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Bachelor, Summer Semester 2021

Faculty of Social Sciences
UNSPECIFIED
UNSPECIFIED

Ludwig-Maximilians-Universität München

https://doi.org/10.5282/ubm/epub.77975

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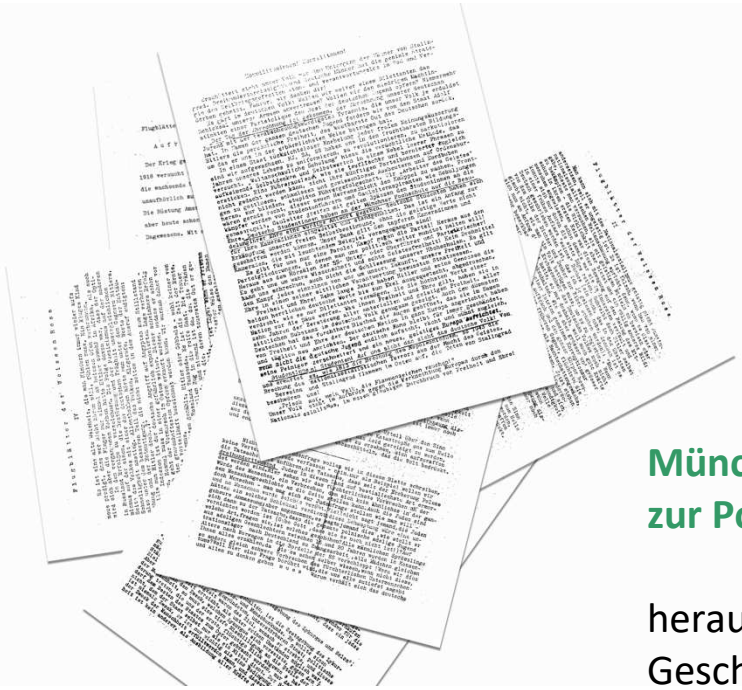

Münchener Beiträge zur Politikwissenschaft

herausgegeben vom
Geschwister-Scholl-Institut
für Politikwissenschaft

2021

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Bachelorarbeit bei
Prof. Dr. Berthold Rittberger
2021

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List of Abbreviations

ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AF	Adaptation Fund
AILAC	Independent Alliance of Latin America and the Caribbean
AOSIS	Alliance of Small Islands States
AWG-LCA	Ad-Hoc Working Group on Long-Term Cooperative Action
BASIC	Brazil, South Africa, India and China group
CAA	Clean Air Act
CGF	Green Climate Fund
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
COP	Conference of the Parties to the UNFCCC
CPP	Clean Power Plan
EMM	Emission Mitigation Mechanism
ENB	Earth Negotiations Bullettin
FM	Financial Mechanism
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LDCF	Least Developed Countries Fund
LDC	Least Developed Countries
LMDC	Like-Minded Developing Countries
NDC	Nationally Determined Contributions
PA	Paris Agreement
RDT	Rational Design Theory
SIDS	Small Island Developing Sates
SSCF	Special Climate Change Fund
TM	Technology Mechanism
UG	Umbrella Group
UN-OHRLLS	United Nations Office of the High Representatives of the Least Developed Countries
UNFCCC	United Framework Convention on Climate Change

Introduction

Since the 1970s, climate change has grown from an issue of interest primarily to natural scientists into a global policy concern (see Bernauer, 2013: 421). After the first World Climate Conference recognized 1979 that "expansion of man's activity on earth may cause significant extended regional and even global changes of climate" (World Meteorological Organisation, 1979: 1-2) several national and international forums began to call for international cooperation. In 1998, the International Panel on Climate Change (IPCC) was created. It was the first official body of the United Nations with the purpose to review and assess scientific information on climate change and develop response strategies for countries worldwide (see IPCC, 1995: VII). In 1992, then, 154 states signed the first United Nations international, multilateral agreement on climate change, namely the United Nations Framework Convention on Climate Change[1] (UNFCCC) with the aim to "prevent dangerous anthropogenic interference with the climate system" (UNFCCC, 2020: 9) and stabilize the concentration of greenhouse gases (GHG) in the atmosphere. The UNFCCC was followed in 1997 by the Kyoto Protocol (KP) and in 2015 the Paris Agreement, which both concretized climate action for single countries.

The creation of these agreements suggests a cross-borders propension to cooperation. However, when compared to other issues of global governance that require international cooperation, climate change has proved to be challenging both in reaching an agreement and obtaining participation (see Bernauer, 2013: 423). The first reason why the climate issue has turned out to be such a challenging affair relates to the differences in states' capabilities to handle it (see Savaresi, 2016: 1). There is, in fact, a big disproportion between the impacts of climate change across countries and the means these countries have at disposition to both address their consequences and contribute to climate change mitigation (see ibid.). This is exemplified by the fact the poorest countries in the world are the one who would most suffer from climate change (see Puntsho Wangdi, 2021). Moreover, the global scale of the problem puts international agreements on a challenge. In a world of 195 countries with different needs and ambitions, reaching a common accord with equal obligations for all would be highly demanding and "never be uniform enough to work" (Slaughter, 2015: 2). Moreover, such a complex and rapidly evolving issue as climate change, is destined never to be solved if addressed with the permanent commitments usually included in legally binding international treaties (see ibid.).

The global scale and complexity of the problem, as well as the institutional solutions proposed to incentivise international cooperation, have made out of the climate regime a fascinating case for

[1] In the following, the United Framework Convention on Climate Change will be referred to as 'Convention'.

students of International Relations interested in international institutions and their design. In recent years, scholars drew particular attention to one institutional aspect of climate change agreements, namely their flexibility mechanisms. These are clauses which allow states to respond to unanticipated circumstances while preserving or changing existing institutional arrangements (see Koremenos et al., 2001: 773). These mechanisms might occur in several forms, among which the most common are escape clauses (see Gross and Ní Aolaín, 2006; Sykes, 1991; Oraá, 1992; Raustiala, 2005; Urpelainen, 2012) and renegotiation provisions (see Koremenos et al., 2001: 773). In the climate regime, flexibility mechanisms have been first introduced in the Kyoto Protocol, which allowed developed countries to reach their emission reduction targets through several categories of policies (see Thompson, 2010: 281). States that were not able to reduce their emissions to the necessary level, for instance, could buy so-called emission reduction credits from other countries whose emissions were well below their allowed maximum levels (see ibid.).

In this regard, a central question addressed by the literature asks why these mechanisms are introduced. Rational design theory (RDT) argues that the need for flexibility mechanisms is primarily drawn by uncertainty of technical and political nature about the future state of the world (see Koremenos et al., 2001). When states fear the occurrence of events which might make the terms of an agreement undesirable over time, they are more likely to sign an agreement which includes flexibility provisions (see ibid: 793). Accounts refining rational design theory, however, argue that two additional factors, namely compliance costs and bargaining power, might influence the introduction of flexibility (see Thompson, 2010). According to this version of rational design theory, the more bargaining power an actor has, the more likely it is that this actor will include flexibility if this corresponds to its preference (see ibid.: 291). At the same time, states with higher compliance costs are expected to call for softer commitments and thus be also a driver for flexibility (see ibid.).

