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What's Fair - and Why?

An Empirical Analysis of Distributive Fairness in the Climate Negotiations



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Abstract: In the climate negotiations, conceptions of fairness plays an important role. For a climate agreement to be effective and durable, it must be conceived as fair by as many of its parties as possible. Unfortunately, there is hardly a consensus in the negotiations on what a fair agreement should constitute, and diverging fairness conceptions are at the heart of the conflicts of the negotiations. This thesis is an attempt at understanding this fairness dimension. It attempts to answer two related questions: 1) what do the parties in the negotiations conceive as fair? And 2) why do parties in the negotiations have differing conceptions of what constitutes a fair agreement?

The findings of this thesis indicate that there has been little progress on reaching a common understanding of fairness in the negotiations over the last five-year cycle of negotiations that concluded with the Paris agreement. Even though a significant potential for compromise exists, key actors' positions on the fairness dimension are polarized. This might be an explanation for why a burden-sharing approach is no longer possible in the negotiations. Whether a country is listed as "developing" or "developed" in the UNFCCC is the most important explanatory factor for diverging fairness conceptions - indicating that conceptions of fairness are largely driven by self-interest.

Sammendrag: Rettsferdighetsforståelser spiller en viktig rolle i klimaforhandlingene: For at en klimaavtale skal være effektiv og varig må den helst oppfattes som rettferdig av så mange av dens parter som mulig. Derfor er det uheldig at det ikke er konsensus mellom de forhandlende parter om hva en rettferdig avtale skal innbefatte. Denne studien viser at divergerende rettferdighetsforståelser er en sentral konfliktlinje i forhandlingene, og forsøker å forklare hvorfor. To spørsmål danner grunnlaget for analyse: 1) Hvilke forståelser har de forhandlende parter av hva en rettferdig avtale skal innbefatte? og 2) Hvorfor har partene ulike rettferdighetsforståelser?

Den todelt empiriske analysen indikerer at det har vært lite konvergens mot en felles rettferdighetsforståelse over den femårige forhandlingscyklusen som endte med Paris-avtalen. En viktig forklaring ser ut til å være at nøkkelaktører er polariserte på rettferdighetsdimensjonen. Dette kan være en forklaring på hvorfor en avtale basert på byrdefordelingsprinsipper ikke lenger er mulig i forhandlingene. Den viktigste faktoren for å forklare divergerende rettferdighetsforståelser ser ut til å være om et land er klassifisert som et "utviklingsland" eller "industriland" i FN's klimakonvensjon – et funn som indikerer at partenes rettferdighetsforståelser er drevet av egeninteresse

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Summary

In the multilateral climate negotiations, fairness plays an important role. For a climate agreement to be effective and durable, it must be conceived as fair by as many of its parties as possible. Unfortunately, there is hardly a consensus in the negotiations on what a fair agreement should constitute. Diverging fairness conceptions are at the very heart of the conflicts of the negotiations. This thesis is an attempt at understanding this fairness dimension. It attempts to answer two related questions: 1) what do the parties in the negotiations conceive as fair? And 2) why do parties in the negotiations have differing conceptions of what constitutes a fair agreement?

Answering these two questions entails first an understanding of what fairness is. Following the introductory chapter - which provides the necessary background and an analytical description of the challenges of climate negotiations - the second chapter proceeds to define fairness, and presents a set of arguments for why it is an important concept in the negotiations. The chapter consists of three parts. The first part discusses and defines what fairness is, and describes how it is related to similar concepts. The second part outlines the role fairness plays in the climate negotiations. The third proceeds to conceptualize the three most commonly accepted fairness principles in the negotiations.

Building on this fairness framework, the third chapter develops a model for analysing why the parties in the negotiations are inclined to invoke the different fairness principles. The chapter proceeds in two steps. First, it develops a theoretical framework that suggests an explanation of why parties invoke differing fairness principles. The result is an integrative model based on Putnam's "two-level games". Second, using the model, the chapter demonstrates which country characteristics that can account for the inclination of a party to advocate a specific fairness principle in the negotiations, and develops a set of hypotheses.

Chapter four is the first part of a two-fold empirical analysis. This part it seeks to answer the question: which fairness principles do the negotiating parties invoke? Building on the established fairness framework, I use manual content analysis to examine all negotiation documents submitted by the parties over the period 2011-2015. The result is a complete overview of how all the parties invoke the different fairness (and equity-) principles over the period.

The results of this analysis can be summarized in what I call the fairness dimension of the climate negotiations (see figures 6 and 7). Two things become quite clear. Firstly,

there are many "moderate" parties on the fairness dimension: the African group, AILAC, AOSIS, Brazil, Canada, EIG, EU, Indonesia, Japan, New Zealand and Norway all seem to be more or less "value-adding" parties, in the sense that they show support for more than one principle. This is good news with respect to prospects for reaching a consensus.

The bad news, however, is that the positions of key actors are polarized. The analysis suggests that finding compromise between Australia, Russia and USA on one side, and China, India and LMDC on the other can prove to be a very difficult task. These six parties are extremes on opposite ends of the fairness dimension.

Chapter five is the second part of the empirical analysis. It seeks to answer the question: why do parties have diverging fairness conceptions? By using the findings from the content analysis as dependent variables, it investigates which country characteristics that determine what fairness conceptions the parties are under. The chapter fits several regression models, with the objective of examining which variables that lead parties to invoke differing fairness principles.

Several factors affect the probability of invoking the different fairness principles, and of referring to fairness at all. However, the most consistent and important factor in determining fairness conceptions is whether or not a country is listed as “developing” or “developed” in the 1992 United Nations Framework Convention on Climate Change. This finding is, at the face of it, only partly in line with the model and hypotheses outlined in chapter three.

The final chapter discusses the implications of the findings of the two-fold empirical analysis - both for the climate negotiations, and for the study of multilateral negotiations in general. It proposes a theory that explains how fairness conceptions are formed and upheld in the climate negotiations, and uses the recently adopted Paris agreement to illustrate how fairness affects substantive outcomes. Finally, it uses this theory to outline a set of possible future trajectories for the climate regime, before drawing some concluding remarks.

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Glossary

ADP	Ad Hoc Working Group on the Durban Platform
AILAC	Asociación Independiente de Latinoamérica y el Caribe see Appendix II)
ALBA	Alianza Bolivariana para los Pueblos de Nuestra América (see Appendix II)
AOSIS	Alliance of Small Island States (see Appendix II)
Annex I parties	The 24 original OECD members, the EU, and 14 "transition" countries. Also referred to as "developed" countries.
Annex II	The 24 original OECD members plus the EU
BASIC	Brazil, South Africa, India, China
CBDR(RC)	Common, but differentiated responsibilities (and respective capabilities)
COP	Conference of the Parties
COP20	The 20th meeting of the Conference of the Parties (Lima)
COP21	The 21th meeting of the Conference of the Parties (Paris)
EIG	Environmental Integrity Group (see Appendix II)
Firewall	The division between Annex I and non-Annex I parties
GHG	Greenhouse gas
G77	Group of 77 (developing) countries
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
LMDC	Like-Minded Developing Countries (see Appendix II)
Mitigation	A human intervention to reduce the sources (or enhance the sinks) of greenhouse gases
Non-Annex I parties	Countries that are not included in Annex I of the Convention. Also referred to as "developing" countries.

Party	A state that agrees to be bound by a treaty and for which the treaty has entered into force
UNFCCC	United Nations Framework Convention on Climate Change (“the Convention”)

Preface

For some two and a half decades, the countries participating in the multilateral climate negotiations have tried to negotiate consensus around a set of principles that can generate the aggregate effort necessary to solve the issue of global warming. Up until the negotiations in Paris last December, they had been unable to conclude on a strong and effective agreement that could be acceptable to most or all parties.

In international relations literature, the absence of *fairness* is often referred to as an obstacle for effective multilateral cooperation. In negotiations of an agreement, the parties must feel that the terms agreed upon are fair if they are to contribute meaningfully to cooperation. This thesis explores whether the difficulties of reaching consensus in the climate negotiations can be understood as a conflict of distributive fairness.

Fairness does indubitably play an important role in any process that entails some distribution of costs and benefits. However, analyses of the role fairness plays in international relations that rely on solid empirical evidence are rare. There might be several reasons for this; one is certainly that fairness is a complex normative concept, understood differently by different actors. However, this characteristic is precisely what makes an empirical study of fairness both interesting and fruitful. This thesis demonstrates how differing conceptions of fairness is an important conflict line in the climate negotiations. It does so by analysing the negotiating parties' usage of fairness principles over the most recent negotiation cycle - four years of negotiations that ended in Paris, December 2015.

The analysis is an important contribution for understanding the process leading up to Paris, how the Paris agreement became possible, its content, and possible future directions of the climate regime. It is also a substantial contribution to the international relations literature: by using quantitative methods and rational choice theory to study fairness principles in countries' position texts, it provides an integrative set of theoretical and methodological tools for understanding the role fairness plays in multilateral negotiations.

1 Negotiating a Global Public Good

We are concerned that this decade could become [...] a lost decade [...] a decade where the prevailing philosophy would seem to be:

do what you want, when you want and how you want.

- Argentina, on behalf of 28 developing countries

Outline

This introductory chapter opens with a discussion of why reaching a global consensus that agrees to provide the necessary aggregate effort to curb greenhouse gas emissions is difficult. It highlights why distributive fairness is an important concept in the climate negotiations, before it sets the stage for the rest of the thesis by outlining the formative principles and components of the climate regime.

1.1 Introduction

Growing anthropogenic greenhouse gas (GHG) emissions¹ is causing the earth's climate to change. Stark increases in such emissions reinforce the greenhouse effect, causing the average global temperature to rise substantially over time. Climate change has already led to significant alterations in physical, biological and human systems, and continued emissions of current levels of greenhouse gases will lead to further warming and long-lasting changes in all components of the climate system (IPCC 2014b: 7). Such changes, for example a substantial rise in global sea level, will threaten basic elements of life for millions of people around the globe – including, but not limited to, their access to water, food production, health, and land use (Stern 2007). Limiting the adverse effects of climate change requires substantial and sustained reductions in greenhouse gas emissions (IPCC 2014: 8).

Achieving the necessary emissions reductions entails an aggregate effort by most, or ideally all, significant emitting countries (Barrett 2008). As the chapter quote, a statement made by a group of developing countries in the climate negotiations, illustrates - attaining this aggregate effort is a very complex task, politically. There are essentially two reasons for this, both perturbing to the nature of the problem of climate change. The first reason is that the climate system is a public good; the second is the temporality issue associated with it.

1.2 A global public good

The climate system is considered a *global public good*. Global public goods offer benefits that are non-excludable and non-rival. This means, firstly, that when the good is provided for, no country can be prevented from enjoying it: a characteristic in stark contrast to many other types of similar goods, for example international trade.² Secondly, the congestion of the good does not exhaust its availability for others: no country's emissions of greenhouse gases can affect the emission opportunities of others (Barrett 2007: 1; Kindleberger 1986: 2).

Thirdly, safeguarding the earth's climate approximates the requirements of being a pure *public good*: It benefits nearly *all* countries, existing people and future generations (Kaul et al. 1999: 11). While the beneficiary groups of global public goods are always large, in the case of climate change this number is potentially in the multiple billions. Moreover, the beneficiaries are all genres of people: interests and concerns vary, and cooperation can be difficult to achieve partly due to differences in policy priorities, but often also simply due to lack of information, mutual understanding and trust (Kaul et al. 1999: 15).

¹ Mainly carbon dioxide, methane and nitrous oxide.

² Where exclusion from benefits, and therefore relative gains and losses, is possible. See Grundig (2006) for a game-theoretical comparison of these two.

For the reasons mentioned, cooperative ventures aiming to provide global public goods are especially susceptible to free-riding. The free-riding problem can be illustrated through a simple Prisoner's dilemma game, where two countries are faced with two alternatives:

Alternative (1): Contribute to global mitigation efforts.

Alternative (2): Abstain from contributing to global mitigation efforts.

In a two-actor non-repeated game, these two alternatives generate the matrix and respective individual utility scores as indicated in the table below:

		Country A	
		Mitigate	Abstain
Country B	Mitigate	3,3	1,4
	Abstain	4,1	2,2

Table 1.1. Mitigation as a prisoner's dilemma game

Both countries prefer the outcome produced by both contributing with mitigation efforts to the outcome produced by neither of them doing so. Alternative (1) is thus the *collectively* rational alternative, and also the Pareto optimal solution to the game, since total utility is the highest. However, it is *individually* rational not to undertake mitigation measures: when each country can decide whether or not it will mitigate, it will prefer not to do so, because the best individual outcome is to abstain while the other part mitigates (utility value=4), and the worst outcome is that he mitigates and the other abstains from doing so (utility value=1).

For each player, the dominant strategy is non-cooperation. The countries are therefore in a paradoxical position: they understand that it would be better for both if they cooperated; but, on the other hand, they also know that it is rational for each to defect. The prisoner's dilemma game is therefore the classical example of a mismatch between collective and individual rationality.

The game described above is clearly an overly stylistic illustration for representing the safeguarding of the earth's climate, as in reality games are repeated, actors are many, and strategies are seldom so dominant. However, this dynamic is central for understanding why free riding is a problem in multilateral climate cooperation in general, and the climate negotiations in particular. The climate regime has seen several types of free riding through its existence, the most prominent example being USA's non-ratification of the Kyoto protocol.

Several factors tempt, or sometimes force, countries to free ride in the climate regime. Concerns about economic growth, electoral support and pressure from carbon lobbies are some examples (Hovi et al 2014: 2). The first factor, concern about economic growth, is particularly salient.

Despite “green” and carbon-friendly technologies’ increased competitiveness, large-scale mitigation of greenhouse gases is still very costly to undertake both in the short-, medium-, and long term. What is more, mitigation investments made today will not bear its full fruits for a long time to come: politicians, often most concerned about the next election, do therefore not have the necessary incentives to implement sufficient measures.

1.3 The temporality issue

This brings us to the issue of temporality. The lack of incentives to implement sufficient measures often leads politicians to heavily discount future benefits (Hovi et al 2014: 2). The problem is, shortly put, that the benefits of current greenhouse gas emissions accrue largely to the present generation, while the vast majority of undesirable effects will fall disproportionately on future ones (Gardiner 2006: 404). Strictly economically speaking, most countries would be wise to undertake mitigation measures as quickly as possible, in order to avoid much larger and inevitable adaptation costs later. The Stern Review estimates that sufficient mitigation action can be limited to costs of around 1% of global GDP each year, while if such mitigation is not undertaken quickly, the overall costs and risks of climate change will rise to be equivalent to losing 5% - 20% of global GDP each year in the future (Stern 2007).

In other words, future generations will be substantially worse affected by climate change than those alive today, despite not having a possibility to affect today’s decision-making. Intuitively, therefore, many tend to agree with the Stern Review’s conclusions, and, more broadly, the notion that each generation is entitled to inherit a planet that is in at least as “good state” as that of previous ones had at their disposal (Weiss 1990: 201). Philosophers are less conclusive than economists on this matter, however: the case for mitigation obligations toward future generations is more difficult to sustain than many tend to believe (Buchanan 2011: 344).

Firstly, the responsibility for future generations is a question of *what kind of people* in the future we owe a stable climate, and why. Thomas Nagel, for example, argues that duties and obligations are associative: that is, we only owe them to people we have shared institutions and near political relations with (Nagel 2005). This is a communitarian argument: when people are linked together by certain ties such as national identity, they see themselves as having special responsibilities to one another (Miller 2001). If national representatives are mainly concerned with the future generations of the countries they represent, it is not given that they are morally obliged to undertake mitigation measures immediately if their country is not predicted to be severely and/or imminently affected. These differences in vulnerabilities - and thus in cost/benefit analyses – have led to a particular attention being paid towards relative gains in the climate negotiations.

Secondly, mitigation is a question of what Derek Parfit has called the *non-identity problem* (Parfit 2011: 217). Mitigation decisions, like all other types of decisions made today, must, as a matter

of causality, change the identities of the people who will exist in the future.³ We cannot, therefore, have duties towards a set of given persons in the future with regards to undertaking mitigation measures today, as these persons will not exist if we choose to do so. If we choose to not undertake mitigation measures, a set of different persons will exist in the future, and they will be more satisfied with this than not existing at all.

Thirdly, the non-identity problem is also relevant for understanding the role of *past* generations. A substantial share of the climate change problem is caused by previous generations. Given that a malefactor somehow must pay, who should pay when the malefactor is long gone? It has been suggested that present inhabitants of a country are not unrelated to its previous inhabitants, as they can bear the fruits of their ancestor's emissions. However, demanding that someone who has benefitted from previous generations' emissions is troublesome, especially because of the non-identity problem. Those alive today cannot be said to have benefitted from emissions, as they would not have existed in a world where emissions had been lower. Also, on a different note, disregarding the non-identity problem, for someone to be held responsible for an action that causes harm, it is generally demanded that the malefactor knew that what he was doing was in fact causing harm, something that was not formally established and institutionalized until around 1990.

The issue of time, thus, is an important complicating factor for at least three reasons. Combine these with the facts that (1) the causes and effects of climate change are widely dispersed, and (2) agency is extremely fragmented, and you have what Stephen Gardiner (2006) calls a "perfect moral storm".

1.4 A case of distributive fairness

However, it is not only the problem of climate change itself that is a "moral storm", but also the negotiations between nation-states on how to solve it. The climate change problem must be solved through an aggregate effort; but, since the climate is a global public good, and thus susceptible to free riding, this effort proves very difficult to obtain. Large economic costs and the temporality dimension further complicate the problem. The difficulties described manifest themselves when the countries of the world try to agree on how the climate system can be safeguarded. In the UN climate negotiations, the parties⁴ attempt to coin the aggregate effort necessary to curb climate change. For some twenty-five years they have tried to agree on who are to contribute, and how much, to the mitigation of global greenhouse emissions in order for

3 Parfit's argument is based on the assumption that small differences in initial conditions lead to widely diverging outcomes (chaos theory).

4 "Party" is understood as "A state that agrees to be bound by a treaty and for which the treaty has entered into force" (UN 2015). "Treaty" here refers to the United Nations Framework Convention on Climate Change. This thesis refers to the parties to the Convention as "parties".

them to reach a level defined as “safe”.⁵ Since the scheme agreed upon has to be acceptable to all relevant parties, the issue of *distributive fairness* is especially intricate in the negotiations. Who will have to bear the brunt costs of mitigation - and *why*?

Any reasonable answer to this question, and therefore, any position taken in the negotiations, entails some kind of normative basis. This thesis investigates the normative basis on which the positions in the negotiations rest. More specifically, it seeks to understand how distributive fairness is perceived among the parties of the negotiations.

Generally, successful cases of multilateralism generate among its participators expectations of “diffuse reciprocity” (Kehoane 1986). This simply means that the arrangement reached carries an expectation by its members to yield a *rough equivalence of benefits* in the aggregate and over time (Ruggie 1992: 571). In other words, multilateralism succeeds when it generates a notion of fairness among its participants. For this reason, the negotiation literature suggests that climate agreements have highest potential for both consensus and compliance if they are based on a common understanding of what fairness is (Babcock et al. 1995: 1341; Miller 2008: 123; Ringius et al. 2002: 1). Since consensus and compliance are essential for the effectiveness of any agreement, obtaining and accumulating knowledge about the parties’ conceptions of fairness and their determinants is indispensable for understanding what content and form is most suitable for creating such an agreement (Tørstad 2014: 7).

Differing conceptions of what fairness means is at the very core of disagreements within the climate regime. The divisions between industrialized and developing countries, between large and small emitters, or even between regional groups are some examples. Fairness and climate change has been thoroughly debated in the normative literature.⁶ There are, however, few up-to-date empirical analyses of the topic.⁷ Moreover, systematic studies of *which* norms of distributive fairness the parties invoke in the negotiations, and *why* they do so, seem to be missing. This thesis attempts to fill this lacuna, by conducting a two-step empirical analysis. The first step identifies which norms of distributive fairness (“fairness principles”) the parties in the negotiations invoke. The second step uses regression analysis to analyse which country characteristics that can explain parties’ invocation of these principles.

