolitics, namely the continued break-up of the G77 and China into two main factions: the up-and-coming developing countries of BASIC and everyone else. At Durban, this split was made 'official' when BASIC spoke for the first time as a unified negotiation bloc while other G77 and China members such as AOSIS and the LDCs threw their weight behind the EU in support of the EU's roadmap.

Following the qualitative analysis of the Durban negotiations, I performed a quantitative game theoretic analysis where I represented players' strategies in the form of strategy continuums where players' original positions were mapped alongside the Durban outcomes relative to the status quo. The main result of this analysis was that players achieved a high degree of success at Durban; all players achieved their desired outcomes on at least half of the issues they addressed. Of the nine issues addressed in their opening statements, a progressive outcome was desired by all players – and reached – on seven. However, a final qualitative analysis was undertaken whereby players reactions to the Durban outcome were assessed. The main result was that although players achieved a high degree of success with regard to their stated positions, many players expressed dissatisfaction with the outcome. This implies that vital political concerns underlie strategy, and that qualitative analyses are essential in uncovering them.

Finally, the results of the mixed-method analysis were used to identify important trends from the negotiations and generate recommendations regarding how more progressive outcomes may be reached in the future. The most important trends identified were the cracks exposed within the BASIC bloc and the role of the 'middle ground' alliance. I recommend that the 'middle ground' should maintain its momentum into Qatar and continue to play the role of practical mediator, balancing the equation between BASIC and UMBRELLA.

These findings underscore the fact that it is difficult to reach clear-cut conclusions when one is analyzing complex phenomena such as international climate change negotiations. This thesis has contributed to a growing body of literature which

demonstrates the usefulness of applying mixed methodological approaches to issues which are regularly approached from an exclusively quantitative perspective. This thesis has shed light on the 'true' game being played in international climate change negotiations by articulating player strategies based on their stated positions and analyzing them in conjunction with the results of a qualitative analysis of the negotiations as they actually occurred.

Though a mixed quantitative-qualitative approach allows for more detailed analysis, this strength is also the approach's biggest weakness. The results of an analysis like this one are so specific that they cannot be applied to any other situation; they are not generalizable. In addition, the analysis conducted in this thesis was complex; it was both multi-staged and multi-faceted, yet it produced few clear-cut conclusions. It is also necessary to mention that one of the three key components of game theory was missing from this analysis: a consideration of payoffs. In the future, it would be beneficial to explore the possibility of streamlining this methodological approach; this could be accomplished by narrowing the scope of analysis, or simplifying the methodology itself. It would also be beneficial to build upon my approach, for example by creating an economic model which would include a consideration of payoffs, could take into account the political bases of players' strategies, and conduct an analysis which considers how negotiations have actually progressed, including changing geopolitics and global political economy.

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