Although existing literature based on rational design theory thus establishes a correlation between flexibility mechanisms and three further explanatory factors (uncertainty, compliance costs and bargaining power), it does not address the question on whether these factors might interact and form a single causal mechanism. In view of this unaddressed issue, the following analysis aims at further analysing the causes of flexibility and evaluating the possibility of a more inclusive explanatory approach. This research purpose is relevant as it, firstly, addresses a vivid debate in rational design theory and aims at refining its theoretical claim. Secondly, given the current significance of the climate change issue, proposing an inclusive explanation of flexibility could provide scholars with a theoretical tool to predict and better understand the outcome of international climate agreements.

In order to pursue the mentioned research purpose, the following question will be addressed: *Why are flexibility mechanisms introduced in international climate agreements?*

Using evidence provided by the negotiations of the Paris Agreement, this Bachelor's thesis argues that uncertainty, compliance costs and bargaining power play a role in determining flexible institutional outcomes. In particular, this contribution proposes a three-step casual mechanism which explains the introduction of flexibility. In the first part of the mechanism, uncertainty shapes the preferences of single actors, which can be in favour or against flexibility. In the second part of the mechanism, high compliance costs ensure that actors with a preference for flexibility argue for this preference during negotiations. Once the preferences of actors are built and communicated, the third part of the mechanism takes action. Here, the actor with more bargaining power and a preference for flexibility, imposes its preference on the ones of the other actors and leads to the introduction of a flexible outcome.

The analysis leading to this outcome will be conducted using theory-building process-tracing as a method. This Bachelor thesis is structured in six main sections. The first one illustrates the theoretical debate and introduces the key-concepts which the analysis will argue for. The second one presents the methods used to answer the question and justifies the choice of the Paris Agreement as a case to study. The third section, further, briefly illustrates the main negotiations steps and outlines the flexibility mechanisms included in the Agreements. The fourth section, develops an empirical narrative of the introduction of flexibility in the Paris Agreement, whereas the fifth one presents the causal mechanism hypothesized. The sixth section, lastly, gives an outlook on the main results, highlights limitations and points out interesting issues for further research.

2. Theoretical Framework

2.1 Rational Design Theory – Laying the Theoretical Foundation for the Uncertainty-Flexibility Nexus

Among political scientists, the theoretical base for current research on the causes of flexible institutional designs has been provided by the Rational Design Theory, developed by Barbara Koremenos et al. (2001). RDT contributes to research on flexibility mechanisms in two essential perspectives. Firstly, it provides a distinct categorization of these mechanisms. Secondly, it hypothesis a nexus between uncertainty and flexibility.

RDT's conjectures on flexibility are based on three main assumptions. The first one maintains that international actors act rationally, i.e. for self-interested reasons, and design institutions purposefully to pursue their joint preferences (see Koremenos et. al, 2001: 781). International institutions are

thereby conceived as "explicit arrangements, negotiated among international actors that prescribe, proscribe and/or authorize behaviour" (ibid.: 762).

The second assumption claims that institutions arise if the value of future gains originated by the institution is high enough to motivate cooperation (see ibid.: 781). This means that the compliance costs which occur both while establishing and participating in international institutions should be lower than the expected gains from future cooperation. Compliance costs are conceived by RDT as material and immaterial costs arising before and after participating in international agreements. They might include time spent to comprehend the issue of the agreement negotiated, understand other actor's preferences, and prepare for upcoming negotiations (see ibid.). Lastly, RDT assumes that states are risk-averse and thus worry about the negative consequences which creating and/or modifying international institutions might bear (see ibid.: 781).

Given these assumptions, RDT addresses the question of why international institutions are designed as they are. One of the institutional features RDT mostly focuses on is flexibility. According to RDT, flexibility is included in international agreements in the form of clauses, which allow the parties to this agreement to respond to unexpected circumstances (see ibid.: 773).

Koremenos et al. (2001) point out two basic types of flexibility which might allow states to overcome unexpected events. The first type is referred to as "adaptive flexibility" (ibid.) and allows states to respond to unanticipated circumstances while *preserving* existing institutional arrangements (see ibid.). Escape clauses are a prime example of adaptive flexibility, as they isolate a specific problem and safeguard the broader institution from its impact (see ibid.). The second type of flexibility mechanism is referred to as "transformative flexibility" (ibid.). and allows states to respond to unanticipated circumstances while *changing* existing institutional arrangements. Koremenos et al. regard transformative flexibility as a "deeper" (ibid.) flexibility type since it "usually involves clauses requiring new negotiations and ratification for the institution to survive" (ibid.). In international institutions, transformative flexibility can be found in the form of renegotiation clauses which allow states to negotiate the agreed terms for a second time (see ibid.). Further, transformative flexibility is given when international agreements allow parties to freely adjust their policies in response to new information, effectively changing the agreement by altering the nature of compliant behaviour (see Thompson, 2010: 288).

The factor which, according to RDT, leads to the introduction of flexibility mechanisms is uncertainty (see Koremenos et al., 2001: 793), which is conceived as lacking knowledge about "others' behaviour, the state of the world and/or others' preferences" (ibid.: 778). Flexibility represents,

according to RDT, the institutional counterpart to uncertainty: the more uncertain actors are, the more likely they will prefer flexible institutional outcomes (see ibid.: 793).

Given this definition, RDT distinguishes two categories of uncertainty which it respectively refers to as political and technical uncertainty (see Koremenos et al., 2001: 778). With 'political uncertainty' uncertainty about the future path of domestic and international policies is meant (see ibid.). In the case of climate change agreements, political uncertainty might arise when actors are unsure about other actors' future behaviour (see Bernauer, 2013: 424), or doubt the maintenance of high ambitions, which could occur due to shifting interests and preferences among the members of an agreement (see Dröge, 2015: 32), for instance in case of changes of government or political leadership (see Briner et al., 2014: 10).

With technical uncertainty, instead, RDT means uncertainty about the costs and benefits of different policy options. In climate change agreements negotiations, such uncertainty occurs when decision-makers doubt the presence of the necessary technologies and economic means to implement a certain policy or to evaluate their regional and local impact (see Bernauer, 2013: 432).

2.2 Introducing Alternative Explanations – Thompson's Refinement of Rational Design Theory

RDT and empirical contributions building on it (see Schwartz and Sykes, 2002; Downs and Rocke, 1995; Morrow, 2001; Raustiala, 2005; Rosendorff and Milner, 2001) do not regard any factor but uncertainty as relevant for explaining the introduction of flexibility. This turns out to be a problem in particular in view of contributions showing that, for instance, both the relative bargaining power of states (see Krasner, 1991: 336) and concerns over compliance costs (see Downs et al., 1996: 379; Verdier, 2008: 470) might influence institutional design features.

After recognizing this gap, Alexander Thompson (2010) refined rational design theory by investigating whether these two factors might influence the introduction of flexibility too. After analysing the negotiation process leading to flexibility in the Kyoto Protocol, he maintained that both the relative bargaining power of states and distributional concerns over compliance costs might influence flexible institutional outcomes.

As for the relative bargaining power of states, Thompson bases its conjecture on empirical evidence that bargaining power is likely to shape institutions in favour of most powerful states, and this even when the institution provides benefits to all (see Thompson, 2010: 275). He conceives bargaining power as the influence actors might have on shaping the outcome of a negotiation according to their preferences (see Thompson, 2010: 290). This influence depends on the value actors place on a

cooperative outcome and the consequences of non-cooperation (see ibid.). The more bargaining power an actor has, the more it will be able to threaten its negotiation partners with non-compliance, thus imposing its preferences on the others' ones and shaping the outcome of the negotiations accordingly. Given these assumptions, according to Thompson, institutional flexibility might reflect the preferences of more powerful states involved in the negotiations (see Thompson, 2010: 275).