5 The general consensus is that this limit is at 2°C warming compared to pre-industrial times (“The 2°C target”).

6 See for example Caney (2005; 2006; 2010), Miller (2008), Posner and Sunstein (2010) or Singer (2004).

7 An exception is Kallbekken, Sælen and Underdal (2014).

1.5 A first differentiation effort

In 1992, 154 countries signed “The United Nations Framework Convention on Climate Change”⁸ at the Earth Summit in Rio (see UN 1992). The convention aimed to stabilize greenhouse gas emissions “at a level that would prevent dangerous anthropogenic interference with the climate system” (UN 1992: 4). Despite this bold formulation, the specificities on how to achieve this objective were left inexplicit, however. The convention did neither induce any limitations on how much greenhouse gases nation-states should be allowed to emit, nor suggest any specific mechanisms for mitigation.

The convention did, however, succeed in establishing the multilateral climate regime. Since the norms and rules agreed upon in this regime would potentially induce differential effects on the parties, the convention needed to be particularly attentive to fairness concerns (Wiegandt 2001: 128). The most important formulation in this respect is article 3, which contains the principle of “Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)”:

The Parties should protect the climate system [...] on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof (United Nations 1992: 4).

The CBDR-RC principle was the parties’ preliminary answer to the question of what a fair burden-sharing scheme should approximate: the “developed” countries are both largely *responsible* for causing climate change and have the greatest *capability* to mitigate. Responsibilities and capabilities were considered as normatively relevant factors for differentiating the burden; and high or low scores on these divided the world into two strands: the “developed” countries were listed in Annex I of the convention, and included 36 countries that were either considered industrialized or in the process of transition to a market economy, while the rest were labelled “non-Annex I” (UN 1992: 32).

CBDR-RC thus became the first attempt at differentiating the mitigation burden between the parties. Membership in Annex I became linked to responsibility to mitigate, while non-membership became linked to exemption (Castro et al. 2011: 9). The generic nature of the CBDR-RC principle was intended to maximize the number of countries finding the convention acceptable, which most did at the time. As a result of its broad acceptance, the CBDR-RC principle became a strong constitutive norm: it enabled new forms of interactions in the negotiations that were previously not established - especially so between developing countries - and set strong precedents on following negotiation rounds.

⁸ Hereby referred to as “UNFCCC” or simply “the convention”.

Article 17 of the convention opened for continued negotiations on additional protocols that potentially could induce real emission limitations on the parties (UN 1992: 28). It is under this mandate that the signatory parties to the convention meet on a regular basis to negotiate, *inter alia*, how the burdens associated with preventing dangerous climate change are to be distributed. The first substantial agreement the negotiations reached after the 1992 convention was the Kyoto protocol, agreed upon at COP 3 (UN 1997). The CBDR-RC differentiation became manifest in the Kyoto protocol, wherein the Annex 1 countries committed themselves to individually differentiated legally binding quantitative mitigation targets, while non-Annex 1 countries were exempt from this provision.

1.6 The firewall

Retrospectively, it is quite clear that, whereas the CBDR-RC principle did indeed establish some common ground, it simultaneously polarized the parties into two camps, and established a permanent conflict line between them - today known as “the firewall” (Kallbekken et al. 2014: 36). The firewall metaphor refers to the strict division between the two groups of countries – “developing” and “developed” - a division that has not been updated since 1992, despite sustained pressure from Annex I parties to do so. Moreover, the parties on each side of the firewall have over the years developed clashing interpretations of the CBDR-RC principle:

Developing countries have understood CBDR-RC to define responsibilities according to states' historic contributions to the climate problem and (...) developed countries have tended to resist the notion of historic responsibility, (...) focusing instead on capacity (...) (Brunnée and Streck 2013: 3).

CBDR-RC is thus an illustration of how conceptions of fairness vary between the parties in the negotiations: Annex 1 countries have asserted that “capabilities” is the most important concept in CBDR-RC, while non-Annex 1 countries have argued that (historical) “responsibilities” should guide efforts. The stark opposition between proponents of “responsibilities” and “capabilities” is only one of several clashes between fairness principles in the negotiations. I argue that disagreement on such principles has led the negotiations from taking a “top-down” prescriptive-oriented approach to a “bottom-up”, coordination-oriented one.

1.7 Pledge-and-review

The idea of what form an agreement should take has changed substantially throughout the two-and-a-half decades of negotiations. Following Zartman and Berman's classical model (1982), negotiations consist of three phases. In the first phase, parties decide to negotiate, undertake individual preparations, and hear out the other parties. In the second phase, the parties search for, and eventually settle on, some formula to guide the third phase - which consists in the working out of particulars of an agreement consistent with the formula agreed upon in phase two (Odell 2013: 384).

The climate negotiations have not progressively moved from phases one through three and subsequently settled. Instead, the climate negotiations are somewhat cyclical. The Kyoto protocol, for example, was a “top-down” agreement, built on the same principles as the successful Montreal Protocol of 1987: it marked the end of one cycle, wherein the negotiations had been progressing through the three different phases. Post-Kyoto negotiations have shifted back and forth between the phases, and have, from time to time, adopted agreements in which the preceding negotiations never reached the third, or even second, phase.

The third phase is supposed to contain the *outcome* of the negotiation process. It is possible to infer from the course of the climate negotiations that as the process moves from one towards three, so does the temperature of the debate: this is where the greatest difficulties often lie. Agreeing on some kind of burden sharing formula is the logical third phase of a top-down approach. Translated to the current climate negotiations this approach could imply something similar to the following four-step recipe:

1. Determine tolerable increase in temperature
2. Calculate concentration of CO₂ equivalents in atmosphere that leads to that increase
3. Calculate global emissions that lead to that concentration
4. Divide the global emissions budget among the world's countries

The realization that this approach did not enjoy the necessary support among the parties to succeed caused the negotiations to shift from a top-down Kyoto-approach toward a bottom-up approach. The essence of reason behind this is captured in an argument made by New Zealand in 2013:

Since no country will commit to a burden it does not believe is fair, pursuing a formulaic approach to equity in the ADP risks driving some Parties away from agreement. It is not feasible that Parties will agree on a burden sharing formula in any timeframe corresponding to our Durban mandate.

The idea of a bottom-up approach in the negotiations had been discussed since the drafting of the convention in the 1990s, but was side-lined for some twenty years before it was adopted in the Copenhagen accords of 2009. The bottom-up approach is today called the system of *pledge-and-review*. As the name indicates, this system consists of two components. After the parties submit their nationally determined climate mitigation and adaptation plans (the pledges), a third-party review process controls the aggregated impact of the proposed actions, with the newly adopted “well below 2°C” goal as the benchmark. In the current system, the review process is called “global stocktaking”, and the first stocktaking after the Paris negotiations will take place in 2018.

The pledges to the Paris negotiations were the last submissions the parties make in the negotiation cycle studied in this thesis, which dates back to 2011. In the submissions, parties expressed their preferences on a diversity of topics that were related to their ideas of the shape,

scope and particulars of the Paris agreement. Even though the talks are no longer concerned with the searching for one specific formula for burden sharing, the parties are still strongly concerned with issues of distributive fairness. This manifests itself in both the submissions the parties have made throughout the process, wherein fairness references flourish, but also in their nationally determined pledges, wherein all parties are asked to justify how their contributions are fair.

2 Fairness in the Climate Negotiations

If an old person slowly crossing a street is hit by a car, she is hurt by the car, not by her underlying vulnerability of being old and walking slowly.

- The group of Like-Minded Developing Countries

Outline

This chapter consists of three parts. The first part begins with a discussion of what fairness is, and how it is related to similar concepts. The second part describes the role fairness plays in the climate negotiations. The third proceeds to conceptualize the three most commonly accepted fairness principles in the negotiations.

2.1 Conceptualizing fairness

The literature on fairness is vast, diverse, and often impenetrable. For this reason, it has been said that “one cannot simply consult a dictionary or an article and discover what fairness means” (Suranovic 2000: 283). Attempting to define “fairness” in plain words is therefore a complicated affair. A useful first step is, nevertheless, to realise that the concept of fairness rarely comes alone; it is intimately intertwined with a set of related concepts, such as *justice*, *law*, *legitimacy*, *morality* and *equity*. A clear definition of fairness, therefore, entails establishing not only what fairness is, but also how it is related to similar concepts. Manoeuvring the fairness jungle steadily is therefore difficult: this is manifest in international relations literature, where definitions of fairness tend to be insipid or futile.⁹ Most often, however, definitions are simply lacking, and similar concepts, such as “fairness” and “equity” are used interchangeably.¹⁰ This hinders effective communication and clear research questions. To avoid this, it is necessary to establish a clear and concise fairness framework. I use John Rawls’ understanding of *justice as fairness* as a basis for this.

2.2 Justice as fairness

According to Franck (1995), fairness consists of two concepts: *procedural* and *substantive* fairness. While procedural fairness is largely concerned with legitimate procedures, substantive fairness pertains to the outcome of a process. Franck understands substantive fairness to be the same as what Rawls and others call “distributive justice”. Both understandings encompass the degree to which the distribution of a good is just - when justice is understood as a general criterion of what is right and wrong (Albin 1993; 2003). Rawls suggests that impartiality is the key to achieve distributive justice; and impartiality cannot be reached unless self-interest is restrained. This is why he introduces the “original position”, which takes place behind a “veil of ignorance” (Rawls 1999). The veil of ignorance denies whoever is covered by it all knowledge of his personal qualities, characteristics and possessions. Ignorant of all his own personal traits and possessions, the person under the veil is asked which distributional outcome he would choose when the veil is removed. Since the person does not know anything about himself, he must be impartial in the choice of outcome.¹¹

Justice as fairness means that approximating an answer to what is right or wrong entails putting self-interest aside and deliberatively work out a set of principles. As such, Rawls’ definition of justice as impartiality is to say that distributive justice comes from procedural justice. This is Rawls’ *ideal concept of justice*. We can distinguish between Rawls’ ideal concept of justice and his definition of having a *conception of justice*. To have a conception of justice simply means to

9 See Wiegandt (2001: 129) and Welsh (2004: 754).

10 See Rao (2003) and Kapstein (2008).

11 Given that he is more or less “rational”.

understand the need for, and affirm, a characteristic set of principles for assigning basic rights and duties for determining what should be the proper distribution of the benefits and burdens of cooperation (Rawls 1999: 5). Justice is then defined by the role of these principles in assigning rights and duties and in defining the appropriate division of a good; while a conception of justice is any interpretation of this role (Rawls 1999: 9). It is precisely these interpretations, these contextual conceptions of justice, that are at the epicenter of this thesis. I call them *fairness principles*. Fairness principles are needed for choosing among the various arrangements that determine the division of a particular good. When we compare fairness principles to justice principles, we see that the distinction between justice and fairness is essentially a distinction between contextualism and universalism.¹² Similar to Rawls' *justice conceptions*, I define *fairness conceptions* as a preference for one or several fairness principles. Table 2.1 provides the definition of concepts, and summarizes the discussion so far:

JUSTICE	<i>A general criterion of what is right and wrong</i>	FAIRNESS	<i>A circumstantial specification of justice</i>
DISTRIBUTIVE JUSTICE	<i>The degree to which the distribution of a good is just</i>	DISTRIBUTIVE FAIRNESS	<i>The degree to which the distribution of a good is fair</i>
JUSTICE PRINCIPLE	<i>A principle for how to determine what is just</i>	FAIRNESS PRINCIPLE	<i>A circumstantial principle for assigning rights and duties for determining a fair distribution</i>
JUSTICE CONCEPTION	<i>An affirmation of the need for a set of principles for assigning rights and duties for determining a proper distribution of a good</i>	FAIRNESS CONCEPTION	<i>A preference for one or several fairness principle(s)</i>

Table 2.1. Conceptualizations of justice and fairness¹³

¹² See chapter 2 in Miller (2013) for an extensive discussion of these concepts. This thesis discusses “contextual justice”, which is here defined as fairness.

¹³ Note: Since this analysis is about distributive fairness, I leave procedural justice and procedural fairness out of the discussion (but the definitions of these concepts would be similar to those of distributive justice and fairness).

2.3 The role of fairness in the climate negotiations

With these concepts defined, we can go on to discuss the role (distributive) fairness plays in the climate negotiations. *When* and *how* fairness matters in international relations has been thoroughly debated in the literature. On the most general level, a commonly accepted observation is that fairness matters in some cases more than others. First and foremost, questions of justice arise when there is a conflict of interest between different groups of people (Barry 1989: 7). More specifically, since distributive fairness is about the allocation of rights, duties and obligations, we can say that a general precondition for this type of fairness is that everyone can expect to have a share in this allocation, but no one can expect to have all that is desired (Franck 1995: 10). When the allocation occurs in circumstances that make allocation both *necessary* and *possible*, there is a condition of what John Rawls calls “moderate scarcity”. Allocation is *necessary* because resources are not infinite, and *possible* because cooperative ventures are not inevitably broken down (Rawls 1999: 110). Moderate scarcity is the first of two structural preconditions for fairness discourse. The second is community: If rules are to be evaluated in terms of their degree of fairness, they must operate in the context of a social system of continuing interaction and transaction (Franck 1995: 10).

Moderate scarcity and community are the structural preconditions that must be present if distributive fairness is to matter. Clearly, these are fulfilled in the climate negotiations. However, distributive fairness does not only *matter* in the negotiations: empirical evidence indicates that it plays a decisive role.¹⁴ There might be a number of reasons for this. Building on Oran Young (2014), I suggest four reasons for why distributive fairness is a particularly salient issue in the climate negotiations.

Firstly, distributive fairness matters in the negotiations because key states are less able to coerce others into accepting preferred solutions than in other policy areas (Young 2014: 18). Coercion is difficult for two reasons. The first reason is the issue-specific power structures of the climate negotiations. Since power in international relations is becoming increasingly case-specific,¹⁵ power structures observed in other policy areas (such as security) are less relevant in the climate negotiations, where power to a larger degree depends on very specific factors. Central scholars have argued that power in the climate negotiations reflects first and foremost asymmetrical interdependence with regards to greenhouse gas emissions (Victor and Keohane 2010: 3). Both historical and current emissions are clearly important. Another significant factor is vulnerability to climate change, which is directly related to countries’ “best alternative to negotiated agreement” – a central concept in negotiation theory. The second reason why coercion is difficult can be found in the nature of climate agreements in general, and the current pledge-and-review-system in particular. Since no mechanisms of punishment exist, if a country in the climate negotiations feels it is being coerced to make unjustifiably large concessions, it tends to

14 See for example Dannenberg et al (2010), Lange et al (2007) and Tørstad (2014).

15 See Keohane and Nye (1977).

simply abstain from signing any agreement or, if the agreement has entered into force, refuse to fulfil its provisions.¹⁶

Secondly, therefore, there is a need to foster a sense of legitimacy regarding the solutions adopted in order to achieve effective implementation and compliance over time (Young 2014: 18). Putnam's logic of two-level games applies not only from the domestic to the international level, but also from the international level to the domestic: that is, international norms and agreements affect a country's domestic policy choices (Cortell and Davis 1996). States are unlikely to implement and comply to an agreement unless they agree that the costs induced on them are fair, because implementation-wise, climate policy has a very direct effect on citizens: the populations of signatory countries might have to undergo (possibly extensive) lifestyle changes in the event of the implementation of a substantive agreement. If individuals are to be imposed by an international agreement to make lifestyle changes, they have to perceive the agreement as fair if they are to accept the implementation of it (Miller 2008: 123). Ensuring that their citizens will conceive the agreement as reasonably fair will therefore be a concern for negotiators.

Thirdly, fairness matters in the climate negotiations because the usefulness of cost/benefit-analyses is limited (Young 2014: 18). Considering the long term, the number of factors that could potentially matter for the "utility" of a party is close to infinite, ranging from food security or territorial survival to economic growth and unemployment: reliable scientific data on the vast majority of them is still not available in any other form than quite generalized predictions. The enormous number of possible emission scenarios and their largely unknown consequences make it virtually impossible for states to say anything particular about the long-term utility of their proposals. Similarly, short-term utility is only minimally easier to assess. As mentioned in the introductory chapter, the difficulty of cost/benefit-analyses has led the parties to be particularly concerned with "relative gains and losses"; this can be understood as a different way of saying that they have become particularly concerned with issues of fairness.

Fourthly, it can be added that fairness considerations are particularly salient in a pledge-and-review system, because in such a system all countries must necessarily base their proposals on some kind of burden-allocating scheme, at least implicitly. This is so because of the so-called "carbon budget", which is the total amount of greenhouse gases that can be emitted before the 2°C (or 1,5°C) goal is no longer possible to reach. This temperature limit, and its resulting carbon budget, slightly altered the nature of the public good dimension of the climate, because congestion of the good now indeed detracts from the good's benefits available to others: the climate system has become partially rival.¹⁷ Consider the fact that all signatory countries to the Paris agreement have accepted that they have a common responsibility of directing the global

¹⁶As an illustration, Canada withdrew from the Kyoto protocol in 2011.

¹⁷Håkon Sælen has rightly pointed out that this argument assumes that breaching the collective goal has consequences, which is not given in this case.

greenhouse gas emissions curve from business-as-usual to a scenario compatible that is well below 2°C, and strives to reach 1,5°C.¹⁸ In other words, they accept that the 2°C carbon budget is the upper limit of total greenhouse gas emissions. This implies that the parties must have some notion of fairness, or even consider some kind of burden sharing scheme, when they put forth their suggestions to the negotiation table. It must be so because they have evaluated how much they should contribute, given (1) the size of the carbon budget, and (2) that all others contribute as much as they can reasonably be expected to contribute: mitigation targets would be impossible to set, if not relationally to others.

2.4 Distributive fairness in the climate negotiations

The four characteristics discussed above indicate why distribution of mitigation burdens in the climate negotiations is an issue of fairness for the parties. In a context wherein fairness matters, the means to create an agreement that the parties feel obligated to adhere to is by building an agreement most parties perceive to be sufficiently fair (Young 2014: 20). This is a commonly accepted notion in the negotiations. How this is to be achieved is a different question: inter-party disagreement over which fairness principles should be applied in allocating burdens and benefits is part of the reason for why finding solutions that are acceptable to all is so difficult.

In conflicts of interest, arguing is an instrument for bargaining: bargaining positions have to be justified by arguments, which therefore serve the role of supporting the positions (Holzinger 2004: 203). Invocation of fairness principles can be a means for this. As Jon Elster has pointed out, it is impossible to justify claims in a debate on self-interested grounds (Elster 1998). Even argumentation that tries to justify self-interest must refer to some universalistic values or commonly accepted norms. This is the role of fairness principles in the climate negotiations: they are, at least to some extent, the rules of the discourse that prescribe which arguments can be legitimately used by the participants (Risse 2000: 17). Fairness principles thus stabilize expectations for how parties justify their propositions – most refer to one or several of these principles - and thus set the limits for what is considered to be possible in the negotiations: the propositions have to somehow be in accordance with (at least one of the) commonly accepted notions of fairness (Hoffmann 2007: 3). I therefore analyse fairness *conceptions* (defined as a preference for one or several fairness principles) not as a phenomenon necessarily arising from individual preferences, but as positions that have evolved from rational debate in which these principles have become part of what needs to be negotiated (Paterson 2001: 119).

Scott Barrett (1992) has noted that ethical rules can serve as focal points in negotiations of international agreements. This means that parties in a negotiation process will over time approximate and adhere to increasingly “fair” solutions implicitly. This reasoning is based on

¹⁸ According to the commonly accepted emissions scenarios both from IPCC and IEA, this implies deep emission cuts globally.

the “marketplace of ideas” - argument, which suggests that ideas are in competition with each other, and that this competition is productive.¹⁹ When evaluating the climate negotiations, Barrett’s “ethical focal point” theorem seems, at least to a certain degree, to hold true: if no progress had been made on this issue during the course of the negotiations, the incentive for continued talks would be small or non-existent. This is perhaps the reason why empirical evidence indicates that there is convergence on a small set of basic fairness principles in the negotiations, despite a large jungle of fairness arguments discussed in the normative literature (Underdal and Wei 2015: 36). Underdal and Wei (2015) assert that three different understandings of how the mitigation burden of greenhouse gases should be distributed fairly are frequently invoked and commonly accepted in the negotiations:

- I. Fairness as rights or needs,
- II. Fairness as responsibility for damaged caused, and
- III. Fairness as capability to solve the problem

These three are *fairness principles*; relatively broad prescriptive categories that can be interpreted differently and specified (operationalized) into concrete proposals in a number of ways. For allocating emissions rights through the distribution of a greenhouse gas emissions budget, such specification is necessary. If the term *fairness principle* is reserved for a general understanding of distributional norms, *equity* can refer to a specified subset of such norms. This means that specifications (operationalizations) of the three fairness principles are called *equity principles*. Equity principles can be further specified to function as *burden sharing-formulas* for allocating (fair) distributions of obligations and rights in the negotiations (Underdal and Wei: 2015: 36). Burden-sharing formulas indicate the exact implications for mitigation policy.²⁰

¹⁹ See Sparrow and Goodwin (2001) for a discussion on this.