With regard to concerns over compliance costs, Thompson's conjectures are based on empirical evidence that actors tend to build a 'soft' regime requiring little shifts in behaviour if they all are alarmed by the costs of compliance (see Downs et al., 1996: 379). However, if compliance costs differ across states and distributive issues arise, some will prefer a softer agreement and others a deeper one (see Verdier, 2008: 470). As flexibility lowers the costs of an agreement and thus serves as a partial substitute for softness, according to Thompson, states with higher compliance costs will be more likely to call for institutional flexibility (see Thompson, 2010: 275).

2.3 Limitations of RDT

RDT literature contributes mainly in three ways to explaining the introduction of flexibility. Besides defining flexibility and uncertainty in the institutional design context (see Koremenos et al. 2001), it establishes a theoretical and empirical correlation between uncertainty as an explaining factor and flexibility as an institutional outcome (see Schwartz and Sykes, 2002; Downs and Rocke, 1995; Morrow, 2001; Raustiala, 2005; Rosendorff and Milner, 2001; Koremenos et al., 2001). Its refined version, moreover, recognizes the role of bargaining power and compliance costs as alternative explanations for the introduction of flexibility mechanisms (see Thompson, 2010).

However, RDT literature leaves one issue unresolved. Despite recognizing the role of three factors (uncertainty, bargaining power, and concerns over compliance costs) as valid explanations, the possibility for these variables to be interconnected and build a single causal mechanism remains unexplored. Given this unaddressed issue, the following analysis aims at evaluating the possibility of a more inclusive explanatory approach to the introduction of flexibility. Starting from the consideration that uncertainty, compliance costs and bargaining power are presented as concurring explanations in RDT, but are not considered to be mutually exclusive, the following analysis will argue that all three factors, acting at different steps of the negotiation process, are necessary for flexible institutional outcomes.

The next section outlines the methods and data chosen to conduct the analysis and explains why the Paris Agreement was selected as a case.

3. Research Design – Method, Case Selection and Data

To investigate why flexibility mechanisms are introduced in international climate agreements, the analysis presented here will be conducted in the form of a case study using theory-building process-tracing as a method. The approach chosen will be thereby x-y-centred, as it is already known that there is a correlation between the dependent variable (flexibility) and the three independent variables (uncertainty, compliance costs, and bargaining power), but it is unclear whether there is a potential mechanism linking the four (see Beach and Pedersen, 2013: 167-168). The choice of a qualitative approach has in this case a central advantage when compared with a quantitative one. Firstly, this makes it possible to focus on the negotiation process leading to the examined institutional outcome, and thus reconstruct the main issues related to the introduction of flexibility mechanisms. Secondly, in view of these issues, this approach allows to investigate to what extent and at what stage this institutional outcome was caused by the considered independent variables, thus disclosing the causal mechanism sought.

Given the x-y-centric form of the intended theory-building contribution, the analysis will examine a typical case which can be tested empirically in further research. The case selected will be the Paris Agreement on Climate Change. The choice of this case is owed to two main reasons. First, the PA was ratified by 191 Parties as a successor of the Kyoto Protocol, and thus represents a prime example of an international climate change agreement. Second, the outcome reached in Paris has built-in flexibility as one of its central features (see Slaughter, 2015: 1; Earth Negotiations Bulletin, 2015: 12; Dröge, 2015: 5). Transformative and adaptive flexibility in the Paris Agreement is given from several mechanisms which, respectively, either leave states room to determine the nature of compliant behaviour (see Art. 4 PA) or allow them to choose between different tools to reach their emission reduction targets (see Art. 6, 9, 10, 28 PA). In the following, the focus will be set on two of these mechanisms, namely the so-called Nationally Determined Contributions (see Art. 4 PA) and the Financial Mechanism (FM) (Art. 9 PA), as they respectively exemplify transformative and adaptive flexibility in the PA.

To investigate why flexibility was introduced in the PA, the analysis will focus on its negotiation process. Such focus allows, firstly, to point out the main issues and preferences related to the introduction of the articles considered and, secondly, to investigate how these preferences were translated into institutional outcomes. To create an empirical narrative of the case (see Beach and Pedersen, 2013), the analysis of the PA will be divided in two main parts. The first part explores the causes of transformative flexibility and thus focuses on Art. 4 of the PA, while the second one explores the causes of adaptive flexibility and focuses on Art. 9. Each of these two parts is split into

four sections. The first explains the article of the PA considered and links it to the type of flexibility (transformative or adaptive) which it corresponds to. The second section, then, illustrates the main issues discussed with regard to the introduction of that particular article and describes the preferences of the involved negotiating parties. The third and fourth section, finally, explain why flexibility was introduced, focusing first on uncertainty and then on compliance costs and bargaining power.

The analysis will focus on the role of the states and alliances which drove the negotiations. A particular focus will be set on the US, China, the EU, and India, as they led the list of the biggest polluters by 2015 (see Dröge, 2015: 20) and, due to their position as regional leader or representative of negotiation groups, had a great influence on the negotiation outcome (see ibid.). The time frame on which data on the negotiation process rely embraces the eight years from COP13 in 2007 to COP21 in 2015 (see Table 1), as the final negotiations on the Paris Agreement were conducted.

In order to investigate the causal mechanism behind the introduction of flexibility in the PA, the analysis presented here will rely on seven sources of primary evidence: 1) reports and analysis of the negotiations by journalists and academics; 2) meeting summaries from the International Institute for Sustainable Development's Earth Negotiations Bulletin (ENB); 3) different drafts of the PA; 4) UNFCCC reports of the COPs leading to the PA (see Table 1); 5) national proposals, negotiated accords and countries' NDCs; 6) government reports from key delegations; and 7) interviews with policymakers as well as representatives from various states.

Table 1. *List of the considered COPs and ADPs preceding the PA*

	DATE	MEETING	LOCATION	OUTCOME
2007	November	COP13	Bali	Bali Action Plan
				AWG-LCA
2009	December	COP15	Copenhagen	Copenhagen Accord
				Mandate of the negotiating groups for a second commitment period of the KP and long-term shared cooperative action extended until COP16
2010	December	COP16	Cancun	Cancun Agreements
				Mandate of the negotiating groups for a second commitment period of the KP and long-term shared cooperative action extended until COP17
				Technology Mechanism
2011	November-December	COP17	Durban	Decision on long-term cooperative action
				Agreement on the stipulation of a new agreement on climate change until 2015

				Launch of the ADP
2012	November-December	COP18	Doha	Doha Climate Gateway
				Establishment of a second commitment period for the KP (2013-2020)
2013	November	COP19	Warsaw	Warsaw International Mechanism on Loss and Damage
				Invitation for Parties to initiate domestic preparation for their intended nationally determined contribution (INDCs)
2014	December	COP20	Lima	Lima Call for Climate Action
				Negotiations towards a 2015 agreement were set in motion
2015	February	ADP 2-8	Geneva	Development of a negotiating text based on the elements for a draft negotiating text annexed to Decision1/CP20.
	June	ADP 2-9	Bonn	Streamlining and consolidation of: general objective, mitigation, finance, technology development and transfer, implementation and compliance, timeframes.
	August-September	ADP 2-10	Bonn	Detail draft decisions concerning placement of paragraphs
				Development of textual proposals
	October	ADP 2-11	Bonn	Development and adoption of a draft text as the basis for further negotiations at COP21.

Source: Own Table. Data were retrieved from the Earth Negotiations Bulletin (ENB).

4. The Road to Paris – Laying the Ground for a Flexible Institutional Outcome

The Paris Agreement on Climate Change is the latest international climate agreement signed under the UNFCCC and aims at lowering GHG emissions "well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels" (Art. 1(a) PA). It was signed on 13th December 2015 at the Paris Conference on Climate Change[2], which convened from 29th November to 13th December 2015 in Paris, France (see ENB, 2015: 1) and had as its main aim to develop a legally binding document regulating global climate action after the second commitment period of the Kyoto Protocol. The need for reaching an agreement in Paris was given from the fact that, over the years after the entrance into force of the Kyoto Protocol, the political will to further comply with its terms had been constantly decreasing. One of the main problems leading to this were difficulties in establishing new emission reduction targets for big emitters such as Japan, New Zealand and the Russian Federation, who refused to cooperate in the negotiations to the second commitment period of Kyoto (see Savaresi, 2016: 1). Another problem related to the KP was the withdrawal of Canada and the US in 2001, which made out of the EU and other few developed

[2] In the following, the Paris Climate Change Conference will be referred to as 'Conference'.

countries the only countries with legally binding emission reduction targets (see ibid.). Given the insufficient number of industrialized states participating, a new series of negotiations was set in motion – this time with the aim of making more states willing to reduce their GHG emissions.

The first driver for the negotiations to the Paris Agreement was given in 2007 at the 13th session of the Conference of the Parties to the UNFCCC (COP13) in Bali, Indonesia. Here, the so-called Bali Action Plan was established, with the central aim of achieving parties' commitment to long-term cooperative action under the Convention (see ENB, 2015: 1). This step was essential to secure all parties' participation in a new dialogue, which should result in a climate agreement succeeding the Kyoto Protocol. To allow parties to reach an accord, COP13 introduced the Ad-Hoc Working Group on Long-Term Cooperative Action (AWG-LCA), a subsidiary body under the Convention that should establish the roadmap for long-term cooperation and had a mandate to focus on a shared vision for a further agreement. The deadline to conclude negotiations of the AWG-LCA was 2009 at COP15 in Copenhagen, Denmark (see ibid.).

On this occasion, however, an accord on long-term cooperative action could not be reached (see Dröge, 2015: 5). With the strong insistence of the US, parties agreed on changing the form of commitments from top-down emission reduction commitments into nationally agreed contributions (see Savaresi, 2016: 2). This opened the possibility for a more flexible future agreement without pre-determined mitigation targets. The mandate of the AWG-LCA was extended to COP16. On this occasion, parties did not succeed in finishing the work of the AWG-LCA, which was completed at COP18 in Doha. However, parties showed willingness to address the limitations of the KP, and instituted two mechanisms which should be introduced in the Paris Agreement and serve the Convention. These are the Green Climate Fund (GCF) and the Technology Mechanism (TM), which should support developing countries to reach their emission reduction targets. At COP17 in Durban, the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) was launched with the aim of developing the draft text for a future agreement (see ENB, 2015: 2).

In 2012, COP19 in Warsaw set the fundamentals for key provisions entailed in the new agreement on climate change (see ibid.) and accepted the proposal from the ADP to invite parties to initiate the preparation of domestic emission reduction plans to be submitted before August 2015. The year after, COP20 in Lima adopted the "Lima Call for Climate Action" (ibid.), which set in motion the negotiations towards a 2015 agreement by elaborating the elements of a draft text for negotiations at COP21. The ADP met in the six months preceding COP21 to complete the draft text and was expected to conclude these negotiations until 2015, with the new instrument entering into force in 2020 (see ibid.: 3).

After eight years of negotiations, the Paris Agreement was signed on 13th December 2015 at COP21. It included the 21st session of the Conference of the Parties to the UNFCCC and the 11th session of the Conference of the Parties serving the Meeting of the Parties to the Kyoto Protocol (CMP11) (see ibid.: 1). Over 36000 participants, including nearly 23100 government officials, 9400 representatives from UN bodies and agencies, intergovernmental organizations, as well as 3700 members of the media took part in the Conference (see ibid.).

The outcome of the negotiations in Paris was a 11 pages treaty, addressing the issues of mitigation, adaptation and means of implementation (see Savaresi, 2016: 4). The main achievements of the PA were, inter alia, an agreement on the emission goal of keeping temperatures below 2 °C above pre-industrial levels (see Art. 1(a) PA), the abatement of the firewall between developed and developing countries regarding climate mitigation (see Art. 4 PA), and an accord on further financial transfers for developing countries (see Art. 9 and 10 PA).

To grant a permanent offset of the interests of its parties, moreover, the PA introduced four new flexibility mechanisms (see Art. 4, 6, 9, 10, PA). These mechanisms cover the enhancement of technology development and transfer through the Technology Mechanism instituted 2010 during the UN Climate Change Conference in Cancun (see Art. 10 PA), the creation of national plans which, according to the proposals made in Copenhagen, periodically report parties' mitigation efforts (see Art. 4 PA), the introduction of cooperative approaches to pursue these plans (see Art. 6 PA) and the extension of a financial mechanism supporting developing countries to pursue their national climate strategies (see Art. 9 PA). Focusing on two of these mechanisms, namely Art. 4 and Art. 9 of the PA, this section analyses the negotiation process leading to their introduction.

5. Explaining Flexibility in the Paris Agreement

5.1 Explaining Transformative Flexibility – Uncertainty, Compliance Costs and Bargaining Power on Nationally Determined Contributions

5.1.1 Art. 6 of the Paris Agreement and its Linkage to Transformative Flexibility

Article 4 of the Paris Agreement introduces the so-called Nationally Determined Contributions (NDCs). These are national plans submitted by the parties to the agreement which report the domestic climate mitigation efforts which the parties intend to embrace. The PA requires each party (see Art. 4(2) PA) to submit their pledges every five years (see Art. 4(9) PA) and expects new NDCs to exceed the ambition of existing ones (see Art. 4(3) PA).

What differentiates NDCs from previous commitment systems is that they do not set quantified emission reduction targets. Differently from Kyoto, which foresaw the mandatory emission reduction

of six GHG by an average of "5% below 1990 levels in the commitment period 2008 to 2012" (Art. 3(1) KP) among industrialized countries, the Paris Agreement leaves the establishment of the height and type (whether quantitative or not) of commitments within the competence of single states. Individual countries thus can self-determine how much they wish to contribute to the collective mitigation efforts (see Savaresi, 2016: 5).

Although the PA makes it for states mandatory to submit their nationally determined contributions, Art. 4 allows countries to adjust their NDCs in response to changing circumstances and thus alter the nature of compliant behaviour according to their current capabilities. Consequently, NDCs are a prime example of transformative flexibility.

5.1.2 Key-Issues Dominating the Negotiations on Nationally Determined Contributions

Negotiations determining the flexibility of Art. 4 were dominated by discussions on three key issues. Firstly, there was disagreement on whether single countries' NDCs should be quantified. Secondly, countries had different opinions on whether NDCs should be legally binding and thus included in the text of the PA (for instance, in an annex), and on whether this should be the case for all countries or only for the developed ones. In this respect, negotiating parties were split into three groups with different preferences.