²⁰ As highlighted in the introductory chapter, attempts to negotiate consensus around one such formula are unlikely to succeed. This is especially because the negotiating parties differ substantially in their historical responsibilities for causing global warming, their current greenhouse gas emissions, their prospects for economic growth, and their vulnerability to climate change (Bernauer et al. 2014: 44).

Table 2.2, moving from less specific (left) to more specific (right), presents the three commonly accepted fairness principles, and a set of related equity principles and burden-sharing rules. The paragraphs that follow proceed to discuss the principles and respective operationalizations in detail.

FAIRNESS PRINCIPLE	EQUITY PRINCIPLES	BURDEN SHARING-RULES
Rights (needs)	1. Egalitarian	1. Burden distributed proportionally to population
	2. Right to develop	2. Burden distributed inversely proportional to expected future development potential
Responsibility	1. Polluter-pays	1. Burden distributed proportionally to current emissions
	2. Historical responsibility	2. Burden distributed proportionally to historical emissions
	3. Evolving responsibility	3. Burden distributed proportionally to projected (future) emissions
Capability	1. Capacity-to-pay	1. Burden distributed proportionally to GDP
	2. Transformation capacity	2. Burden distributed proportionally to dependency on fossil fuels.

Table 2.2. Fairness principles, equity principles and selected burden-sharing rules

Note: This table is not exhaustive.

2.4.1 Fairness as rights

Equality is the first, and most basic, answer to how the costs associated with mitigating climate change should be distributed. In political philosophy, a tradition called “luck egalitarianism” proposes that an actor should have an equal amount of goods, welfare or resources as others, if he cannot himself be held responsible for having less. A commonly accepted notion in the egalitarian tradition is that inequalities are morally arbitrary unless justified (Rawls 1999). A justification could for example be that humans have a right to acquire goods as long as there is “enough and as good” of the available benefit must left for others to enjoy (Locke 1980: 19). However, if we accept the premise that climate change must be limited to 2°C, the historically large emitters of greenhouse gases have not left “enough and as good” resources for the rest. In other words, if, in the original position, all countries have an equal right to emit, the historically small emitters should now have a much bigger right to the usage of “atmospheric space” than those who have already enjoyed too much of the good.

This rights-based fairness principle can be operationalized into an equity principle called the *egalitarian principle*. The egalitarian principle is the idea that all humans have an equal right to emit greenhouse gases; implying that a country with x% of the global population is entitled to x% of the total greenhouse gas emissions (Lange et al. 2010: 4). This per capita approach is often argued to be the most persuasive “on ethical grounds” (Paterson 2001: 124). Nevertheless, the egalitarian principle is considered to be the most politically infeasible principle, since it would induce immediate and perhaps unmanageably large burdens for industrialized countries and other large historical emitters.

It is possible to accept the premise without demanding the strict per capita operationalization. In 1992, in the very early debate of distribution of mitigation burdens, Henry Shue famously proposed that “Poor states ought not to be asked to sacrifice in any way the pace or extent of their own economic development in order to help to prevent the climate changes” (1992: 394-5). This has later become known as the principle of preserving future development opportunities. Closely related are the concepts of “right to development”, “equal access to sustainable development”, and “poverty eradication”. These four concepts, which are all enshrined in the convention, implicitly or explicitly state that developing countries should be allowed to develop the same way as the industrialized ones have. Developing countries have the greatest unrealized potential for economic development: preserving this potential would entail emissions allocations to all developing countries close to their business-as-usual levels, with the implication that the mitigation burden would fall heavily or entirely on industrialized countries (Mattoo and Subramanian 2010: 2).

The perhaps most radical version of this principle is the *need for exemption*, stating that some countries score so low on normatively relevant criteria that they should be exempted from contributing whatsoever. Since a burden cannot be divided only based on who will not contribute, this principle cannot be directly specified to a burden-sharing rule without complementation from other principles.

All of the principles above are somehow based on the notion of equality. But, as mentioned, principles of equality are often not feasible *de facto*. Countries are simply too different on

normatively relevant criteria. It is therefore widely accepted that a fair distribution of emission rights does not necessarily mean equality. The question is: if equality is out of the question, on what normative basis should the burdens be *differentiated*?

2.4.2 Fairness as responsibility

The first answer would normally be: *any given problem should be solved by the party that caused it.*²¹ The second norm, therefore, is fairness as responsibility for damaged caused - the malefactor owes compensation to the harmed. The notion of reparations for historical justice has of course been extensively debated in the international relations literature - often with the well-known example of the Versailles accords at the front run of the debate.²²

In the case of climate change, the notion that the malefactor owes compensation to the harmed simply means that the polluters must somehow pay. In contrast to war reparations, which only concern *historic* injustice, the notion that the polluter must pay can be interpreted in a number of ways with regards to temporality: should the burden to pay fall on *current*, *previous* or *projected* polluters?

Disagreement persists over when a malefactor's responsibility begins. A preliminary answer seems to be that a *causal role* is a necessary, but not sufficient, condition (Underdal and Wei 2015: 37). The question remains whether the malefactor must also have had control over, and knowledge about, the risk of damage caused by the activity (ibid.). Responsibility must normally take account of a minimal knowledge of the wrongs a political entity is capable of inflicting (Colonomos 2008: 164). This leaves the principle open for interpretations: some assert that historical responsibility should be ascribed back to the industrial revolution, while others claim that it is with the release of the first IPCC assessment report in 1990 that sufficient knowledge about the effects of greenhouse gases became established.

The *polluter-pays-principle* is the idea that costs and emission cuts related to climate change should be distributed proportionally to the share of an actor's *current* emissions (Ringius et al. 2002: 5). If the polluter-pays-principle is based on cumulative or previous harmed caused, it is called a principle of *historical responsibility*.

A less supported, but still discussed, proposal is that moral responsibility begins when the agreement enters into force. Robert Nozick has for example argued that as long as the acquisition of a good was historically just, the distribution of the good is fair (Nozick 1974). Translated to the climate change context, this could mean that historical greenhouse gas emissions, which were not regulated by law, should not result in any "punishment" today. This opens the possibility for a third operationalization: responsibility for projected (future) emissions. This principle states that responsibilities should be proportionally distributed to the

21 See e.g. Pogge (2008) for an example of this line of argumentation.

22 See Colonomos (2008) for an interesting discussion on this topic.

proportion of future emissions of the actor. Here too, a difficult issue would be to determine exactly *when* greenhouse gases became regulated by law; is it the year 1992, when the convention was ratified, perhaps 1997 (Kyoto Protocol), or 2015 (the Paris Agreement)?

2.4.3 Fairness as capability

A second answer to how the burden can be differentiated is: those who have *capacity* to solve the problem have an imperative to do so. In the spirit of Peter Singer (1972), many have asked whether the fact that some countries are on the brink of disappearing due to global warming entails that all those who *can* hinder this, or similar harming consequences, are obliged to provide their best efforts in doing so. Capability-based approaches focus on consequences of different solutions to the climate problems. Since there is a vast array of different ways of resolving the complex problems of climate change, capability to solve the problem is a multifaceted indicator. Capability may include, but is not limited to, the possibility to establish greenhouse gas “sinks”, innovation capacity, capacity to undergo transformation of energy systems, and prospects for improving energy efficiency or reducing energy usage (Kallbekken et al 2014: 27). Since the notion of capabilities can take a vast array of forms, it is commonly accepted that a general indicator of capabilities could be financial capabilities. Thus, the most common measure of capabilities is *capacity-to-pay*, which is the idea that emission burdens should be distributed in accordance with the parties’ financial capacities, usually measured in terms of GDP (Kallbekken et al. 2014).

3 The Formation of Fairness Conceptions

Utopian statesmen [...] are [...] convinced that policy is deduced from ethical principles, not ethical principles from policy.

The realist is [...] obliged to uncover the hollowness of this conviction.

Edward Carr

Outline

The purpose of this chapter is to develop a theoretical framework for analysing why the parties in the negotiations are inclined to invoke the fairness principles described in the chapter 2. The chapter proceeds in two steps. First, it develops an integrative model, based on Putnam's "two-level" games, which explains why parties support and invoke the different fairness principles. Second, using the model, the chapter demonstrates which country characteristics that can account for the inclination of a party to advocate the specific fairness principles, and deduces a set of hypotheses based on this.

3.1 Neo-Utilitarianism

The previous chapter defined a *fairness conception* to be a preference for one or several fairness principle(s). The first question this chapter seeks to answer is how theories of international relations can help us form clear expectations of which fairness conceptions the parties in the climate negotiations will be under.

As mentioned, I analyse fairness conceptions as positions that have evolved from rational debate, in which those conceptions have become part of what needs to be negotiated. Most rational choice-based theories of international relations would normally assume that national interests largely or fully determine these conceptions. This is a point where international relations theory has seen the boundaries of some of its most prominent approaches dissolve: in particular, there has been a convergence between neorealist and neoliberal institutionalist approaches. For the purpose of this thesis, the assumptions of the two approaches, largely drawn directly from microeconomics, are similar enough as to be referred to collectively. Following John Ruggie, this collective approach can be called *neo-utilitarianism* (Ruggie 1998).

The name neo-utilitarianism is derived from the rationalist assumption of self-interested utility maximizing, which both neorealism and neoliberal institutionalism see as a driving principle in international relations. Most standard models of negotiation and bargaining are based on this assumption (LeVeck et al 2014: 1). In neo-utilitarian approaches, the climate negotiations are usually described as a prisoner's dilemma-game: collectively, countries are better off cutting their greenhouse gas emissions, but, since it is individually rational to not mitigate (see chapter 1), self-interest propels them to refuse to accept substantial emission cuts.²³ Consequently, this self-interest behaviour is often attributed in the negotiation literature as the cause for cooperation or an agreement ending up collectively sub-optimal (Babcock et al. 1995: 1343).

3.2 Justice as rational prudence

In contexts where fairness matters, neo-utilitarian negotiation theory thus assumes that parties use a self-serving definition of fairness when they negotiate: parties' bargaining positions will be reflections of their self-interest, and they will therefore invoke the fairness principles that best fit this interest (Babcock and Loewenstein 1997). This has received some support in both the empirical and theoretical negotiation literature: Albin argues that parties endorse fairness principles, and interpretations of them, which best favours their interests (1993: 224), while Underdal and Wei (2015: 36) propose that in situations where different interpretations yield substantially higher mitigation costs than others, "material interests will likely trump fairness norms."

²³ Neorealist analyses are additionally particularly concerned with relative gains between parties, a situation that can create a game called "gridlock" (Grundig 2006).

An immediate objection to this would be that at least some parties are sincerely trying to reach a “fair” outcome. Is not moral rhetoric in international relations, after all, the working out of norms of international behaviour through *deliberation*? (Goldsmith and Posner 2005: 171). To the extent that previous literature has problematized the assumptions of neo-utilitarianism in questions of fairness, it has primarily explored the question of whether parties tend to bargain based on their material self-interest *or* fairness.²⁴ This dichotomization, based on the Rawlsian notion of fairness, is a part of a bigger trend in international relations literature that tends to counterpose *norms* to *rationality* (Finnemore and Sikkink 1998: 909). In reality, however, the fairness/rationality dichotomy must be a fallacy, since agreeing to a set of distributive fairness principles can often be done partly or completely in self-interest.²⁵ As an illustration, we can consider Brian Barry’s definition of justice:

Justice is simply rational prudence pursued in contexts where the cooperation (or at least its forbearance) of other people is a condition of our being able to get what we want. Justice is the name we give to the constraints on themselves that rational self-interested people would agree to as the minimum price that has to be paid in order to obtain the cooperation of others (Barry 1989: 7).

We can call this *justice as rational prudence*. Translated to the context of this thesis, justice as rational prudence means to invoke fairness principles strictly with the goal of advancing interests through cooperation. Let us for a moment assume that a party in the climate negotiation does not care about Rawlsian justice - understood as *putting self-interest aside* - at all. However – because in conflicts of interest, references to universal justice principles is a means for strengthening bargaining positions, *and*, because countries understand that they have to give some concessions, the country will anyway invoke fairness principles, if it understands justice as *rational prudence*.

This understanding of justice is in direct motivational conflict with Rawls’ *justice as fairness*, because the actors are not putting self-interest aside at all. However, it seems more plausible to assume that the concepts of fairness and rationality²⁶ are essentially two sides of the same coin in the climate negotiations. If any given actors’ preferences are based on a calculation of material self-interests, this will be reflected in his understanding of what a fair agreement should consist of: there is therefore no dichotomy between fairness and rational self-interest. In the

24 See e.g. Fehr and Schmidt (1999: 818) for an illustrative example.

25 Adherence to certain fairness criteria can even be motivated by unintentional self-interest, or what behavioral economists call “self-serving bias”: the idea that in negotiation situations, the actors’ concept of fairness is “muddled” by the outcome that benefits himself most (Babcock et al. 1995: 1343).

26 “Thin” rationality, understood as maximizing self-interest.

negotiations, the parties have different preferences, and all parties argue on some level that their preference is the *fair* preference. Thus, the question is not whether the parties advocate fairness or material self-interest, which is virtually impossible to assess empirically, but whether self-interest is the unequivocal explanatory term for the formation of fairness conceptions. Underdal and Wei, discussing fairness principles and self-interest, suggest that:

(...) The two sets of premises seem to *interact synergistically*, meaning (a) that parties tend to favour fairness principles and interpretations that are compatible with their own material interests, and (b) that any given principle and interpretation will likely be more important in reinforcing the positions of parties that stand to gain from their application than in modifying the positions of parties that expect to lose. (...) Attention to the operational interpretation of norms is required to understand what parties can gain or lose. (Underdal and Wei 2015: 36)

This *synergistic* dynamic between self-interest and invocation of fairness principles is what I define as justice as rational prudence. To get an idea of which principles and operationalizations the parties will invoke, Underdal and Wei suggest paying attention to the operational interpretations of norms. Below, therefore, I present the specific implications for mitigation policy of some of the most widely recognised operationalizations of the capability and responsibility principles. The point is to show how different principles and operationalizations yield significantly differing obligations for the key actors. The tables below (3.1 and 3.2) indicate the relative burdens of these key actors in cutting their GHG emissions within 2030, given that the 2°C target is upheld:

	GDP	GNI (PPP)	GDP/CAP	GNI/CAP (PPP)
USA	23,4 %	17,4 %	34,9 %	27,8 %
India	2,7 %	6,2 %	0,7 %	3,0 %
China	9,3 %	13,9 %	4,2 %	9,5 %
Eu-27	25,5 %	18,6 %	31,1 %	24,1 %
Brazil	3,4 %	3,0 %	2,4 %	2,6 %
Russia	2,4 %	3,3 %	1,7 %	3,3 %
Japan	8,6 %	5,1 %	12,1 %	6,9 %
Rest of world	24,9 %	32,5 %	13,0 %	22,8 %
Sum	100,0 %	100,0 %	100,0 %	100,0 %

Table 3.1. Selected operationalizations of "capability"

	CO ₂ 1850-1989	CO ₂ 1850-2010	CO ₂ 1990-2010	CO ₂ 2012
USA	31,7 %	37,6 %	21,7 %	14,4 %
India	1,6 %	2,7 %	4,3 %	7,0 %
China	5,4 %	10,5 %	17,8 %	25,4 %
EU	30,8 %	24,8 %	16,0 %	10,2 %
Brazil	0,6 %	0,9 %	1,3 %	2,3 %
Russia	8,6 %	8,0 %	7,1 %	5,4 %
Japan	3,8 %	4,2 %	4,8 %	3,1 %
Rest of world	17,5 %	11,4 %	27,0 %	32,3 %
Sum	100,0 %	100,0 %	100,0 %	100,0 %

Table 3.2. Selected operationalizations of "responsibility"²⁷

Firstly, only looking at the capability principle, we note immediately that there are substantial differences even within the operationalizations of this principle. US' mitigation obligations, for example, range from 17,4% to 34,9% depending on whether capability is measured as PPP-adjusted GNI or GDP per capita.

Secondly, the same is true for the responsibility principle. There is, for example, a large difference between *current* and *historical* responsibility. US' mitigation obligations now range from 14,4% to 37,6%.

Thirdly, the capability and responsibility yield substantially differing results. Choosing between a GDP per capita *capability* approach and a current emissions *responsibility* approach means for China to choose between cutting either 4% of emissions or 25,4% within 2030.

The point of these tables is to show that different fairness principles yield significantly differing material outcomes. This is Underdal and Wei's reason for stressing the importance of attention to operational interpretations, and also the rationale for using self-interest as the key explanatory term in this theoretical framework.

²⁷ Data in tables 3.1 and 3.2 are taken from Kallbekken et al (2014) and World Resources Institute.

3.3 Expanding the neo-utilitarianist model

The discussion above indicates that self-interest is a driving force behind the parties' advocacy of fairness norms and principles in the negotiations. In its essence, the self-interest theory gives to each actor the aim of maximizing the outcomes that would benefit him the most. The question is whether this assumption is the unequivocal explanatory term for explaining fairness conceptions in the negotiations.

The constructivist project has questioned the “one size fits all” approach toward actors' preferences favoured by the rationalists. Already two-and-a-half decades ago, Adler and Haas pointed out that “the nature of the game is often obscure”, and specifically stressed that costs and benefits are rarely obvious in international relations (Adler and Haas 1992: 369). And indeed, as previously discussed, there is general agreement that the usefulness of cost/benefit-analyses is limited in the climate negotiations. Empirical evidence indicates that the assumption of utility maximizing is too simple and stylistic: decision-makers are often much less strategic than rational choice bargaining models assume (LeVeck et al. 2014; Tørstad 2014: 15-21; Victor 2014: 2; Welsh 2004). LeVeck et al. argue that self-interest is not sufficient to explain international negotiations, because policy-makers are prone to offer outcomes that are more based on (Rawlsian) fairness than one would have predicted (2014: 18540). Victor suggests that decision-makers pay close attention to unselfishness and impartiality even in situations where adherence to a fairness norm comes at a cost, while Welsh has showed that a number of variables influence negotiators' choice of fairness norms in negotiations – for example social relationships and interaction between cultural norms and situational needs (Victor 2014: 2; Welsh 2004: 755).

3.4 Putnam's “Two-level Games”

The pattern emerging from the empirical evidence discussed above is not unambiguous. It suggests, however, that the instrumental rationality model adopted by neoutilitarianism should somehow be expanded to include other factors than those strictly necessary for a calculation of (short term) costs and benefits. This framework is an attempt of doing so. It seeks to be “integrative”, in the sense that it endogenizes the preferences of the parties to a greater extent than neoutilitarianism does, while still remaining parsimonious in order to render numerical analysis possible.²⁸

Putnam's seminal work on two-level games (Putnam 1993) is the point of departure. Putnam explains how, in international negotiations, each country's negotiator must come to terms with

²⁸ It is the ambition of this thesis to try to show how it is possible to create some common theoretical ground between rationalistic and ideational approaches.

both his international counterparts (level I) and his domestic constituents (level II) simultaneously, since implementation of a level I agreement requires ratification on level II. Strategies are thus constrained simultaneously by what other states will accept, and what domestic constituencies will “ratify”.

Ratification does not necessarily entail formal voting procedures at level II, anteceding the negotiations at level I (Putnam 1993: 348). In the current system of pledge-and-review, the sequence is turned the other way around, in the sense that the propositions that are advocated on level I is often already ratified (or quasi-ratified) at level II.²⁹ The point is that the preferences of a negotiating party is a combination of factors pertaining to both of the two levels, since an agreement negotiated on level I must be acceptable for level II constituents. The puzzle is to identify which characteristics from the different levels are relevant for explaining the differences in preferences.

Based on a combination of rational choice theory, empirical evidence and constructivist insights, I combine five variables into an integrative model for analysis inspired by Putnam’s two levels (see table 3.3). Below is a justification for the inclusion of each of the variables, and a discussion of expectations for how the variables will affect the likelihood of preferring the different fairness principles.