The EU, as well as the Coalition of Latin American Countries (AILAC), the Alliance of Small Islands States (AOSIS), and the Least Developed Countries (LDC) pursued a pro-legally binding position for both developed and developing countries from COP19 in Warsaw to COP21. They held on to mandatory and quantified national mitigation policies for "all parties" (Council of the European Union, 2015; see European Union, 2013: 2), arguing for "countries with the highest responsibilities and capabilities" (European Parliament, 2015a: 4) to "have the most ambitious commitments" (ibid.). Moreover, to bind treaty participation to domestic action, the EU also argued for a legal obligation to communicate NDCs internationally after ratification (see Dimitrov, 2016: 3) and to house single states' NDCs within the agreement (see ibid.).

The position of China and India as the leaders of the Brazil, China, India, and South Africa group (BASIC) also reflected the one adopted in Warsaw as both countries positioned themselves as members of the Like-Minded-Developing-Countries (see LMDC, 2013: 5). At COP21, China and India argued for general obligations with a strong legally binding character for developing countries which should be included in the text of the PA. In the INDCs submitted before Paris, China stated that "developed countries shall, following their historical responsibilities, undertake ambitious economy-wide absolute quantified emission reduction targets by 2030" (China, 2015: 17). This

position was in line with the "traditionally defensive posture" (Eckersley, 2020: 1189) of the LMDC-bloc, which put leverage on the fact that developed countries had greater historical responsibility for climate change. In this regard, in the introduction of its INDCs, India referred to the fact that "while a few fortunate fellow beings have moved far ahead in […] progress, there are many in the world who have been left behind" (India, 2015: 2) and justified its claim for legally binding NDCs for developing countries with the fact that "accumulation of […] GHGs […] is compounded by the inadequate response of the developed countries" (ibid.).

The US, for their part, adopted a two-faced approach. Publicly, they showed a willingness to embrace a constructive approach and openness to change their standpoint by making concessions on legal obligations (see Dimitrov, 2016: 3). Behind closed doors, however, they stood true to the standpoint they had at COP19 in Warsaw (see US, 2013) and positioned themselves against pre-determined quantified legally binding mitigation, both for developed and developing countries (see Dimitrov, 2016: 3). In their submission on the 2015 agreement the US referred to the indecisive outcome of the Durban mandate, which "leaves open the legal nature of mitigation contributions" (US, 2015: 6). They argued for the parties' single mitigation commitments not to be entailed in a pre-determined form in the formal agreement. The US justified their claim by stating that "parties are in a unique position to judge their respective situations" (US, 2013: 2) and that "[a]n approach that imposes contributions from without is neither realistic nor likely to result in wide participation/implementation" (ibid.: 2). Besides insisting on not including single NDCs in the PA, the US strongly opposed legally binding commitments for developed countries. At COP21, a few minutes before the end of the final session which adopted the agreement, the US demanded a word substitution in Art. 4(4) (see Dimitrov, 2016: 3). According to their request, industrialized countries 'should' rather than 'shall' "undertake absolute [quantified] emission reduction efforts" (Art. 4(4) PA). Given the legal meaning of these two words, which respectively indicate recommendation and legal obligation (see Faklner, 2016: 1117), this request meant a demand for less legally binding for developed countries. To avoid the repetition of the US withdrawal as occurred in the case of Kyoto, COP21 adopted with the particular reluctance of the EU and the G77, a negotiating group including China, India and most developing countries, the Paris Agreement on the conditions requested by the US (see Dimitrov, 2016: 3).

The final version of Art. 4 reflected mostly the preferences of the US. As a legally binding element, it entailed only the submission of NDCs, while the height and type of contribution (whether quantitative or not) remained within the competence of the single states. The US thus managed to enhance flexibility in Art. 4 by weakening the legally binding character of national actions and

successfully obtaining a weaker differentiation between developing and developed countries. The EU, instead, failed to achieve internationally agreed quantitative emission reduction targets, while both China and India did not obtain legally binding commitments for industrialized countries.

As the US were the party that strongly pushed for built-in flexibility for NDCs and whose demands were adopted in the final version of Art. 4., the next section focuses on the US motivations to explain the introduction of flexibility in Art. 4.

5.1.3 Explaining the Preference for NCDs with Political Uncertainty – The US need to bypass the Senate

After the end of the George W. Bush Administration, which withdrew from the Kyoto Protocol in 2001, the US shifted towards a more collaborative approach to climate action. After President Obama entered into office in 2009, the US pursued two strategies to enhance their climate action. On the one hand, they aimed at cooperating with China, and, on the other hand, at targeting emissions from automobiles and power plants at the domestic level (see Schreurs, 2016: 221). At hindering the success of climate action for the US, however, there was the approval of new climate laws from the republican Senate.

In the US, climate laws have to be approved with a two-thirds majority by the Senate, which under the Obama Administration was well known to be mostly against climate mitigation policies (see Schreurs, 2016: 221). This became no later than 2009 clear, as the Senate refused to approve a new climate law that the US government proposed to signal their collaborative intentions to the international community (see Dröge, 2015: 20). At the domestic level, this led the US-government to find a way to bypass congressional opposition through executive action based on the Clean Air Act (CAA) (see Dröge and Thielges, 2015: 1), which had been signed in 1970 and gave the President the power to order GHG mitigation even without explicit support from the Congress (see ibid.). Relying on the CAA, then, the Obama Administration presented in May 2013 a complex climate action plan which gave start to several initiatives, among which there was the so-called Clean Power Plan (CPP). This mandated the Environmental Protection Agency (EPA) to set a limit for emissions of carbon and gas power plants in the US which should aim at cutting 30 percent of CO_2 emissions by 32 percent by 2030 (see Dröge and Thielges, 2014: 2).

At the international level, the US under the Obama Administration showed a willingness to cooperate on climate action by engaging in international dialogue with China and India. In November 2014, the US announced their climate targets in a common communication with China (see Schreurs, 2015: 121; The White House, 2014). By 2025 the US aimed at reducing their emissions by 26 percent (see

The White House, 2014), while China's president Xi Jinping announced that China would try to reach their biggest emission peak by 2030, "increase the share of non-fossil fuel in primary energy consumption to around to 20%" (ibid.) and lower the carbon intensity of the GDP by 60 to 65 percent below 2005 levels by 2030 (see ibid.). The international engagement of the US on climate change proceeded in January 2015 with an informal accord with India, which foresaw cooperation between the two countries to boost clean-energy investments. The US will provide financial support and know-how to India to achieve its goal of installing 100 gigawatts of solar power capacity by 2020. In return, India agreed to reduce the emission of special GHG (see Dröge and Wagner, 2015: 3).

This collaborative approach at international level and the mentioned series of national measures adopted at domestic level, signalled willingness from the US to commit to a new climate agreement in 2015 (see Eckersley, 2020: 25). However, the Obama Administration had to handle how to implement its intentions despite scepticism from the Senate. If in domestic climate policies the US could rely on the CCA to bypass the Senate's authority, the only way to skip approval by the Senate in international issues was to shape the outcome of the negotiations in form of a presidential executive agreement, which can be signed solely by the president (see Dröge, 2015: 21). Opting for this legal form, Obama could accept a climate agreement with legal force without submitting it to the Senate or Congress, on the condition that this did not entail legally binding emissions limits (see Bodansky, 2016: V).

The preference of the US for a "political rather than a legal commitment" (see Bodansky, 2016: 23) on the final version of Art. 4 can thus be explained by Obama's uncertainty regarding the behaviour of the Senate. As the introduction of legally binding commitments could have been undermined by a senatorial veto, the US government preferred to avoid such domestic hindrance to a cooperative outcome in Paris by arguing for self-determined, non-legally binding emission reduction commitments during the negotiations to COP21. It can be thus stated that, in this case, the US preferences were affected by political uncertainty.

Although rational design theory can explain why the US developed a preference for a flexible outcome, however, it does not provide further arguments to explain why exactly their preference was translated into an institutional outcome. The following paragraph will show how focusing on compliance costs and bargaining power once actors have built their preference for flexibility might offer the key to complete the puzzle.

5.1.4 Explaining the introduction of NDCs with compliance costs and bargaining power

The success of the US in granting a flexible outcome during the negotiations was given, first, by their high financial and reputational compliance costs in case of a legally binding agreement.

If the Senate had refused to approve an agreement with legally binding NDCs, the US domestic and international efforts to show a collaborative approach towards climate change mitigation, as well as six years of negotiations for the subscription of a new agreement, would have been undone (see Dröge, 2015: 2). The costs of such an outcome, would have been of both financial and reputational nature for the US. With the Clear Power Plan, the US had set ambitious domestic goals for their 2030 climate policy agenda. Although these goals would take several years to become operational, the US had already invested time and financial resources for developing detailed implementation plans by 2015 (see ibid.). The CPP, however, found several opponents, especially among the owners of the facilities affected by the emission cuts. In order to bring them on its side, the Obama Administration and the EPA put leverage on the necessity of the mitigation measures in view of both the severity of climate change as a problem and the upcoming agreement in Paris (see Dröge and Thielges, 2021: 2). Leaving Paris with a legally binding agreement which risked to be rejected by the Senate, would have facilitated opposition from the owner power plants (see ibid.) and exposed the Obama Administration to criticism. At international level, moreover, the US would have lost their hard-earned stand as an international leader and given the impression to repeat what had already happened in 2001 under the Bush Administration. Accepting legally binding commitments, moreover, would have worsened the US relations with China, with whom they reached for the first time a common accord on climate mitigation in view of Paris (see Eckersley, 2020: 1198).

These factors made accepting a climate agreement with binding commitments more costly for the US and put the country less in need of legally binding compared to their negotiation partners. These compliance costs, combined with the bargaining power which the US had due to their high share of global GHG emissions, were crucial for the outcome of the negotiations.

For the PA to be effective, in fact, the participation of the states with the highest GHG emissions was essential. In 2015 the four biggest polluters worldwide were, in decreasing order, China, the US, the EU, and India (see Figure 1), which together covered almost two-thirds of the global CO_2 emissions (see Jos et al., 2015.: 4). Considering that the effectiveness of the KP had been negatively affected by the US-withdrawal (see Dröge, 2015: 25) and given the urgency stressed by the International Panel on Climate Change to adopt new global mitigation (see United Nations Environment Programme, 2010: 46), leaving Paris with an agreement without the participation of all four polluters would have

been fatal for the efficacy of the global climate change regime (see Falkner, 2016: 1109). One of the top priorities of COP21 was, in fact, to develop an agreement including all big polluters without further extending the negotiations, which had already lasted six years since COP15.

Among the four big polluters, the US was the one with the most bargaining power on legally binding NDCs. This was owed, first, to its role as leader of the so-called Umbrella Group (UG) and, second, to its adamant position on non-binding commitments. Although the US emissions amounted to 13% and were not the highest compared to China (see Figure 1), the US represented in the negotiations the position of the so-called Umbrella Group (UG), which included Australia, Canada, Japan, New Zealand, Kazakhstan, Norway, the Russian Federation, and Ukraine, making out 25% of the worldwide GHG emissions (see Figure 2). This, combined with the US adamant position on non-binding commitments made for its negotiation partners clear that if they would insist on legally binding, "the deal will not be global" (top EU official cited in Dimitrov, 2016: 3) as they "will lose the US" (ibid.) and the rest of the UG. After the US had made clear that they would not cooperate in case of legally binding emissions reduction commitments (see Dimitrov, 2016: 3), the other states accepted non-binding NDCs on the US conditions.

Figure 1. *Share of Worldwide GHG emissions by country (four biggest emitters), 2015*

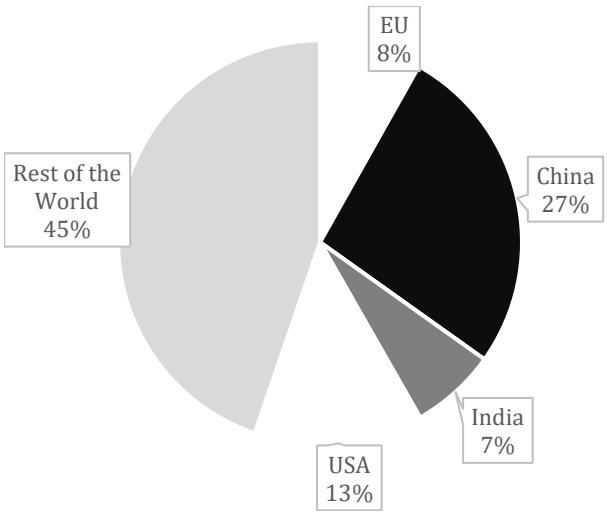
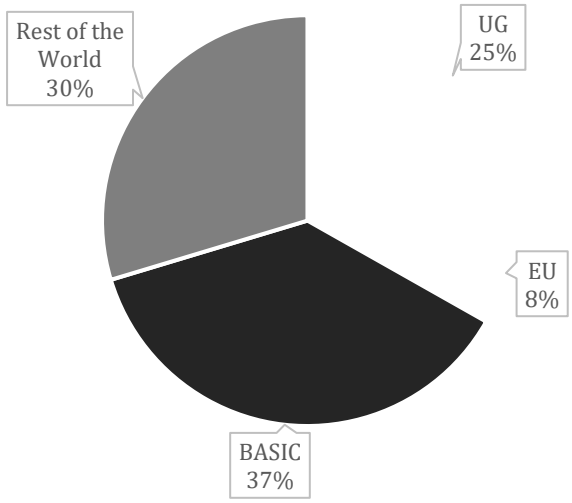


Figure 2. *Share of worldwide GHG emissions of the UG compared to the EU and the BASIC group, 2015*



Source: Own figures. Data are available at: The World Bank (2021a).

In light of these considerations, it thus can be stated that uncertainty alone is not sufficient to allow a complete explanation of the introduction of transformative flexibility in Art. 4. Uncertainty explains why the US preferred a flexible over a non-flexible outcome, but it needs to be combined with high compliance costs and high bargaining power to find an institutional response. If the Paris Agreement had not implied high compliance costs for the US, they would not have strictly argued for flexibility during the negotiations. At the same time, without enough bargaining power, they would not have been able to impose their preferences on the ones of the other actors. Given these observations, the following section investigates using the same method the introduction of adaptive flexibility in the PA.

5.2 Explaining Adaptive Flexibility – Uncertainty, Compliance Costs and Bargaining Power on Finance

5.2.1 Art. 9 of the Paris Agreement and its Linkage to Adaptive Flexibility

Article 6 of the Paris Agreement provides both developed and developing countries with instruments to support the achievement of their emission reduction targets. These instruments are called "cooperative approaches" (Art. 6(2) PA), and are included in Art. 9 of the Paris Agreement the Financial Mechanism to the UNFCCC.