Level	Indicators
International (I)	Greenhouse gas emissions (1), capacity to pay (2), membership of Annex (3)
Domestic (II)	Petroleum rent (4), form of governance (5)

Table 3.3. An integrative model

3.4.1 Level I: The international level

The first step is to assess the differences between the negotiating parties at the international level: that is, country characteristics. The international level is the main negotiation process, in which the parties’ preferences are articulated, modified and aggregated (Underdal 2009). In the framework of neoutilitarianism, and considering that the negotiators have a mandate of securing “national interest”, a preliminary hypothesis would be that the neo-utilitarian approach is useful for explaining level I behaviour. Preliminarily, therefore, we treat the parties as unitary agents that possess different sets of characteristics. The point is to investigate a set of variables that can constitute the cost/benefit-analysis of any negotiating party, and thereby establish

²⁹ This is not true for all elements of the agreement.

something similar to what has been called an “interest-based explanation of environmental policy” (Sprinz and Vaahtoranta 1994).

Ensuring the national interest in this context means avoiding relatively high costs compared to others. Pertaining to an analysis of costs and benefits, some characteristics are directly relevant to the fairness principles. According to Lange et al. (2007), a country’s historical greenhouse gas emissions (1) and capacity to pay (2) are the most important variables for explaining its expressed fairness preference. These two variables are directly related to the responsibility and capability principles, and should this be included in any self-interest based explanation of fairness conceptions. If they are to minimize their own costs, countries with high historical or current greenhouse gas emissions should not express preference for the responsibility principle, because this would be to induce the highest costs on themselves. Similarly, countries with high capacity to pay (in this case operationalized as GDP/capita) should not support the capability principle. The first four hypotheses are therefore:

H₁: Greenhouse gas emissions decreases probability of supporting the responsibility principle.

H₂: Greenhouse gas emissions increases probability of supporting the capability principle.

H₃: Capacity to pay (GDP/capita) decreases probability of supporting the capability principle.

H₄: Capacity to pay (GDP/capita) increases likelihood of supporting the responsibility principle.

Thirdly, empirical evidence indicates that a dummy variable for membership in the institutionalized Annexes (3) should be included in the analysis. Castro et al. find that the Annex I/non-Annex I divide influences negotiation behaviour strongly. More specifically, their findings suggest that the non-Annex I group, initially granted exemptions from obligations, has an incentive to jointly lobby for the continuation or expansion of this exemption (Castro et al. 2011: 9). Following Brunée and Streck, and the discussion on the CBDR-RC principle (chapter 1), we can expect that the developed countries (“Annex I”) will prefer the capability principle, while the developing countries (“non-Annex I”) will prefer the responsibility principle.

H₅: Having status as “Annex I” increases probability of supporting the capability principle.

H₆: Having status as “non-Annex I” increases probability of supporting the responsibility principle.

3.4.2 Level II: The domestic level

At level I, we have now considered the parties as unitary actors which seek to maximize self-interest. The unitary-actor assumption is often contestable, however. Level I bargaining behaviour is not always merely a result of narrow utility maximization - it is also, at least to a certain degree, a reflection of the interests of level II constituents. Level II can be a structural constraint on the rational actors at level I when there is a dissonance between the levels, and “moves that are rational on one board (...) may be impolitic for that same player at the other board” (Putnam 1993: 436-437). Such circumstances question the materialism and one-sided focus on self-interest of rational choice theory (Jupille et al. 2003:14).

Putnam’s point is that domestic structures shape the state’s utility functions to some extent. Thus, Putnam’s framework provides a first extension of the rational choice model, by asserting that the domestic level should be included in the analysis. Foreign policy is thus the result of I) decision-makers’ intentions to secure their level I interests, and II) decision-makers’ intentions to retain political power domestically, by complying with the demands of constituents. The question becomes one of modelling how differences in populations can be thought to influence the positions of the negotiators in the climate negotiations. Putnam claims that:

[An] adequate account of the domestic determinants of foreign policy and international relations must stress *politics*: parties, social classes, interest groups (...) even public opinion (...) (1993: 435).

Of these variables, interest groups seem most pertinent to the issue at hand. Bailer, for example, finds that pressure from domestic stakeholders is an important variable for explaining negotiation behaviour (Bailer 2012: 540). In a climate policy context, the fossil fuels industry of a country is often the single actor that has most at stake: an ambitious climate agreement can potentially induce severe negative effects on the industry. However, due to its contribution to the domestic economy and its role of large employer, the fossil fuels industry often exerts substantial influence over governments. Therefore, it is likely that such industry has a direct or indirect effect on states’ positions in the climate negotiations. Petroleum rent (% of GDP) (4) can be a proxy for fossil fuel industry’s power over governmental climate policy in a given country. Relying on the self-interest theory again, I assume that the petroleum industry would prefer an agreement where its host country is given a (continued) right to emit greenhouse gases:

H₇: Petroleum rent increases the probability of supporting the rights/needs principle.

Bailer (2012) also finds that form of governance (5) can explain part of the variance in countries’ strategies in the climate negotiations. This is reasonable, since climate policy can potentially have a strong and direct effect on the everyday lives of constituents - the populations of signatory countries might have to undergo (substantial) lifestyle changes. For policy-implementation reasons, therefore, negotiators can be expected to be particularly concerned with legitimacy in this policy area: they will, to at least some extent, try to be representatives of the constituents

they represent and thus build legitimacy so they will not have to face reluctance from citizens when the climate agreement is to be implemented. Bailer finds that undemocratic countries tend to use “hard” negotiation strategies such as threats and promises - since they do not have to worry about the legitimacy of their behaviour - while democratic countries employ more “soft” negotiation strategies, such as conciliatory statements and compromise proposals (Bailer 2012: 537).

Translated to this study, we can expect that the more democratic a country is, the likelihood of preferring capability or responsibility, as opposed to rights/needs increases. This is because rights/needs is in many ways the most “hard” strategy, or the most extreme principle, since it entails the most extreme distributional consequences.

H₈: Being undemocratic increases the probability of supporting the rights/needs principle.

Lastly, we can expect an interaction effect between form of governance and petroleum rent. Fossil fuels industries mainly exert influence over government in democratic countries. In undemocratic countries, petroleum resources are most often entirely controlled by the government, and the industry cannot play the same role of lobbying as in democracies. The last hypothesis is therefore:

H₉: The effect of petroleum rent on the probability of supporting the rights/needs principle increases with degree of political freedom.

4 What's Fair? A Classification of Fairness Conceptions

How global emissions rights and responsibilities are to be shared among countries, and in what sequence, remains the biggest sticking point in the climate change negotiations.

Joyeeta Gupta

Outline

The empirical analysis of this thesis is divided into two parts. The first part seeks to answer the question: *which fairness principles do the negotiating parties invoke?* This chapter provides a content analysis of how the fairness principles described in chapter 2 are manifest in all negotiation documents submitted by the parties in the period 2011-2015. The result is a complete overview of how all the parties of the climate negotiations refer to, and operationalize, the different fairness principles during the period. The findings are illustrated through a figure I call the “fairness dimension” which demonstrates how parties’ fairness conceptions are related.

4.1 Latent variable analysis

We have seen that fairness in the climate negotiations is a multifaceted concept, both theoretically and empirically. Despite a vast theoretical literature on fairness, however, chapter 2 described that there are essentially three fairness principles that are commonly accepted in the negotiations. This chapter explores how - and by whom – these three principles are invoked in the negotiations. It uses the established fairness framework to analyse deductively what fairness conceptions the negotiating parties are under.

The question of what fairness conceptions the parties are under, is not a straightforward one to answer. The reason is that fairness conceptions constitute a *latent* variable; that is, a theoretical construct that cannot be observed directly.

Empirical research centres around three methods for observing and inferring values on such variables: 1) Expert surveys, 2) hand coding of policy documents and 3) computer-assisted coding of policy documents (Slapin and Proksch 2008: 706). For a number of reasons³⁰, I choose the second approach, to hand code “policy documents”, which in this case means the position documents of the parties in the climate negotiations.³¹ Systematic analysis of such documents, which are concrete outcomes of strategic political activity, will ideally reveal important information about the policy positions of their authors (Laver, Benoit and Garry 2003: 311).

4.2 Foundations of content analysis

In the formulation above lies the elementary assumption of this analysis. Since the data material analysed is documents, the analysis is based on the premise that the discourse communicated by the parties are mirroring their underlying preferences to such an extent that valid inferences can be drawn from the material.

³⁰ Expert surveys are problematic for a number of reasons. One is the costs and time demands of obtaining sufficient relevant data. Secondly, expert surveys are not primary sources, but indirect judgments (Slapin and Proksch 2008). Furthermore, and perhaps even more salient, is the issue of not being able to explore the material before conducting the analysis. One cannot amend an expert survey based on interesting findings along the way, which may hinder substantially interesting findings from being subject to analysis. This is a difficulty that can be overcome by instead studying policy documents.

³¹ Analysing the parties' submitted proposals is a very efficient means of obtaining primary data on all parties. Except for interviewing all delegations (which seems implausible), I can think of no other data source that can provide the same amount of primary data on the viewpoints of the parties as the submitted proposals.

If we accept the assumption that text can be a proxy for understanding the positions of parties in the climate negotiations, content analysis can be the tool for systematic analysis of these positions. Content analysis is a research technique for making replicable and valid inferences from texts (Krippendorff 2013: 25). More specifically, content analysis, in the classical sense, is a research technique for “the objective systematic and quantitative description of the manifest content of communication” (Berelson 1952: 55; Kassirjian 1977: 8). It is based on the assumption that unobservable attitudes are made observable through communication, and can be measured through frequencies (Gjerløw 2014: 11).

Content analysis stands in contrast to other textual analysis methods, e.g. discourse analysis, most of all because it is concerned with classifying content without ascribing any meaning to it. Instead of being inductive and subjective, content analysis strives to be deductive and objective (Hardy et al. 2004: 21). It is therefore a good tool for classifying the usage of fairness principles, which is the goal of this chapter. Content analysis strives for “objectivity” by defining precise analytical categories based on a theoretical framework. Clear rules are used to systematically include or exclude content from the analysis; this gives content analysis its dimension of reliability. In this thesis, the categories and rules are defined in a coding book (see appendix III).

4.3 Document base

Any systematic textual analysis needs a population of texts; in content analysis this population is referred to as the *corpus* (Grimmer and Stewart 2013: 6). The corpus of this analysis consists of all the parties’ written proposals to “The Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)”³², the most important UN forum for the climate negotiations in the period 2011-2015. The mandate of the ADP was:

To develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties, which is to be completed no later than 2015 in order for it to be adopted at the twenty-first

³² The procedure of using these proposal documents for inferring which fairness principles the parties advocate is not unique: Torvanger and Godal’s (1999) procedure in their study of the *Ad Hoc Group on the Berlin Mandate* 1995-1997 has clear similarities to mine, although the goal of their analysis was quite different. Genovese (2014) and Weiler (2012) are recent examples of studies that examine negotiation documents from the climate negotiations, but these are not concerned with norms of distributive fairness, but more general positioning. To the best of this author’s knowledge, the Torvanger-Godal procedure of studying fairness principles in negotiation documents has not been used since 1999 in studies of the climate regime.

session of the Conference of the Parties (COP) and for it to come into effect and be implemented from 2020 (United Nations 2014).

In other words, the ADP was *the* forum for negotiating the next substantial climate agreement at the time, with its mandate terminating at the Paris meeting (COP21) in December 2015. The parties' proposals to the ADP are subdivided into three types of documents: *submissions*, *statements* and *intended nationally determined contributions (INDCs)*. The submissions are text proposals submitted prior to each negotiation session by parties.³³ Statements are opening- and closing declarations delivered orally by the parties during the negotiation rounds. INDCs are the national climate action plans: the nationally determined climate actions that the parties plan to undertake.

I code the submissions and INDCs. Thus, my document base consists of all submissions and INDCs from the period 2011-2015, which is the totality of the duration of the ADP. The final document base consists of 138 submissions and 160 INDCs, amounting to a total of 298 documents. The documents vary in length; submissions are most often between 1-5 pages, while INDCs are up to around 30 pages long.³⁴

4.4 Manual content analysis

Human expert coding and automated computer-assisted coding are the two common approaches for coding positions from policy documents (Laver et al. 2003.). Content analysis has seen a revival the last few years thanks to increasingly more advanced computer-assisted coding approaches, which have led to several interesting empirical analyses (e.g. Laver et al. 2003). The family of computer-assisted approaches is now large.³⁵

For the purpose of this thesis, so-called dictionary-based approaches would have been the relevant tool to use. These approaches simply count numbers of occurrences of words or sentences defined in a "dictionary". Using this approach means accepting a number of strong assumptions, for example that the order of words does not matter for the meaning.³⁶ Accepting

³³ I analyse submissions to "Workstream 1", which is the negotiations of a 2015 agreement.

³⁴ Most INDCs consist of several sections, many of which are irrelevant for (mitigation) distributive fairness issues. In order to reduce noise and increase validity, I only code the sections of the INDCs that are relevant to the research topic. This includes: (1) the introductions/general purpose (2) the sections on mitigation, (3) the sections on "fairness and ambition", and (4) the conclusion.

³⁵ See Grimmer and Stewart (2013) for an overview.

³⁶ The so-called "Bag of words"- assumption (Grimmer and Stewart 2013: 9)

this assumption would mean that at least some relevant text would not be coded, and, vice versa, some irrelevant text wrongfully so. Another assumption is that the analyst, in order to construct the dictionary, has to be completely familiar with all relevant words and expressions in the documents on beforehand, since the computer cannot detect these without a form for human guidance. This seemed unreasonable to assume, since I could not know all relevant words and expressions before reading the documents. Using dictionary-based approaches right away would therefore be a too big sacrifice of validity. In order to avoid this, I coded the documents manually (“by hand”) instead. This approach is called “expert coding”, and is the most common form of manual content analysis: the analyst, which has to have good familiarity with the connection between the theoretical research question and the topics of the documents (thereby “expert”), reads all the documents and codes relevant text into more or less pre-defined theoretical categories. The first and most important question in this type of analysis thus becomes one of defining coding instructions: what should count as a reference to one of the pre-defined fairness categories?

4.5 Coding instructions

In manual content analysis, the *coding unit* is the smallest meaningful construction that is counted in the coding (Berelson 1952: 134; Hellevik 2011: 174-175). More specifically, the coding unit is “the specific segment of content that is characterized by placing it in a given category” (Holsti 1969: 116).

Defining the coding unit is a critical part of any manual content analysis. Broadly, the coding unit must be an *identifiable message* (Neuendorf 2002: 71). But there are numerous ways of setting instructions for how an identifiable message is to be identified. Coding units are either defined physically (e.g. pages), categorically, propositionally, thematically or syntactically (Krippendorff 2004: 103-109). As a first step, since the documents of this analysis are highly intricate sets of messages, delivering often several fairness references per paragraph, the unitization in this particular analysis has to be syntactical, so as to not lose information. What is more, the coding unit should be a word, or, at most, a set of words. Content analysis literature has invented the concept of “quasi-sentences”, which is useful in this respect: A “quasi-sentence” is the verbal expression of an idea - meaning that one quasi-sentence contains exactly one identifiable message.

The question thus becomes how to define the limits of quasi-sentences in a way that is not only valid, but also reliable. According to traditionalist approaches³⁷ to content analysis, interpretation of what counts as a coding unit and not should be held at an absolute minimum, in order to ensure reliability. However, allowing some in-analysis interpretation of the coding units is clearly beneficial to validity, especially when the analyst does not know the full content

³⁷ By this, I mean Krippendorff (2004).

of the documents on beforehand. Fortunately, Hardy et al. (2004) suggest a form for content analysis that opens the possibility for a certain degree of flexibility. Allowing some interpretation of the classification of the coding unit is beneficial for achieving the highest possible internal validity.

To secure balance between reliability and validity, I open up for some interpretation, but limit the interpretation to very specific rules. These rules specify that the interpretation should be limited to: 1) the size of the coding unit, and 2) what should count as a coding unit and not. Regarding the size, the interpretation is allowed to vary from one to four words. A list of single words (“unigrams”) is often sufficient to convey the meaning of a text (Grimmer and Stewart 2013: 9). The coding unit will therefore sometimes be a single word, e.g. “historic”, sometimes longer constructions like bigrams, (e.g. “historical responsibility”), and tri- or four grams, (e.g. “common but differentiated responsibilities”).³⁸

Words, as opposed to larger constructions such as sentences, are the most reliable coding units for written documents (Krippendorff 2013: 105). Using words as coding units can come at a cost for validity, however. Unneeded to say, the meaning of a word depends on its syntactical role within a sentence (Ibid: 102). Since some of the relevant words (e.g. “responsibility”) are generic expressions that can have meanings that are not relevant for the research in question, it is necessary to define *context units* in addition to coding units. Context units set limits on the information to be considered in the description of coding units (Ibid: 101). In other words: they define what should count as a coding unit and not.

As good practice, the context units should be as large as is meaningful in order to increase validity and as small as is feasible in order to ensure reliability (Krippendorff 2013: 102). The negotiation documents of the analysis concern, inter alia, matters related to adaptation, mitigation, technology transfers, transparency, scope, structure and elements of an agreement. The coding units should be restricted to apply to matters of distributive fairness. A coding unit is coded as a reference to distributive fairness if it contains, implicitly or explicitly, a normative prescription related to burden sharing of effort. In this analysis, context units surround the coding units they help to identify. More specifically, they limit the counting of coding units to instances where the coding units refer to burden sharing or norms of distributive fairness in the context of effort. The context unit is generally the sentence surrounding the coding unit, but in cases where a preceding sentence identifies the meaning of the coding unit, this preceding sentence is used as the context unit in order to increase validity.

4.6 Validity and reliability

Broadly speaking, the results of the content analysis are valid to the extent that they meaningfully capture invocations of fairness principles in the submitted negotiation documents - which is

³⁸ Further details are outlined in the coding book (see appendix III).

what that they are intended to measure. To understand to what extent this is achieved, we need a more precise understanding of validity. For this purpose, Adcock and Collier's unified conception of measurement validity is useful. The relationship between the concept of distributive fairness and the coding of fairness references can be understood as a process that moves between four levels; the background concept (distributive fairness), the systemized concept (fairness principles), indicators (coding units) and the scores (frequency measures of references to fairness principles).

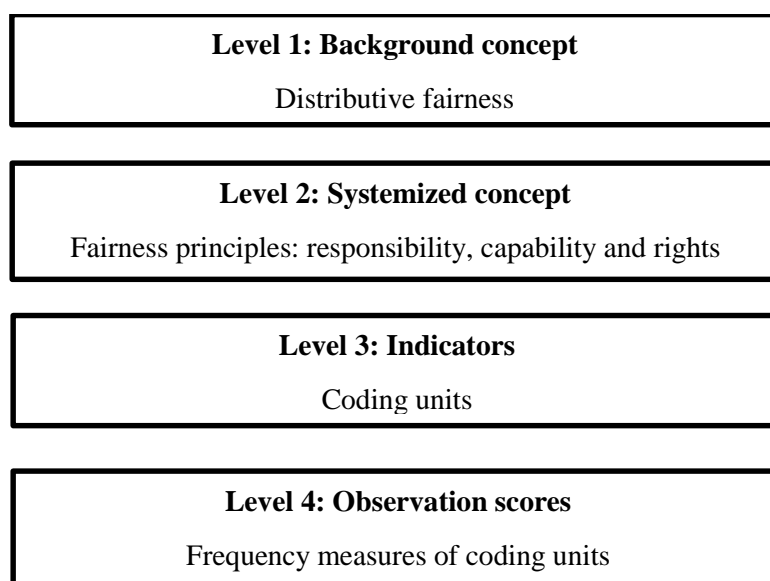


Figure 4.1. The relationship between concept and indicators

(Figure based on Adcock and Collier 2001: 531)

By defining the concept of distributive fairness, the theoretical framework established level 1. When evaluating validity, we assess the degree to which the observation scores are linked to the systemized concepts via the indicators. We saw in chapter 2 that, moving beyond the definition of fairness, it became clear that fairness is a multifaceted concept, consisting of several understandings and definitions: level 2 encompasses the three different understandings of distributive fairness. Level 3 is the indicators, or all the different possible operationalizations of the fairness principles in the negotiation documents. These are found in the coding book. When analysing the documents, the coding instructions indicate precisely which types of sentences in the documents should count as references to the corresponding fairness principles – or, what types of data that are connected to the systemized concepts. Lastly, level 4 are the scores that the different parties receive from the coding.