Given the UNFCCC decision for developed countries to support developing ones in addressing the "adverse effects of climate change in meeting costs of adaptation" (Art. 4(4) UNFCCC), the Paris Agreement establishes that parties should annually "provide financial resources to assist developing country Parties with respect to both mitigation and adaptation" (Art. 9(9) PA). The Financial Mechanism to the Convention entrusts financial operation to several international entities, whose priorities and policies are established by the Convention. The entities of the financial mechanism are the Global Environment Facility and the Green Climate Fund (GCF) (see United Nations on Climate Change, 2021), both financing projects on climate change mitigation and adaptation in developing countries and countries with economies in transition (see Global Environment Facility, 2021; Green Climate Fund 2021). In addition to the GEF and CGF, two further special funds have been established. The Special Climate Change Fund (SSCF), the Least Developed Countries Fund (LDCF), and the Adaptation Fund (AF), all sharing the function of the GCF and the GEF and responsible for specific issues areas (see United Nations on Climate Change, 2021).

All of these mechanisms are an example of adaptive flexibility. They provide states with a tool kit to address potential difficulties in meeting their NCDs while preserving the existing institutional arrangements of the PA. When two states apply for financing, for instance, there is no need to alter

the provisions made in the PA, as the respective states have to handle the application process bilaterally with one of these subsidiary bodies.

5.2.2 Key-issues Dominating the Negotiations on Finance

Negotiations on Art. 9 were dominated by one main issue, namely whether financial assistance should be provided by developed countries only or whether developing countries should also commit to finance. In other words, debates in the negotiation concerned the maintenance of differentiation between developed and developing countries (see European Parliament, 2015b: 25).
The EU refused "unacceptable bifurcated proposals [by the G77] for quantified commitments for public finance by developed countries only" (internal delegation document cited in Dimitrov, 2005: 5) and argued for provisions on finance to be "dynamic" (European Parliament, 2015b: 4), so to take emerging economies also in the duty to finance countries in need (ibid.). At the same time, it stressed the importance of scaling up financial contributions (see ibid.) and argued for developed countries to effectively "provide public climate finance […] in developing countries" (ibid.: 5).

The US and the Umbrella Group, for their part, did not want financial commitments to be periodically enhanced, as it had already promised, with other developed countries, to transfer up to 100 billion US-Dollars to developing countries by 2020 (see Falkner, 2016: 1117). Nevertheless, they supported the concept of financial transfers for countries in need and argued for flexibility in establishing who should provide financial means (see US, 2015: 9). This meant that emerging economies such as India and China whose emissions overcame the ones from Annex I parties or were slightly lower, could "no longer hide behind their official developing country status and [we]re expected to make a bigger contribution to climate change mitigation" (Falkner, 2016: 1117).

China and India as leaders of the G77, including the BASIC group as well as LDC and the AOSIS refused the EU and the US reluctance towards maintaining the classical differentiation between developed and developing countries. They wanted developed countries to further carry out their historical responsibility for climate change and commit to finance (see China, 2014: 2; India, 2014: 3-4). They insisted on the fact that low-latitude poor countries are also those who would be most exposed to climate change even if they are not primarily responsible for it (see Mendelsohn et al. 2000) and argued for keeping differentiation with the opportunity for developed countries to make voluntary contributions (see Dimitrov, 2016: 5). Contributions from developed countries, however, should be legally binding and keep the floor of US$ 100 billion which should progressively increase from year to year (see China, 2014: 5, 6; India, 2014: 1).

The final accord on finance is based on a broad compromise. It establishes that developed countries "shall provide financial resources to assist developing country Parties" (Art. 9(1) PA) and that this finance "should represent a progression beyond previous efforts" (ibid.). The floor finance enhancement was set by US$ 100 billion a year, which should be made available after 2025. Art. 9, moreover, requires developed countries to "communicate indicative quantitative and qualitative information […] including the projected level of public financial resources to be provided to developing country Parties" (Art. 9(5) PA). At the same time, Art. 9 recognizes the role of emerging economies in providing financial resources and encourages them to "provide such support voluntarily" (Art. 9(2) PA).

Art. 9 in its final form thus reflected the preferences of the G77 to keep differentiation and enhance commitments periodically (see Eckersley, 2020: 1191). The US with the Umbrella Group, on the contrary, lost on both differentiation and progressive enhancement, while the EU managed to obtain progressive increase but failed in weakening the distinction between developed and developing countries. Since the G77, and thus developing country alliances, were the party whose demands were adopted in the final version of Art. 9., the focus in the next section will be set on developing countries' motivations for flexibility in Art. 4, in particular on the BASIC group, SIDS and LDC.

5.2.3 Explaining Preferences on Finance with Technical Uncertainty – Developing Countries' Need for flexibility

Differentiation between developed and developing countries and their commitments under the Convention were not new issues in Paris. The UNFCCC had already introduced such differentiation and included a reservation of special provisions for developing countries into its key principles: "Parties should protect the climate system […] in accordance with their common responsibilities and respective capabilities" (Art. 3 (2) UNFCCC). This means that countries that have more material and immaterial resources to fight climate change, should support weaker ones "in meeting the costs of adaptation to those adverse effects" (Art. 4(4) UNFCCC).

Developing countries' claim for differentiation and the enhancement of financial transfers in Paris was primarily related to the big issue of financing adaptation. As most of their economies alone would not have been able to afford the costs of the strict necessary adaptation measures, they were dependent on external subsidies.

For small island developing states (SIDS), finance was an existential question, as forecasts leave no doubt that temperature increase will have a great impact on SIDS. The rise of sea level, and other extreme events such as cyclones (see Nurse, 2014: 1635) pose serious threats to the islands'

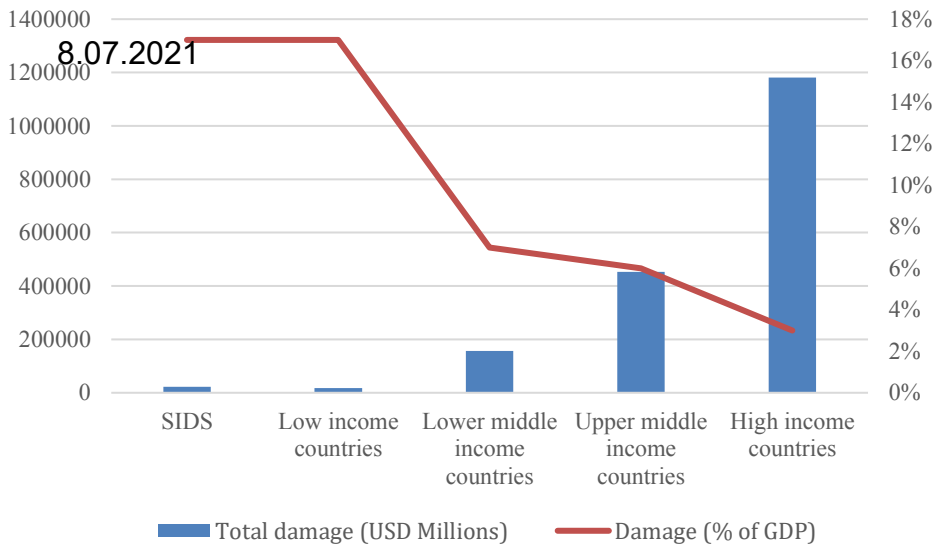
ecosystem. The risk of inland flooding, combined with the spreading of temperature-related illnesses (UN-OHRLLS, 2015: 33) and harder accessibility to food (UN-OHRLLS, 2015: 33) due to temperature increase can make small islands uninhabitable in the medium to the long term (see Ourbak and Magnan, 2017: 2201) and lead to forced migration (see UN-OHRLLS, 2015: 37). To avoid and mitigate such consequences, adaptation measures are crucial. However, the economic size of SIDS is very low in relation to the economic cost of adaptation (see ibid.: 38), thus making climate finance essential to them.