The measurement of fairness is valid to the extent that the observation scores derived from the coding units can meaningfully be interpreted in terms of the systemized concept (Adcock and Collier 2001: 531). In other words: the degree of measurement validity depends on the degree to which levels two to four are well connected.

The connection between the systematized concept and indicators can be called content validity, and is measured by the extent to which the rules outlined in the coding book reflect the content of the fairness principles (the theoretical concepts). The coding instructions outlined in the coding book include definitions and specifications of all fairness principles, and their respective operationalizations.

Instead of following the strict traditionalist requirement of pre-defining all categories and coding rules, I follow Hardy et al.'s suggestion that the analysis should be an interactive process of working back and forth between the data material and coding categories (Hardy et al. 2004: 21). Hand coding permits the working back and forth between the data material and the coding book: this increases content validity. The manual coding process also ensures that all relevant material is coded to the concepts.

The connection between the systematized concept and indicators could be affected by differences in meaning in the text. Using texts over a time frame of five years is based on an assumption that meaning in the negotiations is stable over this period. This is a general feature of content analysis: meaning is assumed to be consistent across time and actors. This minimizing of interpretation is what gives content analysis its descriptive character, and allows it to quantify occurrences of words or text (Hardy et al. 2004: 20). In the case of this analysis, an ex post evaluation confirms that this assumption is a reasonable one. When comparing the documents from 2011 or 2012 to those from 2015, the language is by and large the same, and there is no clear evidence that meanings of the relevant expressions have changed during this period.

The choice between hand coding and automated coding is a choice that not only concerns the linkage between the systematized concept and indicators, but also between the indicators and scores. The hand coding procedure has several advantages compared to computer-assisted coding approaches. First, and foremost, by doing manual content analysis I am able to only code units that are located in sections and documents that are directly related to burden sharing of mitigation: manual content analysis helps avoid counting irrelevant references, and thereby increases content validity. I also avoid coding more references in a sentence than the identifiable meaning, which means that if a word is mentioned, say, three times in a sentence, it still only counts as one reference, since the meaning is the same whether it is one or three words saying the same.

Therefore, this manual hand-coding approach has several advantages with regards to validity. However, manual coding is, admittedly, less optimal than computer-assisted coding with regards to reliability. Reliability in a content analysis context means both *inter*- and *intra*-coder replicability: both the same coder and/or different coders should obtain similar results by following the precise instructions outlined in the coding book. Therefore, if the coding instructions are defined with sufficient precision, the technique should be reliable.

A certain amount of reliability is secured by ensuring the coding book is exhaustive and mutually exclusive. It is exhaustive when it captures all references to fairness principles, and mutually exclusive when each coding unit can be placed in one category only. The different operationalizations of fairness principles in the coding book are specified as much as possible to ensure that these criteria are met. Since I do not have resources to hire other coders, I cannot establish quantitative measures of inter-reliability such as Krippendorff's alpha. However, I use a simple form of automated content analysis (a dictionary-method) to cross-validate the results,

and they are indeed very similar. It is my conviction, therefore, that the coding book is sufficiently precisely defined, and that other coders would obtain similar results.

4.7 What's fair? Results of content analysis

The manual coding resulted in 1799 references to fairness. The complete list of all results can be found in Appendix I. Below (table 4.1) are selected excerpts of the results that are meant to describe the overarching patterns in the data material. 181 parties have submitted either a submission or an INDC (or both) during the time period. In the table below, I have included the 42 parties that have the highest number of total references (column: "Sum"). Note that some of the parties are coalition groups. In this analysis, I treat these as if they were countries, and derive their characteristics from their member countries.³⁹ Appendix II gives an overview of negotiation groups and their members.

The frequency table contains a substantial amount of information. There are real differences between parties, manifested through explicit patterns in the data. Below follows a discussion of some of these patterns in the data material, and how they can be related to observed developments in the negotiations.

PARTY	CAPABILITY	RESPONSIBILITY	RIGHTS	SUM
African G.	21	10	10	41
AILAC	37	10	37	84
AOSIS	11	2	5	18
Algeria	3	18	9	30
Argentina	0	6	2	8
Australia	15	3	0	18
Bangladesh	1	5	1	7
Bolivia	11	24	12	47
Brazil	11	30	8	49
Canada	4	3	0	7
China	12	26	11	49
C. D'Ivoire	0	3	5	8
Cuba	6	5	7	21
Ecuador	3	10	7	20
EIG	27	22	1	50
E.Salvador	0	5	2	7

³⁹ Characteristics of country groups are simply the mean values of its members. I thereby assume that these coalitions represent the preferences of their members, and that these preferences are best summarized by the mean of member country characteristics.

Ethiopia	5	4	5	14
EU	64	64	7	135
Gambia	2	4	0	6
Ghana	1	3	3	7
Japan	5	4	3	12
Honduras	4	4	1	9
India	8	27	15	50
Jordan	2	11	4	17
Kenya	3	5	0	8
Kiribati	1	4	2	7
LDC	14	13	13	40
LMDC	13	83	41	137
Marshall Is.	3	7	0	10
Moldova	1	7	3	11
N. Zealand	8	8	0	16
Norway	8	5	2	15
Pakistan	3	7	2	12
P. N. Guinea	2	5	5	12
S. Arabia	1	5	5	11
Singapore	7	13	2	22
S. Africa	6	7	4	17
S. Korea	6	7	3	16
Switzerland	23	22	7	52
Thailand	1	4	3	8
Turkey	8	5	1	14
USA	19	4	1	24

Table 4.1. Selected results of content analysis

4.7.1 Fairness matters: but more for some than others

Starting with the “Sum”, which is the total amount of fairness references a party has made, we observe that some countries invoke fairness references to a much larger degree than others. Extremes in this respect are the LMDC group, EU, AILAC, Bolivia, Brazil, China, India, Switzerland and the EIG. The results differ slightly however, when we adjust for the number of documents submitted. By doing this, we get a measure of how salient the issue of fairness is for a party compared to other issues that the party discusses in its documents.

	Rights	Capability	Responsibility	Sum	References per document
Switzerland	7	23	22	52	17
LMDC	41	13	83	137	15
Brazil	8	11	30	49	12
China	11	12	26	49	12
Moldova	3	1	7	11	11
India	15	8	27	50	10
Bolivia	12	11	24	47	9

Table 4.2. Parties with high frequency of fairness references

With regards to salience of fairness, the firewall between industrialized and developing countries continues to apply: “developing” countries are more concerned with fairness than “industrialized” countries. Of the 7 actors that have most fairness references per submitted document, only Switzerland is from the Annex I side of the wall. Non-Annex I language seems to be more normatively laden than Annex I language.

The second dimension where the firewall continues to apply is in which principles the parties prefer. A generalization is that non-Annex I parties tend to invoke the responsibility principle, while Annex I countries prefer capability. Annex I countries prefer capability because they want to demolish the firewall, which they see as out-dated particularly because relative capabilities have changed substantially since the convention was ratified.

However, responsibility is the most frequently invoked fairness norm in the negotiations: out of a total of 1799 fairness references, 902 are references to responsibility. But capability and rights also enjoy widespread support. Below follow separate analyses of the three norms. The separate analyses explain which type of actors that support the norms, and how they tend to operationalize their fairness conceptions into equity principles.

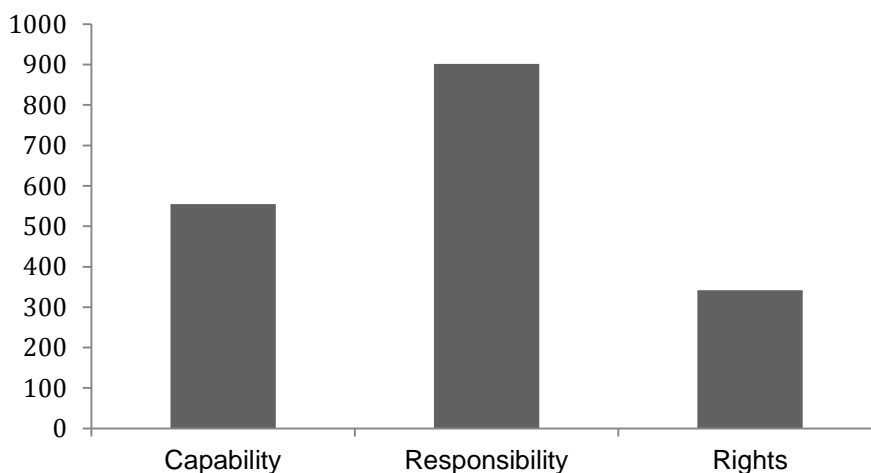


Figure 4.2. Distribution of fairness references

4.7.2 Fairness as capability

As the table above (4.1) illustrated, fairness understood as capability to solve the problem is a concept related to industrialized countries. Below is a table showing the parties that have the highest share of references to capability of the total references to fairness (table 4.3). Strikingly, all are Annex I countries, except Honduras.

	Total references	Capability as % of total
Australia	18	83%
USA	24	79%
Russia	4	75%
Turkey	14	57%
Canada	7	57%
Norway	15	53%
N. Zealand	16	50%
Honduras	9	44%
Switzerland	52	44%
Japan	12	42%

Table 4.3. Selected parties with high share of references to capability

If the parties are rationally calculating which fairness norms to promote, the first intuition would perhaps not be that the very capable Annex I countries would invoke the capability principle. However, the Annex I countries also have the largest historical responsibilities – and this is perhaps the most important explanation for why they are so capable. It can be beneficial for Annex I parties, therefore, to invoke the capability principle instead of responsibility. Secondly, they hope that doing so will eventually lead to the demolition of the firewall. Many parties (e.g. China, Singapore, Malaysia, Saudi Arabia etc.) that were classified as “developing” in 1990 have outgrown many Annex I countries capability-wise. The general notion in Annex I is that many of the countries that were classified as developing in 1990 would not have been so today: they have at least as much capability as Annex I, and should thus contribute substantially too.

The references to the “Capability” umbrella are an aggregate of references to the capability equity principles, as described in the theoretical framework and coding scheme. We can thus dive into the capability category and assess which equity principles the parties prefer. We observe that most references to capability are made to “Respective capabilities” and “other/unspecified”. Other/unspecified simply means a reference to “capability” without further specification of a burden-sharing rule. “Respective capabilities” is also a quite generalist term, which does not specify any allocation rule either. The concept of “Respective capabilities” is most often associated with the CBDR-principle. One of the reasons that “Respective capabilities” have many references is that the moderate parties such as AILAC, EU, EIG, Switzerland etc. refer to “common but differentiated responsibilities and *respective capabilities*” (CBDR-RC). This is not to say that these parties prefer capability instead of responsibility; rather, they try to achieve balance between the two.

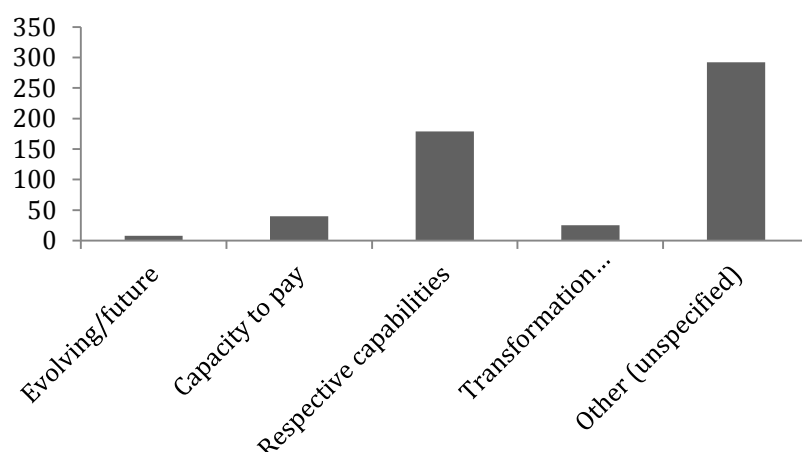


Figure 4.3. Distribution of capability-based equity principles

The rest of the references are to future/evolving capability, capacity to pay and transformation capacity. Of these, the most discussed equity principle in the literature is capacity to pay. Commonly regarded as one of the most fair and feasible principles in the normative literature, it is interesting to note that the principle is in fact very little directly invoked in the negotiations.

4.7.3 Fairness as responsibility

Fairness understood as responsibility is the antithesis of the capability principle. This observation is clearly verified when we look at the parties that are extremes with respect to understanding fairness as responsibility for having caused the problem. The list is dominated by countries that today are moderately capable (except Pakistan), but were not considered to be so at the time of ratification of the Convention. Also, all countries below have very or relatively low historical responsibility for having caused climate change.

	Total references	Responsibility as % of total
Jordan	17	64%
Moldova	11	64%
Brazil	49	61%
LMDC	137	61%
Algeria	30	60%
Pakistan	12	58%
India	50	54%
China	49	53%
Bolivia	47	51%

Table 4.4. Selected parties with high share of references to responsibility

If responsibility is the antithesis to capability, the results above quantify an observed position dimension where countries such as China, India, Bolivia, Brazil and LMDC are found on one side, and extreme capability-parties such as the US, Australia, Russia, New Zealand and Canada on the other.

Interestingly, the parties that understand distributive fairness as *retributive* fairness are those that are also most concerned with fairness. Indeed, this is confirmed when we compare the table above with table 4.2. These parties are also specific in their references. When comparing with the capability references, the parties that refer to responsibility operationalize their allocation rules to a larger degree, and invoke more equity principles than the capability group.

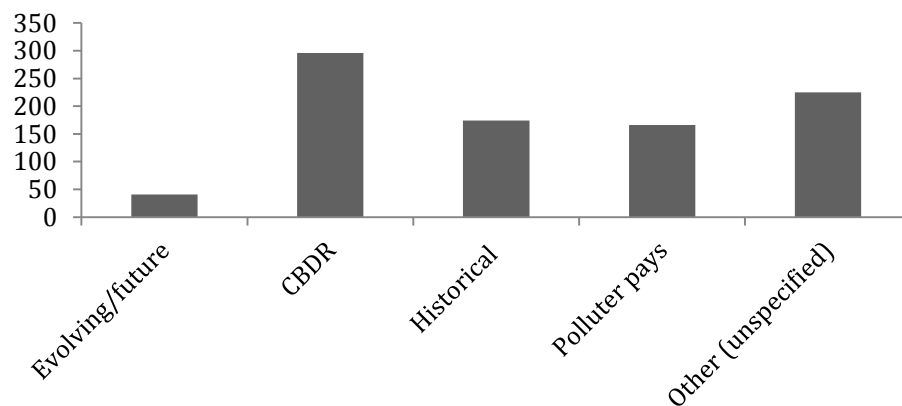


Figure 4.4. Distribution of responsibility-based equity principles

Out of the 902 references to responsibility, 296 are references to the principle of Common But Differentiated Responsibilities (CBDR). Many of these references CBDR are made by more compromise-willing parties that refer to CBDR-RC. Apart from that, the parties that want to retain the strict division between industrialized and developing countries dominate the rest of the CBDR category. They invoke “CBDR” without RC (Respective Capabilities). As Brunée and Streck argued (see chapter 1), developing countries tend to understand CBDR as responsibility for historical emissions. This becomes clear in the distribution below, where we see that historical responsibility is the equity principle that is most invoked after the CBDR.

Historical responsibility is the most radical principle in this category, in the sense that its implementation would induce clear and large-scale mitigation obligations on the countries that industrialized early. Brazil, China and India have been proponents of this principle; and for good reason if we apply the rationalistic perspective. While their current emissions are large, their historical responsibilities are comparatively low. The historical responsibility principle would induce large mitigation burdens for countries such as the USA and EU.

More moderate is the polluter-pays principle, stating that mitigation obligations should be inversely proportional to current emissions. Polluter-pays is a more moderate operationalization of the responsibility norm than for example historical responsibility. The idea that current polluters must pay is a commonly accepted notion in the negotiations, also among many Annex I countries.

4.7.4 Fairness as rights

The third understanding is fairness as rights (needs). This category is broader than the two previous ones. It includes: the right to sustainable development, an equal right to pollution, the right to or need for exemption from obligations or the right to prioritize poverty eradication or socio-economic development above mitigation measures like the early industrializers once were.

Below is a list of the parties that conceive fairness as rights or needs. Again, the common characteristic here is that all countries are Non-Annex I. Apart from that, the list below seems to be dominated by states that have low values of political freedom. Only Ghana and India qualify as (reasonably) free countries, according to Freedom House. Unfree countries, thus, seem to be particularly concerned with their rights to continue development and prioritize poverty eradication above mitigation measures. The parties in this category are among the most rhetorically vocal.

	Total references	Rights as % of total
Saudi Arabia	11	45%
Ghana	7	43%
Papua N. Guinea	12	42%
Cuba	21	38%
Ethiopia	14	36%
Ecuador	20	35%
Algeria	30	30%
India	50	30%
LMDC	137	30%
Moldova	11	27%
Bolivia	47	26%

Table 4.5. Selected parties with high share of references to rights

As indicated, the principles of this category are many and of diverse character. The most invoked principle is the right to (socio-economic) development, stating that all countries should be allowed to follow a development – and, therefore, greenhouse gas emissions – trajectory similar to the countries that developed early. In other words: the developed countries must undertake mitigation measure to such a large extent that a sufficiently large enough chunk of the carbon budget is left to the still developing countries. This is a standpoint that has been promoted by

India, among others.⁴⁰ Another (in-) famous actor in this group is Saudi Arabia, who tends to underline its continued right to emit greenhouse gases.

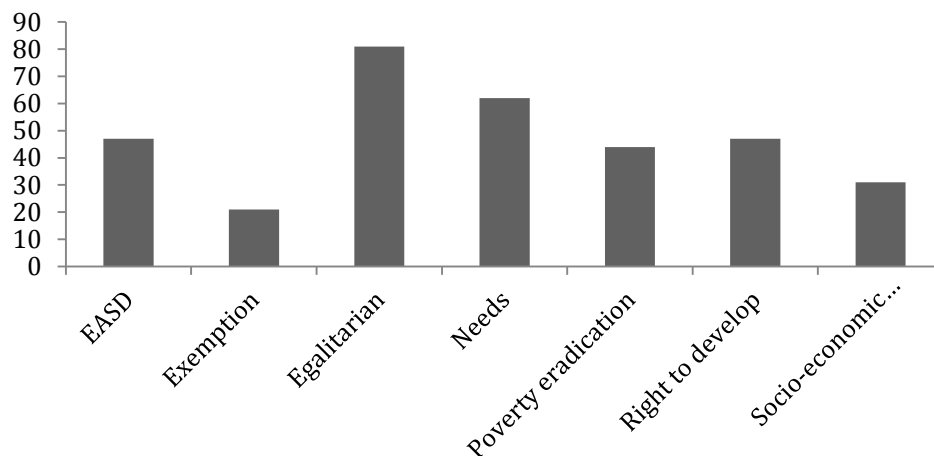


Figure 4.5. Distribution of rights-based equity principles

The second most invoked rights principle is the egalitarian principle, which states that each person has an equal right to pollute the atmosphere: mitigation burdens should be based on an equal emissions per capita approach. All countries in this category except Saudi Arabia have relatively low emissions per capita.

A last point concerning the parties of this category is that they do not solely and exclusively invoke the rights principles. High numbers of references to rights are always combined with relatively high numbers of references to responsibility (and, in rare cases, capability). I argue that the combination of high numbers of references to rights and responsibility is the most extreme opposite to the extremes of the capability group such as the USA and Australia. The responsibility group is thus more moderate when it is combined with capability, and more extreme when combined with rights. I now turn to discuss the “moderate” parties that seem to support both capability and responsibility.

⁴⁰ See for example Financial Times (30.11.15), wherein Indian Prime Minister Modi specifically argues that India has a right to pollute. COP21 Paris climate talks: Modi tells rich nations to do their duty. COP21 Paris climate talks: Modi tells rich nations to do their duty

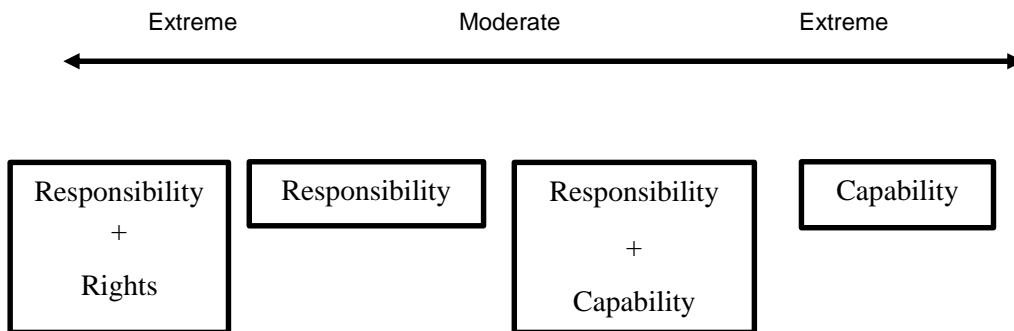


Figure 4.6. The fairness dimension in the climate negotiations

4.8 “Lediators” and LDCs: Value-adding compromisers?

A number of parties distribute their references more or less equally to both capability and responsibility, and some also for rights. This can be interpreted as an attempt at promoting the attainment of goals that are not in fundamental conflict with one another, or what John Odell calls “value-creating” behaviour (Odell 2000: 33).

Interestingly, the Environmental Integrity Group (EIG) and the EU have similar fairness profiles. This finding corresponds well with the perception of these parties as moderate “value-creators” in the negotiations. The EU is often referred to as the “lediator” of the negotiations, (Elgström and Skovgaard 2014), whilst the EIG is the only negotiation group that consists of parties from both sides of the “firewall”. A general conception is that both are moderately positioned “compromise-makers”. For this reason, it is interesting to note that these parties also seem to attach equal importance to capability and responsibility. More specifically, these countries tend to invoke the CBDR-RC principle, (CBDR *and Respective Capabilities*). This is an acknowledgement of non-Annex I countries’ claims about responsibility, while arguing that capability to solve the problem is also relevant.

The EU and EIG attach relatively less importance to rights than the two other principles. This is perhaps because the rights umbrella entails more radical consequences, and is thus a more polarising principle than the two others. In general, Annex I countries refer very little to the rights category. The Least Developed Countries (LDC), a compilation of the most vulnerable and least capable of all the parties, places equal importance to all three principles. This certainly places them in the category of compromise-makers. It makes sense that these countries are concerned with creating common ground to proceed on, since they are most vulnerable countries along with the Alliance of Small Island states (AOSIS). The invocation of rights by these countries it is rather a question of a *right to survive* rather than a right to emit.

Parties such as EU, EIG, LDC and AOSIS, but also the Latin American group AILAC, might therefore be seen as “constructive” parties in the negotiations according to the analysis. It is interesting to note, therefore, that it was these “constructive” parties that were at the core of the “High Ambition Coalition” in the COP21 Paris negotiations. This is an illustrating example of how the positions outlined in the negotiation documents reflect realities of the negotiations. What is also interesting is that what this analysis suggested would be ambitious and cooperating

parties also turned out so be so. This gives (modest) support to the reliability of analysing positioning documents to predict negotiation outcomes.

4.9 Key actors' clashing fairness conceptions

A robust finding in the literature is that most, or preferably all, key actors must participate in any meaningful agreement in terms of effectiveness. The Achilles heel of the Kyoto protocol, for example, was its non-ratification by the US. The key actors in table 4.6 are responsible for over 70 % of the world's greenhouse gas emissions: their positions in the negotiations are thus of greatest importance with regards to the prospects of securing a robust and effective agreement.

Two things are quite clear in the table of key actors. Firstly, there are many more or less "moderate" parties. The African group, AILAC, AOSIS, Brazil, Canada, EU, EIG, Indonesia, Japan, Norway and New Zealand all seem to be more or less constructive parties in the sense that they show support for more than one principle. This is good news with respect to reaching an agreement.

	Capability (1)	Responsibility (2)	Rights (3)	Negotiation Group	Preferred principle(s)
African g.	10	21	10		2
AILAC	37	37	10		1, 2
AOSIS	5	11	2		2
Australia	15	3	0	Umbrella	1
Brazil	11	30	8		2
Canada	4	3	0	Umbrella	1, 2
China	12	26	11	LMDC, G77	2
EIG	27	22	1		1, 2
EU	64	64	7		1, 2
Japan	5	4	3	Umbrella	
India	8	27	15	LMDC, G77	2
Indonesia	0	0	0	G77	
LDC	14	13	13		1, 2, 3
LMDC	13	83	41		2, 3
N. Zealand	8	8	0	Umbrella	1, 2
Norway	8	5	2	Umbrella	1, 2
Russia	3	1	0	Umbrella	1
USA	19	4	1	Umbrella	1

Table 4.6. Results for key actors

The bad news, however, is that the poles of the key actors seem to be far away from finding any middle ground. The analysis suggests that finding compromise between Australia, USA and Russia on one side, and LMDC, China and India on the other can prove to be a very

5 Why is it Fair? An Analysis of Fairness Determinants

States provide legal or moral justifications for their actions,
no matter how transparently self-interested their actions are.

Their legal or moral justifications cleave to their interests,
and so when interests change, so do the rationalizations.

Jack Goldsmith and Eric Posner

Outline

The previous chapter demonstrated that the parties in the negotiations have differing conceptions of fairness, and argued that this constitutes an obstacle for reaching consensus. The next question to be analysed is why the parties have differing fairness conceptions. Based on the model outlined in chapter 3, this chapter uses regression analysis to investigate which country characteristics that affect what fairness principles the parties invoke and prefer. Different types of regression models suggest different types of answers to the question; the hypotheses laid out in chapter 3 find only moderate support.

5.1 Variables in regression analysis

The results of the content analysis are counts of how many times all the different parties invoke the fairness principles. Assuming that the parties are expressing their underlying motives through the argumentation in the position documents, the counts illustrate the parties' fairness conceptions. This chapter seeks to explain which characteristics that lead the countries to differ in their fairness conceptions. By using regression analysis, the chapter investigates the effect of a set of country characteristics on both the probability of advocating the specific fairness principles and the probability of referring to fairness at all.

In chapter 3, I discussed which variables that should be included for explaining how fairness conceptions in the negotiations are formed, and defined a set of hypotheses that summed up the main expectations of how the variables would behave. In order to bring these hypotheses to the test, I create a dataset where I include values on the relevant variables for all the countries that have submitted a position document in the negotiations in the period 2011-2015, and fit several regression models on these data.

The counts for how many times each party invoked the three fairness principles constitute the dependent variables of the regression analysis. I also include a sum variable, which is the count of total number of invocations a given party has made to the fairness principles. This amounts to four dependent variables, which are all counts. Values for the independent variables outlined in the model of chapter 3 are gathered from several secondary sources. Table 5.1 below provides a list of the variables included in the dataset, and explanations of how they are operationalized in the regression analysis.

Variable name	Operationalization	Data source
Responsibility	Number of references made to "responsibility"	Content analysis
Capability	Number of references made to "capability"	Content analysis
Rights	Number of references made to "rights"	Content analysis
Sum	Total number of fairness references	Content analysis
Current emissions	Fossil fuels emissions per capita (2013)	Global Carbon Project
Historical emissions	Cum. CO ₂ emissions per capita (1850-1990)	WRI
Capacity to pay	GDP per capita (US\$, 2013)	World Bank
Annex I member	0=No, 1=Yes	UNFCCC
Petroleum rent	Sum of coal, gas and oil rent as % of GDP	World Bank
Form of governance	0 = Unfree, 1=Free	Freedom House

Table 5.1. Variables in regression analysis

5.2 Modelling counts

As mentioned, the dependent variables are all counts of fairness references. Since counts are always non-negative integers, the variables are all integers that are constrained from below (by zero) and unconstrained from above, causing severe skewness in distributions (see figure 5.1). The question is: how should such variables be modelled in regression analysis?

Variables that count occurrences of events are common in political science. Even so, the political science literature seems to have established no common standard on how to deal with such variables.

The standard, and most straightforward, procedure in the literature is to treat count variables as continuous, and apply the ordinary least squares regression model (OLS). The OLS model assumes a linear relationship between the independent variable X and dependent variable Y , plus a random disturbance term E . It is assumed in OLS that E follows a Gaussian (normal) distribution. Despite the obvious simplicity advantages of the OLS method, this model is often not the optimal solution for count data. OLS regression analysis of counts can result in *inefficient*, *inconsistent* and *biased* estimates (Benoit 1996; King 1989; Long 1997: 217).

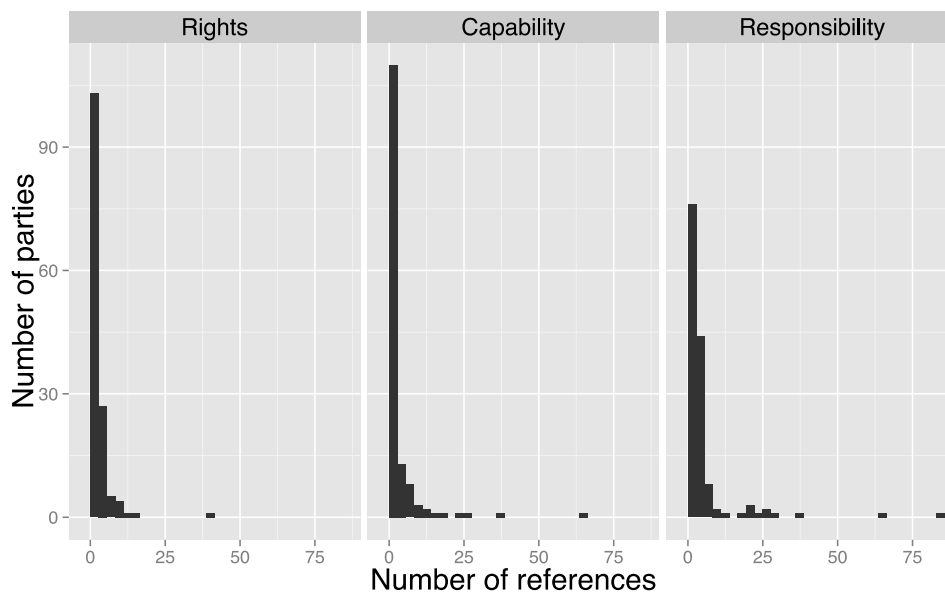


Figure 5.1. Distributions of dependent variables

There are two main reasons for this. Firstly, count data are always non-negative integers, and, secondly, they often consist of (relatively) high numbers of zero counts. These two characteristics of count data violate common assumptions of OLS. OLS assumes normal distribution of the errors; but, since observations are only nonnegative and discrete, this is often not the case with count data. What is more, the fundamental assumption in OLS is that the data are linear with respect to the predictors. When they are not, the standard approach is to log-transform the dependent variable. This may work in many applications, but for count data this can be problematic. Since there are many zero counts, and the log of zero is indefinable, the result will be a substantial amount of missing data. If missing values are not imputed, this

operation will bias the estimates severely. Imputing missing data with a given value, say, 1, for example, would also severely affect the results, since, in this study, a difference between 0 and 1 count on a variable is not arbitrary. But, disregarding this, even if one log-transforms the dependent variable and imputes missing data, the model still performs poorly, except in cases where dispersion is small and means are large (O'Hara and Kotze 2010), a condition which is clearly not fulfilled in this study:

Statistic	N	Mean	St. Dev.	Min	Max
Rights	142	2.254	4.208	0	41
Capability	142	2.803	7.296	0	64
Responsibility	142	5.035	10.289	0	83
Sum	142	10.092	19.532	0	137
GDP/Capita*	137	3.587	0.578	2.407	4.988
Annex I	142	0.092	0.289	0	1
FH: Free	139	0.532	0.501	0	1
Historical emissions*	140	0.004	0.006	0.000	0.036
Current emissions*	141	0.0001	0.0002	0.000	0.001
Petroleum rent	137	5.479	11.710	0.000	55.134

*Log-transformed

Table 5.2. Descriptive statistics

The problems of OLS become most germane when the observed counts are small. The results can be parameter estimates and standard errors that are not meaningful, since the predictions of the model for event occurrences no longer make sense (Benoit 1996: 641). An example of such a meaningless OLS prediction could be a negative count.

5.3 The generalized linear model

The discussion above showed that estimating count data with OLS is problematic. To correct for the issues described, it is necessary to transform the error distribution and the functional form of OLS - and thereby replace its normality and linearity assumptions (Long 1997). Instead of overly trying to correct for wrong assumptions about the distribution of variables and their errors, I instead specify a function that relies on the mean of the response variable Y_i . *Generalized linear models* (GLMs) provide a unified method for doing this (Fitzmaurice, Laird and Ware 2004).

A GLM consists of three components: the random component, the linear predictor, and the link function. The random component specifies the likelihood to observe a value on the dependent variable Y_i given the parameters of the distribution. In GLMs, the distribution of Y_i

is a member of the exponential family,⁴¹ and the mean response is related to covariates through a linear predictor and a link function (Fox 2008: 379). Once we have specified this distribution, we have specified the particular GLM we want, and thus also the form of the mean and the variance of the data.

The linear predictor incorporates the information about the independent variables into the model through a simple linear function of regressors.⁴² The third component of the GLM is the link function. The link function transforms the expectation of the response variable $U_i = E(Y_i)$ to the linear predictor. This is done the same way as in the OLS, but in the GLM the coefficients we obtain are on the scale of the linear predictor.

In this analysis, I fit three GLM models. The first model is a special case of the *Poisson model*, called the *negative binomial*. The second is a *gamma* model, and the third a *beta* model. The difference between these three is the exponential dispersion family they assume. While the negative binomial assumes a combination of Poisson and gamma distribution, the gamma model assumes that the dependent variable is gamma distributed, and the beta model assumes the beta distribution.

In the following, I describe four regression models and apply three of them to my data. I first discuss the Poisson model, because the negative binomial is a specification of the Poisson. I outline why the Poisson model does not work in the case of this study, and explain the mean features of the negative binomial model. Subsequently, I present the general properties of the gamma model.

5.4 The Poisson model

The standard GLM for modelling count data is the Poisson model. The model describes the probability that an event occurs λ times, given a set of assumptions. If Y is the count of a random event, and λ the mean of the count, Y follows a Poisson distribution with parameter $\lambda > 0$ if:

$$\Pr(Y | \lambda) = \frac{\exp(-\lambda)\lambda^y}{y!} \quad \{1.0\}$$

Where $y!$ is a non-negative integer (0, 1, 2, ...). As λ increases, the distribution shifts to the right, and for high values of λ , the distribution approaches the Gaussian (normal), meaning that as λ increases, the probability of 0's decreases. The defining characteristic of the Poisson distribution

⁴¹ Examples are Gaussian (normal), binomial, Poisson and gamma

⁴² For example: $g(\mu_i) = X_i\beta$

is that it assumes that the conditional expected mean of the outcome is *equal* to the conditional variance:

$$E(Y_i) = \text{Var}(Y_i) = \lambda \quad \{1.1\}$$

A distribution in which the conditional mean is equal to the conditional variance is said to be *equidispersed*. In the Poisson regression model, the number of events Y follows a Poisson distribution with a conditional mean that depends on an individual unit's characteristics $X_i\beta$ according to the model:

$$\lambda_i = E(Y_i|X_i) = \exp(X_i\beta) \quad \{1.2\}$$

Introducing the exponential of the $X_i\beta$ as a link function forces the expected count to be positive, a necessary condition since counts always are non-negative integers. The relationship between a given count Y and an independent variable X is given by:

$$\Pr(Y|X_i) = \frac{\exp(-\lambda_i)\lambda_i^Y}{Y_i!} \quad \{1.3\}$$

The most fundamental assumption of the Poisson model is equidispersion. In most practical applications, however, the conditional variance of the analysed dependent variable is larger than the conditional mean. This condition, called overdispersion, is often related to the dependence of events (“positive contagion”). I test for overdispersion, and conclude that the dependent variables of this analysis are indeed overdispersed.⁴³ This can probably be explained by heterogeneity: for a given value of the predictor X_i , the mean still varies due to the values of unobserved covariates (Bernton 2016). Whenever the dependent variable is overdispersed, the Poisson model will still often provide a better description of the data than OLS, but the estimates will be inefficient. More specifically, the standard error will be biased downwards, resulting in spuriously large z-values and, consequentially, overconfidence in the significance level of the variables (Long 1997: 230). The standard Poisson model is therefore not the optimal model to use.

⁴³ One-tailed hypothesis test: $H_0 = \text{equidispersion}$.

5.5 The negative binomial regression model

The common solution to the violation of the equidispersion assumption is to select a model that allows greater variance than the Poisson distribution. The *negative binomial* (NB) regression model is an extension of the Poisson model, developed by King (1989), which aims to tackle the overdispersion issue. It does so by allowing the variance of Y to exceed the conditional mean.

The NB regression model assumes that the count Y_i follows a Poisson distribution, but treats the expected count λ as an unobservable random variable that follows a gamma distribution (Benoit 1996: 643; King 1989: 767). In other words, we assume that how the sources of overdispersion influence the mean can be described by a gamma distribution. Changing the expected value of Y_i to a random variable introduces additional variation among observed counts for observations that share the same values of the independent variables (Fox 2008: 392). It also introduces the dispersion parameter θ (theta), and assumes that θ is also gamma distributed. θ acts as a scaling factor, letting the variance exceed the mean. The dispersion parameter θ is assumed to be constant for all observations. The relationship between $E(Y_i)$ and the covariate matrix X is identical to the exponential form normally used in the Poisson regression model:

$$E(Y_i) = \lambda_i = \exp(X_i \beta), \text{ where } \lambda_i > 0 \quad \{1.4\}$$

The overdispersion is estimated by θ , where:

$$V(Y_i) = \theta E(Y_i), \text{ for } \theta > 1. \quad \{1.5\}$$

5.6 Regression analysis of fairness counts

I use the NB model to predict the counts for the three fairness principles and the sum variable. Formally put, I consider each country in the negotiations to be a unit of analysis, and denote the data for unit i (out of $n = 131$ units) by y_i . y_i is a three-dimensional vector containing counts in three different categories: $y_i = (y_{i1}, y_{i2}, y_{i3})$. Each country has a set of $d = 6$ measured covariates, summarized in the vector X_i . I begin by modelling the data $\{y_{ij}\}_{i=1}^n$ with three different negative binomial GLMs. Table 5.3 gives an overview of the results.

The table shows four NB regression models, one for each of the dependent variables (including a sum variable). A robust finding across the models seems to be that (1) GDP, (2) current emissions and (3) whether a country is classified as “free” are the most important variables for predicting the number of times a country will refer to the principles. What is more, the effects of these predictors have the same direction on all the principles. GDP has a positive effect on all the principles, current emissions a negative effect, and being classified as free also a negative effect. Additionally, the interaction variable between freedom and petroleum rent is a significant predictor across the models: higher petroleum rent in free countries leads to more references to all principles.

The findings in the first four models give reasonable support to the hypotheses laid out in chapter 3. GDP leads to an increase in probability of referring to responsibility, while current emissions and Annex I have negative effects. These findings are all in line with the self-interest based model. However, the model did not predict that being free has a negative effect on responsibility. The interaction effect between petroleum rent and the freedom house dummy behaves as expected.

H₃ predicted that *GDP decreases probability of supporting the capability principle*. However, model 2 shows that GDP has the opposite effect. Additionally, petroleum rent has a negative effect in general, but a positive effect in free countries. This means, interestingly, that petroleum rent has a different effect on propensity to refer to capability under different forms of governance.

	Dependent variable:			
	Responsibility (1)	Capability (2)	Rights (3)	Sum (4)
Constant	-2.652*** (0.917)	-4.542*** (1.337)	-1.360 (1.045)	-1.598 [*] (0.851)
GDP/capita	1.353*** (0.288)	1.589*** (0.417)	0.775** (0.329)	1.216*** (0.268)
Current emissions	-92.500*** (29.763)	-63.433 (41.536)	-84.261** (34.106)	-71.927*** (27.433)
Historical emissions	-1.317 (1.965)	-3.797 (6.254)	-5.680 (7.367)	-2.241 (1.950)
Annex I	-0.786 [*] (0.421)	0.299 (0.563)	-0.833 (0.521)	-0.285 (0.390)
FH: Free	-0.573** (0.254)	-0.474 (0.369)	-0.675** (0.291)	-0.530** (0.240)
Petroleum rent	-0.013 (0.012)	-0.031 [*] (0.018)	0.007 (0.013)	-0.013 (0.011)
FH:Free * Petroleum rent	0.059** (0.029)	0.084** (0.041)	0.050 (0.034)	0.057** (0.028)
Observations	131	131	131	131
Log Likelihood	-339.491	-241.078	-257.930	-423.643
θ (Theta)	0.978*** (0.140)	0.494*** (0.092)	0.841*** (0.157)	0.983*** (0.127)
Akaike Inf. Crit.	694.982	498.155	531.860	863.286

Note: *p<0.1; **p<0.05; ***p<0.01

Table 5.3. Negative binomial regression analysis of fairness principle counts

Model 3 is very similar to model 1. In other words, the determinants of probability of referring to responsibility and rights/needs are similar. This is in line with the “fairness dimension” established in the findings from the content analysis: rights/needs is first and foremost a complementary principle to responsibility. As expected in the hypotheses, democracy (“FH: Free”) decreases probability of supporting rights/needs, and the effect of petroleum rent increases in free countries. However, petroleum rent in itself is not a statistically significant predictor.

The last model shows which variables have an effect on total number of fairness references. The model is strikingly similar to the three others. GDP, current emissions, degree of freedom and the interaction between freedom and petroleum rent affect the number of fairness references a country makes. Large emitters and unfree countries are less concerned with fairness than others; while countries with high GDP and free countries with high petroleum rent are more likely to refer to fairness principles.

5.7 Raw versus relative counts

The NB regression model performs well for modelling the fairness reference counts. The theoretical weakness of this model, however, lies in the nature of the dependent variables, which are, as discussed, raw counts (numbers of references). Fitting the NB model means, thus, that we measure the probability of a country invoking a given principle compared to not doing so, but not the probability of invoking a principle *relative* to the other principles. The latter question is arguably more theoretically interesting. Obtaining the probability of a country referring to a principle relative to the other principles is achieved by dividing the number of references to a principle by the total number of references. In other words, I transform the raw counts to y_i by the normalization:

$$y_i^* = \frac{y_i}{y_{i1} + y_{i2} + y_{i3}} \quad \{1.6\}$$

The data y_i^* are again stratified across each category, and fitted to the data $\{y_{ij}^*\}_{i=1}^n$.

This operation is not compatible with NB regression, however, as the NB maximum likelihood function can only handle integers. In order to measure the propensity to invoke a fairness principle relative to the two other principles, I use the gamma and beta regression models.

5.8 The gamma and beta models

The gamma and beta models are GLM regression models that assume that the dependent variable is, respectively gamma- and beta distributed. Both the gamma and beta distributions can take on a wide range of shapes, including right-skewed variables such as in our case. The gamma model is used to model positive continuous response variables where the conditional variance of the response grows with the mean, but the variation is held constant (Fox 2008). Like the log-linear OLS, the gamma distribution has a variance function that is proportional to the square of the mean. The beta regression model is commonly used to model variables that assume values in the standard unit interval (0, 1) (Cribari-Neto and Zeileis 2010: 1). It is based

on the assumption that the dependent variable is beta-distributed and that its mean is related to a set of regressors through a linear predictor with unknown coefficients and a link function. The useful property of both the gamma and beta regression models is that they can handle the non-integers that NB model cannot, allowing us to model the transformed data y^* . However, like the log-linear OLS model, the gamma and beta models do not allow zero-values, which are quite numerous in our case. I therefore choose to bound the y^* data to the interval (0,1) by the following transformation⁴⁴:

$$y_i^{**} = \frac{y^*(n-1) + 0.5}{n}$$

This transformation provides two benefits. Firstly, it eliminates the zero values, so gamma regression becomes possible. Secondly, it restricts the y^* values to be compatible with beta regression, which necessitates that the dependent variable is bounded between two known endpoints (0,1) (Smithson and Verkuilen 2006: 56). We are, as in the gamma model, also assuming constant variance in the beta model; I set this variance to 0,5.

5.9 Regression analysis of fairness conceptions

I run gamma and beta regression models with the three fairness principles as dependent variables. In these three models, the dependent variables are proportions: how many times a party refers to a given principle divided by its total fairness references.

Goodness of fit tests indicate that the gamma model is a better approximation for the responsibility and capability variables, while the rights variable is better described by a beta model.

Interestingly, the results are quite different from the NB regression model. The variables that lead to an increase in number of references to the various principles are not the same variables that lead to differing fairness conceptions. In the fairness conception model, membership of Annex is the variable that most clearly matters across all models. As expected, Annex I membership has a negative effect on the propensity to prefer responsibility and rights, and positive effect on capability. This confirms that the fairness dimension discussed earlier is a valid illustration of actual disagreements. Interesting to note is also the difference in strength of the Annex I variable on responsibility and rights principle. The coefficient is stronger for the rights

⁴⁴ I thank Zoltán Fazekas for helping me formulate and apply this transformation, which draws on Smithson and Verkuilen (2006).

principle, which confirms both that rights is a more extreme principle than responsibility, and that the rights principle is located on the opposite extreme of capability.

Dependent variable:

	Responsibility/Sum	Capability/Sum	Rights/Sum
	(1)	(2)	(3)
Model:	<i>Gamma</i>	<i>Gamma</i>	<i>Beta</i>
Constant	-0.982** (0.405)	-2.386** (0.943)	-1.239 (0.875)
GDP	0.097 (0.128)	0.159 (0.298)	0.158 (0.276)
Current emissions	-20.042 (13.247)	-3.848 (30.830)	-22.785 (28.365)
Historical emissions	1.004 (0.742)	-5.154*** (1.726)	-1.848 (1.365)
Annex I	-0.573*** (0.191)	0.993** (0.444)	-0.705* (0.407)
FH: Free	0.058 (0.115)	-0.088 (0.269)	-0.398 (0.250)
Petroleum rent	-0.006 (0.005)	0.006 (0.013)	0.009 (0.012)
FH: Free * Petroleum rent	0.007 (0.013)	0.040 (0.031)	-0.08 (0.029)
Observations	131	131	131
Log Likelihood	-33.576	134.395	89.008
Akaike Inf. Crit.	83.152	-252.790	-136.911
R²			0.100

Note: *p<0.1; **p<0.05; ***p<0.01

Table 5.4. Gamma- and beta regression analysis of fairness conceptions

5.10 Why is it fair? Results of regression analyses

In an attempt at understanding which factors that lead parties to refer to, and prefer, the different fairness principles, I fit seven different regression models. There are two categories of models; those that have the raw counts of fairness norms as dependent variable, and those that have the relative counts.

The models that predicted raw counts show moderate support for the set of hypotheses laid out in chapter 3. Current emissions and Annex I membership have negative effects on the *responsibility* principle; unfree countries are more likely to refer to *rights* than free ones; petroleum rent has an effect only in free countries. However, there are also some contra-intuitive findings with regards to the self-interest based explanation, for example that GDP leads to increased probability of referring to *capability*.

Contrary to expectations, the coefficients often have the same directional effects on different variables. One reason is that references to all principles covariate: references to responsibility is quite strongly correlated with references to capability, for example. The NB model predicts raw counts; it does not necessarily explain why parties disagree on the fairness dimension, which is rather a question of which fairness conceptions they are under.

Nevertheless, an interesting finding from the raw counts models is which factors that lead to increasing number of fairness references, or, in other words, *for whom fairness is most important*. GDP per capita and petroleum rent *in free countries* are factors that lead states to be more concerned about fairness, while current greenhouse gas emissions and political freedom have the opposite effect.⁴⁵

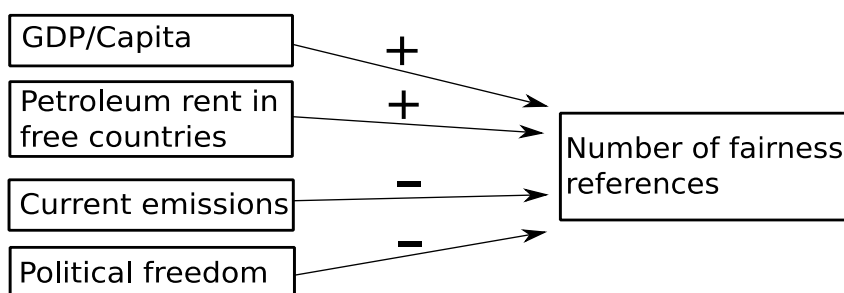


Figure 5.2. Determinants of fairness counts

I use gamma and beta regression to analyse the determinants of fairness conceptions. The most consistent and vigorous factor in determining fairness conceptions is Annex membership. In other words, the “firewall” between the two groups of countries is in itself the most important factor for determining which fairness principle the parties prefer in relation to the two other principles. This finding can indicate that institutionalized groupings matter more than strict calculations of benefits for determining fairness conceptions of parties. This is interesting because it stands in contrast to “common wisdom” from both the climate negotiations literature and negotiations literature in general, which often tends to assume that fairness references are mirroring (economic) self-interest. However, the finding corresponds well with newer empirical research.⁴⁶

The figures below (figures 5.3 and 5.4) are visualisations of fairness conceptions. They show the density of parties and the proportionally strong or weak support for the responsibility- and capability principles. The figures clearly illustrate the effect of the firewall. Non-Annex I parties (appearing in dark grey) have a stronger preference for the responsibility principle than Annex

⁴⁵ Since this thesis is about differing conceptions of fairness, I leave explanations of why fairness matters more to some than others, and the potential consequences of this, to future research.

⁴⁶ Most notably Castro et al (2011).

I parties (light blue), while the capability principle enjoys much stronger support from Annex I parties. As we also saw in the content analysis, the capability principle is more of an Annex I principle than responsibility is non-Annex I, since many Annex I countries also tend to support some degree of responsibility.

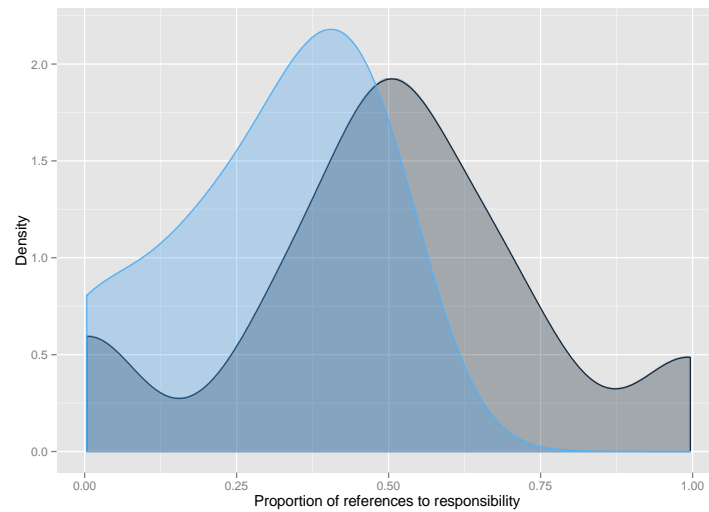


Figure 5.3. "Responsibility" as fairness conception

Note: Annex I = light blue, non-Annex I = grey

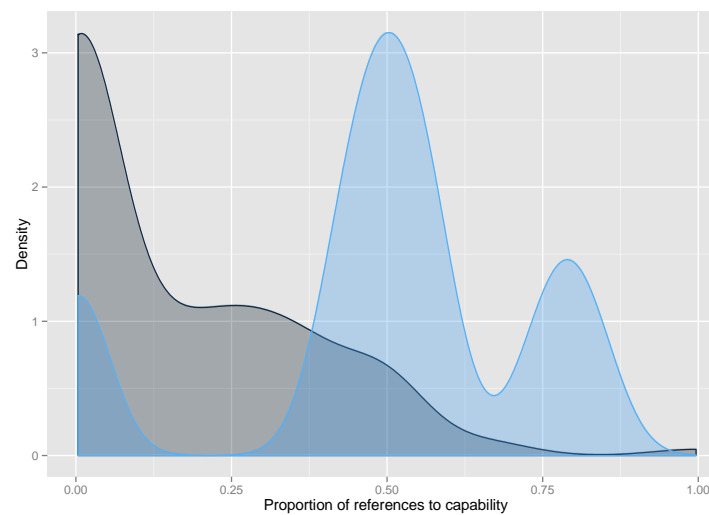


Figure 5.4. "Capability" as fairness conception

Note: Annex I = light blue, non-Annex I = grey

In addition to the Annex variable, historical emissions is also a significant predictor. From the self-interest perspective, it seems rather contra-intuitive that this variable should have a negative effect on the capability principle; the expectation was that historic emissions should have a positive effect on this principle, since if a big historical emitter would want to avoid taking on costs for its responsibility for having caused the problem, he should prefer capability. Two explanations of this effect seem reasonable. Firstly, the historical emissions variable is strongly associated with capacity to pay: GDP growth and GHG emissions have historically been strongly coupled. Secondly, there is the firewall effect, again. Capability is an Annex I principle, but there are many large historical emitters among the non-Annex I parties. It is likely that the references of these parties, some of which are very vocal, are having an effect.

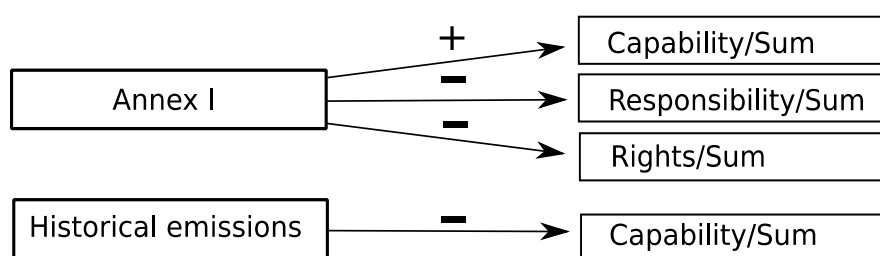


Figure 5.5. Determinants of fairness conceptions

Having discussed what predicts the differences in fairness conceptions, it is interesting also to note which variables that have no explanatory power on this matter. The domestic (level 2) variables, a) how free a country is and b) the size of its petroleum rent, have all over *no significant effects* on fairness conceptions. This suggests that either, there are omitted variables on the domestic level that could have explanatory power, *or* that Putnam's two-level games is not relevant for explaining why countries have differing fairness conceptions. However, (1) the degree of freedom in a country, and (2) the interaction effect between petroleum rent and freedom, do have effects on number of raw references to the fairness principles; so there are certainly some dynamics between the domestic and international levels in the negotiations.

6 A Theory of Fairness in the Climate Negotiations

Once [men] have assigned some meaning to [a] situation,
their consequent behaviour [...] is determined by the ascribed meaning

- Robert K. Merton

Outline

The previous chapter showed that, while several factors affect which, and how many, fairness principles a given party in the negotiations is inclined to invoke, its fairness *conceptions* are largely determined by whether the party in question is classified as “developed” or “developing” in the UN Framework Convention on Climate Change. This sixth and final chapter discusses these findings in light of the recently adopted Paris agreement, and proposes a theory that explains how fairness conceptions are formed and upheld in the climate negotiations. Based on this, it outlines a set of possible future trajectories for the climate regime. Finally, it draws some concluding remarks.

6.1 A conflict of focal points

A year before the Paris agreement was to be negotiated, China asserted in one of its position documents that it would only accept an agreement that was “based and built on the structure and provisions of the Convention, in particular [...] the Annexes, as well as the differentiation between developed and developing country Parties” (China 2014). The United States responded by declaring that it could not “accept a bifurcation from 1992” (USA 2014).

This quarrel was both an illustration of how important the discussed “Annex” variable is, and a manifestation of how the fairness dimension, which has been the main topic of this thesis, is one of the most difficult and decisive conflict lines in the climate negotiations. The ratification of the United Nations Framework Convention on Climate Change in 1992 established an institutionalized and ideational division between “developed” and “developing” countries. The CBDR-RC principle in article 3 of the convention was supposed to create common ground, but instead divaricated the parties into two groups: those that conceived the “R” – *responsibility* – as the normative relevant factor for sharing the burden of tackling climate change, and those that preferred the “C” – *capability*.

The fairness dimension of the negotiations “froze” in the beginning of the 1990s, and has been sustained up until the 2015 negotiations in Paris. The parties on each side of the Annex divide sustained the division by upholding their fairness conceptions firmly. We can assume they have done so because they perceived it to be in their interest. However, I have shown in the empirical analysis of this thesis that factors commonly regarded as important to parties’ self-interest on level I in the negotiations – such as historical emissions and capacity to pay – are not what primarily determines which fairness conceptions parties are under. On the contrary, the more “social” factor of whether a country is listed as “Annex I” or not in the convention, that is, whether it is regarded as “developed” or “developing” is what matters most for what the parties see as fair. In the following paragraphs, I suggest an explanation of how fairness conceptions are formed and upheld, which can be helpful for understanding why this variable has been so significant.

Earlier in this thesis, I presented the idea that the climate negotiations might converge on certain fairness principles as time passes on. Scott Barrett - based on the “marketplace of ideas” argument - suggested that multilateral negotiations tend to converge toward an “ethical focal point” over their course. The findings of chapter 4 in this thesis, which analysed the usage of fairness principles, indicate that this seems not to have happened for the climate negotiations. If the parties of the climate negotiations were indeed converging towards an ethical focal point, we can reasonably expect that they would still be pursuing a more formulaic approach to fairness in the negotiations. Instead, the Paris framework is one of self-differentiation, leaving the parties themselves to decide whether their proposals are fair, and why. I suggest that this development has taken place precisely because the negotiations have not converged on a single ethical focal point. On the contrary, the results of this thesis indicate that the negotiations have converged around *different* sets of fairness focal points, as illustrated by figure 6.1.

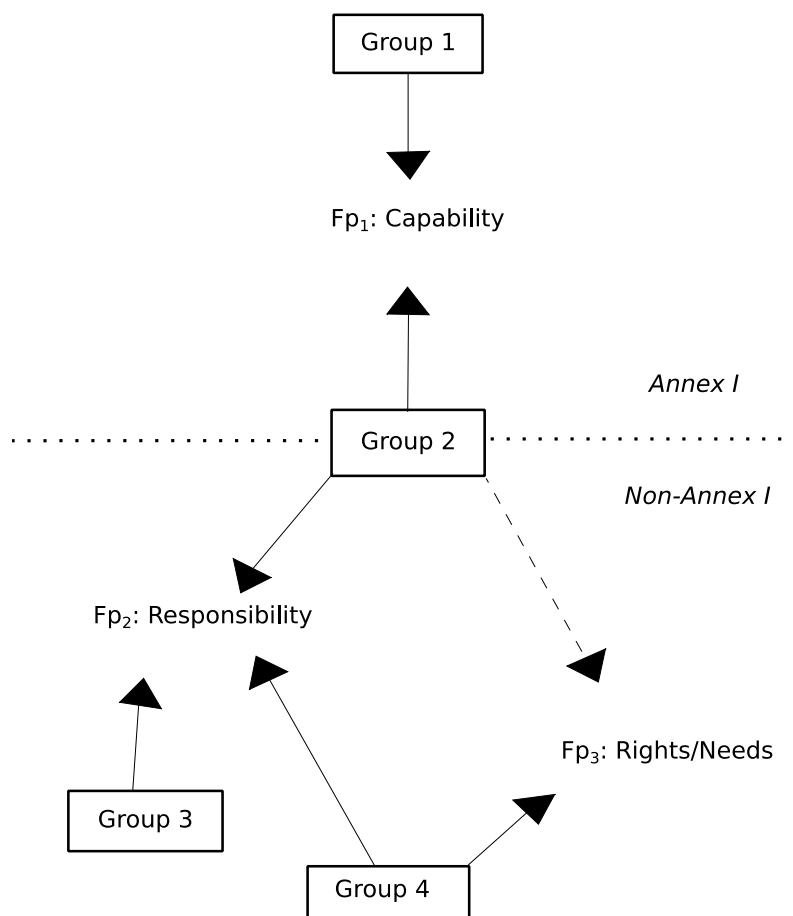


Figure 6.1. Fairness focal points and their supporters

There are three fairness focal points in the negotiations: *capability* (Fp1), *responsibility* (Fp2) and *rights/needs* (Fp3). These are supported by (roughly) four different groups of countries: The capability group (1); the capability/responsibility group (2); the responsibility group (3) and the responsibility/rights group (4). Group 2 is the only group of countries consisting of both Annex I and non-Annex I parties. The extremes on the fairness dimension⁴⁷ are groups 1 and 4, with USA as a member of the former and China of the latter.

If reaching a final agreement based on a common understanding of fairness is the desired end-state of the negotiations, the convergence on differing fairness focal points is clearly a problem. This problem can be identified as an example of what Mintz and Wayne (2016) call *polythink*,

⁴⁷ See chapter 4.

which simply means that the parties have a plurality of opinions, views and perceptions (Mintz and Wayne 2016: 5). Such a plurality naturally leads to greater likelihood of conflict. The negotiations as a whole are an obvious example of polythink resulting from normative differences. So, on the most elementary level, this is a problem of actors having differing normative perceptions of how the problem should be solved. But, on the second level, the fairness positions in the negotiations are, as illustrated above, converging around a set of focal points. So there is convergence, and the convergence can be at least partly explained by negotiation groupings, and especially the Annex division. This dynamic, where members of a social group converge on a fairness focal point, resembles the concept of *groupthink*, which is the mode of thinking wherein a strive for unanimity overrides the group members' motivation to realistically appraise alternative courses of action (Janis 1982). Thus, there are two different forces at work; one of disunity and one of conformity. Whilst polythink is an important concept for understanding why the negotiations as a whole are difficult, I suggest that an important contributor to stalemated positions can be explained by groupthink dynamics around the different fairness focal points.

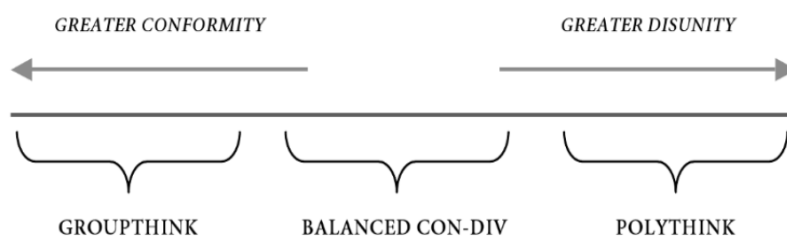


Figure 6.2. Mintz and Wayne's continuum of group-decision dynamics

(Figure adopted from Mintz and Wayne 2016: 7)

The evidence for this is simply that several distinct groups of countries have converged around these three focal points, and adopted similar understandings of fairness. In other words, they have converged around different types of mind-sets, and progressively reinforced their positions over the course of the negotiations. The question is why this convergence on specific fairness conceptions happens.

6.1.1 Coordination and social dynamics

The negotiation literature suggests that cooperation through coordination is important for the development of negotiation positions: members of different negotiation groups align their viewpoints, often seeking to generate leverage (see e.g. Goldsmith and Posner 2005). This dynamic is particularly occurrent in the climate negotiations. An example is the most vulnerable countries. Separately, these countries are not very powerful voices in the negotiations: together, however - when coordinated through the *Least Developed Countries* and the *Alliance of Small Island States* groups - they have a significant voice. Since negotiating as a unified block gives more

leverage in the negotiations, intra-group negotiations that seek to unite the group into a collective position are common. Thus, parties' fairness conceptions in the climate negotiations have often, at least to a certain degree, been pre-negotiated and decided at the group level. Such pre-negotiations or meetings might also lead to dynamics of *socialization* - defined as processes of learning in which norms and ideals are transmitted from one party to another⁴⁸ – which can influence fairness conceptions.

When parties coordinate their positions, weak parties are susceptible of being persuaded by powerful ones to accept and promote a given fairness conception. Such dynamics can lead weak parties to invoke principles that, at least on the face of it, seems to go against their own (narrow) self-interest. An illustrative example of this is the G77 group in the negotiations. Since the G77 is a negotiation coalition that extends to several other areas than climate negotiations, the coalition can coordinate horizontally with its other working areas. Thus, if a (weak) member state wants G77 support in other types of settings, (e.g. trade negotiations) it will have to accept that certain powerful states in the group (such as China) will dictate its views in the climate negotiations: a “take it or leave it” package.⁴⁹ This is one type of persuasion that might lead a party to adopt seemingly contra-intuitive fairness conceptions in the climate negotiations.

We can here distinguish between strategic concessions and pure coercion. A concession can be strategic if the country that is persuaded to adopt a certain view does so because it somehow wants to gain a benefit. For example, less powerful parties might find it acceptable to let more powerful ones speak in their name because of a leverage benefit, but often also because the small states simply lack the diplomatic resources to develop their own strategies. If the climate negotiations are more important to the party in question than the benefit gained, this can be seen as a concession. In this case, the persuasion is by definition coercion. If not, this might simply be seen as a strategic concession that is fully in line with the self-interest theorem, even though it is not necessarily captured by the “self-interest” variables in the regression analysis of this thesis.

6.1.2 Coordinating the collectively rational

This discussion leads us to the question of how reconcilable the “coordination” explanation is with the self-interest based explanation that has been the fundament for analysis of this thesis. It is worth noting that, at face value, it seems clear that parties have not always paid full attention to the operational interpretation of fairness principles⁵⁰ - and are not, therefore, always fully aware of what they can gain or lose by invoking the different principles. To provide an example: why, if sufficient attention was given to the operationalizations of fairness principles, would

⁴⁸ My definition draws on Ikenberry and Kupchan (1990: 289).

⁴⁹ I thank Steffen Kallbekken for pointing this out, and for providing the example.

⁵⁰ As suggested by Underdal and Wei (2015: 36).

China insist on a responsibility-based understanding of fairness, when the operationalizations of capability suggest that China would be obliged to take on a smaller portion of the burden under a capability-based scheme?⁵¹ This dynamic, where parties invoke principles that, if implemented, would imply higher (non-trivial) costs for themselves, is also true for several other parties, such as the EU.

As China and EU are among the most powerful parties of the negotiations, this is seemingly a puzzle that cannot be explained by self-interest based “coordination”. However, it depends on how “self-interest” is understood. It can be argued that, if we want to understand the concept of self-interest properly, we must understand what type of information the parties use for determining their (self-interest based) invocation of fairness principles. Moreover, it has been suggested that information about costs and benefits can only be understood as embedded in the practice the actors are a part of (Adler and Pouliot 2011). Therefore, I suggest we have to return to the capability vs. responsibility conflict and the explanatory force of the “Annex” variable to understand, for example, why China prefers the responsibility principle, EU the capability principle, and, more generally, how self-interest is perceived in the negotiations.

It seems that the coordination dynamic is not only valid within the defined negotiation groups, but also to some extent for the difference in positions on the fairness dimension between “developed” and “developing” countries (Annex I and non-Annex I). That is, Annex I parties coordinate with other Annex I parties, and, likewise, non-Annex I parties with one another. As already discussed, a clearly recurring practice over the negotiation cycle studied is that “developed” countries prefer the capability principle, and “developing” countries the responsibility and rights/needs principles. If we agree to Adler and Pouliot’s (broad) definition of “communities of practice” as “configurations of a domain of knowledge that constitute like-mindedness, and a shared practice that embodies the knowledge the community develops, shares, and maintains” (Adler and Pouliot 2011: 18), I believe it is fruitful to analyse the “developed” and “developing” countries as two different communities of practice in the negotiations: these two groups of countries developed different understandings of fairness – one based on capability, the other on responsibility – and these fairness principles became not only accepted, but an integral part of argumentation and negotiation positions on each side of the firewall.

Now, the question is, how does these “communities”, divided by the Annex variable, affect what parties perceive to be in their self-interest? To understand this, we have to recall that the division between developed and developing countries was in the first place a way to differentiate burdens; having status as “Annex I” was linked to obligation, while “non-Annex I” was linked to exemption. Therefore, it is not surprising that Annex status continues to have an effect on states’ perceived self-interest: the non-Annex I parties want this division to be upheld, in order

⁵¹ See tables 3.1 and 3.2 for the numerical representations of this.

to continue to enjoy the benefits of exemption, while Annex I parties obviously want it removed.

Therefore, if the fundamental goal of non-Annex I parties is to have the division between developing and developed countries sustained, it is collectively rational for them to converge on the same fairness principles, regardless of the “individual” utility the fairness principles invoked might induce. What matters is not that the invocation of all fairness principles can be perfectly “rationally” explained through analyses of costs and benefits (such as that one undertaken in chapter 5 of this thesis), but that the firewall between the two communities is sustained. Consequently, the actors on each side of the firewall follow a “logic of appropriateness”, where their invocation of the specific fairness principles are fixed into regular patterns of performance, and the conflict over fairness focal points remains sustained: this way, the two different “communities” are preserved, and no single ethical focal point is converged upon in the negotiations (Adler and Pouliot 2011: 20; March and Olsen 1989). Here, I believe, lies a key for understanding how the conflicts over fairness focal points (figure 6.1) has been upheld over the duration of the negotiation cycle I have studied.

This explanation is helpful for understanding why what is rational with respect to fairness conceptions in the climate negotiations is not necessarily always what is in parties’ *individual* self-interest, if we understand the concept of self-interest quite narrowly. We have seen, as an example, that the historical emissions variable has a negative effect on propensity to invoke the capability principle. However, even though there are many great emitters in the non-Annex I group, it is *collectively* rational for these countries to invoke the responsibility principle anyway, because this is the way to uphold the firewall that differentiates between “developed” and “developing” countries.

The main point to draw from this discussion is that the references to fairness principles should not be understood in isolation; they are representations of other conflicts as well – especially the fundamental conflict of whether the differentiation between developed and developing countries should be upheld. Self-interest in the climate negotiations is a broader, and more complex concept than only individual costs and benefits of the fairness principles. If we accept this, a number of seemingly contra-intuitive fairness conceptions, as well as the significance of the Annex variable, can be explained as fully compatible with the self-interest theorem – and thus with the definition of justice as rational prudence.

6.2 Fairness and the Paris Agreement

In December 2015, the Ad-Hoc Working Group on the Durban Platform came to a conclusion when the parties reached an agreement in Paris. The new agreement marks a milestone in the UNFCCC process, for several reasons. In the framework of this thesis, the perhaps most significant feature of the new agreement is its bottom-up philosophy, which opens up for broad participation and domestic acceptance for the parties. Since this thesis has analysed the years of negotiations leading up to the Paris agreement as a contestation between fairness principles, the bottom-up feature is notable because it can be interpreted as a realisation that any attempt to differentiate burdens based on the discussed fairness principles is politically infeasible in the negotiations. Thus, the fairness conflict is minimized or removed from the agreement, which leaves differentiation and justification open to the parties themselves.

Laurence Tubiana, French special ambassador and leading figure in the negotiations, calls the negotiations in Paris a matter of “strategic coordination” (Tubiana 2016). According to Tubiana, the idea of the negotiations was not to create a strong regime with legally binding rules and punishment mechanisms, as game-theoretical analyses tend to suggest⁵², but rather, quite simply, to strategically align parties’ objectives into a common framework.

Tubiana’s point is very interesting in light of the explanation provided in the previous section (6.1). The Paris agreement is (so far) a success because it has aligned mind-sets, and created a common framework for knowledge and policy. A theoretical argument of why this was a great achievement can be found if we go back to group-decision dynamics previously discussed. Mintz and Wayne (2016) describe a third possible way of decision-making in addition to groupthink and polythink, which they call “balanced con-div” (see figure 6.2).⁵³ In balanced con-div, the members of a group or organization do not share the same viewpoints and opinions, but have nevertheless succeeded in reaching a common general vision. In the Paris agreement, this common vision is reflected in the points that the parties agree that they are heading towards a fossil-free future, that emissions should peak as quickly as possible, that all should contribute with their best efforts, and so forth. In other words, their general objectives are aligned.

On my interpretation of the agreement, it seems that this alignment of objectives - resulting from “strategic coordination” - ensued in the exclusion of stark formulations of the “Annex” division from the agreement. This is again very interesting, since the analysis showed that whether a country was listed as Annex I or not was the most important factor for explaining fairness conceptions. This might mean that the Paris agreement has removed an important obstacle for convergence towards a single fairness focal point in future rounds, and that, under the “communities of practice” framework, the different communities in the negotiations might be more likely than before to fuse into one. While the years of negotiating up to Paris have been conflictive, the agreement manages to be cooperative by both removing the conflict over core norms and the factor that contributed to this conflict. This will probably have profound consequences for future negotiation rounds.

⁵² See e.g. Hovi et al (2012).

⁵³ “Con-div” is short for convergence and divergence. This is not necessarily different from a regular “compromise” in the classic sense of the word, but it can be - and I argue that the Paris agreement is. The point of con-div is that there is a general shared vision, and the group benefits from a productive decision-making process that ultimately reaches a consensus which lays the basis for “well-formulated policies and actions” (Mintz and Wayne 2016: 7). The difference is thus in the “constructive” or “value-adding” nature of the compromise, which is a requirement that is often not present in a classic compromise.

6.3 The Paris framework in future negotiations

The question is how this removal of obstacles matters, if the type of top-down multilateralism that formed the basis of the Kyoto protocol is *passé*. The top-down approach is seemingly dead in the climate negotiations for now, since the agreement is based on voluntary contributions and does only vaguely address burden-sharing issues between parties.⁵⁴

In the new framework, parties will come up with their own nationally determined climate policy goals every fifth year. It remains to be seen whether this assessment-and-review system, which is essentially an integrated patchwork of national climate policies, will prove sufficient to deal with the problem of climate change. As discussed in the introductory chapter, if only a few countries implement sufficiently effective policies and measures, overall response will prove to be inadequate. Sceptics suspect that there is a gross lack of incentives for governments whose publics are apathetic towards global warming to contribute to the provision of this global public good, especially since the new agreement does not include any punishment mechanisms. Others argue that the agreement is already a great success, particularly because it contains a “progress principle” which should ensure that ambition is continuously improved over time.

In terms of negotiation conflicts under the new framework, there are essentially two alternatives for future negotiation rounds. Either, (1) the nationally determined contributions are accepted by the other parties, or (2) some parties are not content with other parties’ nationally determined contributions.

Obviously, alternative (1) will be a sign that the new approach is a success with regards to political feasibility. There are two possible interpretations of this alternative. First, there is the interpretation that this outcome would be the best we can allow us self to hope for. In the Rawlsian framework, justice means to specify the content of justice to what the different fairness conceptions have in common (Rawls 1999: 5). On the first interpretation, this is exactly what the Paris agreement does, by not operationalizing distributive fairness to something more specific than anyone can accept. Ideally, this will lead to what Underdal and Wei call a “mutual recognition” approach, where a number of different interpretations of fairness are seen as acceptable. In their framework, mutual recognition can be achieved when a small set of fairness principles are accepted as valid and relevant by a critical minimum of participating states, and these principles serve as important premises for the states’ policies and positions (Underdal and Wei 2015: 1). The Paris framework opens for this by outlining a few basic principles (such as CBDR-RC), and demanding that the parties provide justifications for how their nationally determined contributions are “fair and ambitious.”⁵⁵ Ideally, this leads to dynamics of positive

⁵⁴According to Kehoane (1986), the most fundamental requirement for multilateral cooperation to function is that the cooperation is consistent with national sovereignty. Therefore, there is no reason to expect the comeback of the burden-sharing approach anytime soon, as several (key) parties seem to be under the conception that a burden-sharing approach infringes on national sovereignty.

⁵⁵ See United Nations (2015).

reciprocity. The first outcome of alternative (1) is therefore that the Paris agreement leads to a fruitful mutual recognition approach where a flora of accepted fairness interpretations lead parties to undertake ambitious goals. Alternative 1 is therefore both *politically feasible* and *environmentally effective*.⁵⁶

The second interpretation of alternative (1) is a more pessimistic one. The Paris agreement might very well be just, but it is merely so because it is an agreement of the lowest common denominator. If there is no disagreement in the future, it seems that we have to accept the “law of the least ambitious”, stating that achievement will be limited to measures that the least enthusiastic member is willing to undertake (Underdal 1980). In this scenario, the lack of operationalized distributive fairness principles in the agreement means an expansion of the possible settlement range for both good and worse. The progress consists in less conflict, while the downside is weak ambition. On this interpretation, therefore, the Paris agreement leads to weakened significance of climate negotiations and weaker coordination of climate policy at the international level. It is therefore not given that lack of conflict means that the problem can be solved. It is in fact unlikely that alternative (1) is also consistent with the “long-term objective” of limiting warming to 1,5-2°C, since the current national policies limit the warming to around 2,7°C at best.

Alternative (2) could mean that there are still clashing fairness conceptions in the negotiations. If there is disagreement about proposed nationally determined contributions, it is most likely because someone is under the conception that the proportion of the burden that someone else has suggested to carry is not fair. This means that clashing fairness conceptions can be an important factor also in future negotiation rounds. However, with the Annexes removed from the Paris agreement, the results of this thesis suggest that we can expect a whole new set of dynamics, including a re-shuffling of alliances and focal points, in future fairness conflicts of the negotiations. This might lead to a greater convergence on fairness focal points, since “justification lives or dies by its performance” (Colonomos 2008: 161).

6.4 Concluding remarks

Traditionally, realists and liberalists have discussed whether a normative concept such as “fairness” has any place in international relations.⁵⁷ The question of whether “fairness matters” or not in multilateral negotiations continues to be discussed to this day, especially in economics and negotiation literature.⁵⁸ By conducting an empirical study of the climate regime, this thesis

⁵⁶ See van Asselt et al (2016).

⁵⁷ See for example Carr (1942).

⁵⁸ See for example Young (2014).

has attempted to show that the answer to this question is in the affirmative: fairness does matter in multilateral negotiations.

This finding suggests that it is time to move forward. In the “post-ontological era”⁵⁹ of international law and institutions, the central discussion should not be whether concepts such as “fairness” has any significance or relevance – but, rather, *how* fairness matters and *why* reaching fair agreements is often so difficult in multilateral negotiations.

By using a range of methodological and theoretical tools, this thesis conceptualizes, illustrates, measures and explains the role of the fairness dimension in the climate negotiations. The dimension is useful for understanding the negotiations leading up to Paris, the content of the Paris agreement and for outlining a set of general trajectories for the future of the climate regime. For this reason, the approach undertaken can prove to also be useful for describing and understanding other types of multilateral ventures where fairness is thought to matter.

Earlier in this thesis, I argued that there is no such thing as a dichotomy between fairness and self-interest in the climate negotiations. Instead of understanding fairness in the Rawlsian sense - which is the notion of fairness as impartiality - I propose an understanding of fairness as rational prudence. On this interpretation, fairness conceptions are products of self-interest. This understanding of fairness made formal analysis of the drivers of fairness conceptions possible.

The analysis undertaken shows that the rational prudence theory of fairness is powerful for understanding how fairness conceptions are formed. Even though some contra-intuitive findings were presented, and explanations of diverging fairness conceptions were only partially compatible with the simple self-interest hypotheses laid out, this does not mean that the self-interest theory could not explain the invocation of fairness principles. Instead, it indicates that self-interest must be conceived as a broader concept than that which was originally laid out in the theoretical framework.

The fairness conflict of the negotiations must be understood not as a stand-alone issue, but as a coordinated conflict between “developed” and “developing countries, a conflict embedded in the structure of the climate negotiations since the very beginning. The institutionalized division between these countries has been largely responsible for disagreement over fairness in the negotiations. Now that this division seems to be removed, we might have reason to be moderately optimistic when projecting the outcome of future negotiations.

6.5 Epilogue

A general notion in international relations has been that it is mostly constructivism that is interested in how human beings relate to what is “just” or “fair” (Colonomos 2008: 162). However, I have in this thesis attempted to show that this can also be a domain of fruitful

⁵⁹ See Franck (1995).

analysis for rational choice-based theory. This approach was inspired by John Ruggie's answer to his own question of "how the world hangs together" (Ruggie 1998). A motivation was to perform an analysis that could build bridges between the "irreconcilable" approaches of neo-utilitarianism and constructivism.⁶⁰ Hopefully, at least some promising connections between the two have been made clear. I used rational choice theory and quantitative methods to empirically explain the inherently constructivist idea that conceptions of fairness play a role for the outcome of the negotiations, and I drew on insights from several theoretical strands such as neo-utilitarianism, liberalist institutionalism and constructivism to create an *integrative* explanation of the role fairness conceptions play in the negotiations.

In the *Ruggiean* spirit, therefore, I suggest that future research on the climate regime should take a holistic and integrative approach, theoretically and methodologically. Much attention has so far been devoted to neo-utilitarian explanations of Putnam's level I. However, the newly reformed climate regime calls for increased attention toward dynamics of domestic politics, and toward the interplay between the domestic and international levels. Assessing these levels as different parts of one whole, is, I believe, the way to proceed if we seek to better understand the climate negotiations, but also how processes of other multilateral negotiations, or even of international relations in general, "hang" together.

⁶⁰ See Fearon and Wendt (2002) and Ruggie (1998).

7 Literature

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