The same applies to the Least-Developed-Countries group (LDC), for which climate change might have heavy consequences on economic growth (see IIED, 2015: 1). Due to rising temperatures, several African regions will experience a 27 percent decrease in land productivity by 2080. This, combined with water pollution and drought increase will lead to 170 million more undernourished people in 2080 and favour the spreading of new illnesses (see ibid.). Moreover, worst water quality is expected to make health costs rise (see ibid: 2), complicate people's access to medical assistance and undermine their ability to work (see ibid.). Coral reef degradation, furthermore, will negatively impact tourism, which is one of the principal income-sources for several LDC (see ibid.). According to the International Institute of Environment and Development (2015: 2), climate change may reduce labour productivity by 11-27 percent in the tropics", thus lowering economic output by 22 percent (see ibid.). Perspectives for growth and employment in these countries are highly threatened by climate change. Given their limited economic resources to respond to climate change, LDC depend on financial support from external sources (see United Nations Development Programme, 2011).

The BASIC countries, similarly, needed a grant for financial assistance. Their willingness to keep differentiation was owed to the fear of not being able to complete their economic growth without external support for adaptation. By 2015, the priority of the BASIC group was to reach the peak of their economic growth as soon as possible. Consequently, their major investments in the short to the medium term were targeted to reach this goal. Renewing the industry with green power from their own pocket would have meant redistributing the original resources, with the clear implication that the economic growth would have been delayed without external resources to count on. Particularly in view of outstanding energy and environmental reforms in both China and India (Dröge and Wagner, 2015: 2-3; Dröge and Wacker, 2014: 2) finance from developed countries was crucial. The BASIC countries, moreover, were disadvantaged in comparison with developed ones with regard to the costs of climate change. China, Brazil, and South Africa belong to the so-called upper-middle-income countries, which between 2000 and 2015 spent twice as much as high-income countries (many of which are in the UG and the EU) to repair climate-change-related damages (see Figure 3). India,

which belongs to the lower-middle-income countries (see The World Bank, 2021b), had to carry the highest costs of climate change after SIDS and LDC between 2000 and 2015 (see Figure 3). Among the BASIC countries, India was also the one that particularly called for financial support (see Hurrel and Sengupta, 2012: 475). 2013 flooding and cyclones caused 7437 deaths and losses of US$ 155147 million, making it the third country in the world that was most affected by climate change (see Global Climate Risk Index, 2015: 7).

Figure 1. *Small Island developing states suffer the largest relative losses from natural disasters, 2000-15.*



Source: Adapted from: OECD*iLibrary* (2021).

Among the emerging economies of the BASIC group, China was the one that needed financial aid the least. Being the second most powerful economy in the world (see OECD Data, 2021), China was not strictly in need of assistance to ensure the implementation of the energy and climate policies established for the years after 2020 (see Eckersley, 2020: 1193; Dröge and Wacker, 2014: 2). The recognition of its role as a powerful emerging economy was exemplified by China's commitment to further support the China South-South Climate Cooperation Fund (CSSCF) (see: Eckersley, 2020: 1190) in Art. 9(2) of the PA. The CSSCF was announced by President Xi Jinping in September 2015 with the aim to "support other developing countries to combat climate change, including to enhance their capacity to access GCF funds" (The White House, 2015). China's adamant position on differentiation, however, is mostly linked to its willingness to first let its economic growth peak and then start with substantial mitigation (see Dröge and Wacker, 2014: 3).

For building the preferences of AOSIS, LDC and the BASIC group, uncertainty regarding the economic capacities for adaptation and climate change mitigation was pivotal. As they doubted about having enough resources to combine an effective response to climate change with economic growth,

the terms of an agreement without binding finance from developing states would have been undesirable in the long term. This was the case especially given the forecasted risks from climate change for LDC, AOSIS, and India for the BASIC group.

As in the case of Art. 6, focusing on uncertainty allows to explain why the G77 built preferences which were in favour of differentiation on finance. Uncertainty alone, however, is not sufficient to explain why these preferences were translated into an institutional outcome. Here, also, considering the compliance costs and the bargaining power of the respective negotiation groups offers the key to close the circle.

8.07.2021

5.2.4 Explaining Art. 9 with Compliance Costs and Bargaining Power

By accepting a deal without differentiation, the G77 would have carried high compliance costs: the BASIC group, for instance, would have had to renounce to rapid economic growth, which was its high priority, while for LDC and AOSIS dumping economic growth would have been combined with the serious risk of uninhabitability.

In view of these costs, they pushed for an agreement including differentiation and thus finance from developed states. What allowed them to translate their preference into an institutional outcome was their bargaining power. By 2011, 63 percent of the worldwide GHG emissions were caused by developing countries (see Center for Global Development, 2021). By 2015, the BASIC countries alone covered 32% of the total worldwide GHG emissions (see Figure 4). In particular, almost 72 percent of the BASIC emissions were covered by China (see Figure 3), which was the country with the most GHG emissions worldwide (see Figure 1). As the G77 was the group which, given its preference for economic growth, was least in need of a cooperative outcome, except for SIDS and LDC, it was in the position to threaten the UG and the EU with non-cooperation in case the new agreement would abolish differentiation. Considering the urgency of finding a global accord in the time foreseen for COP21, the EU gave up on differentiation (see Dimitrov, 2016: 4). It argued that further opposing to finance "will have seismic effects on the negotiations and will wreck the entire deal" (EU-diplomats cited in ibid.) and that since "what happens in Paris will be in the history books" (ibid.), developed stated should not "give any historian a reason to write that we ruined the global response to climate change" (ibid.). With this argument, the EU brought other reluctant developed countries on its side and the preference of the G77 found a place in the final version of the Paris Agreement.

Figure 4. *Share of GHG emissions by country (BASIC group), 2015.*

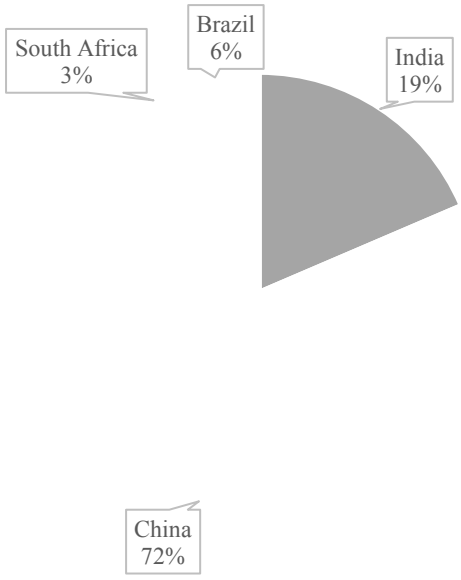
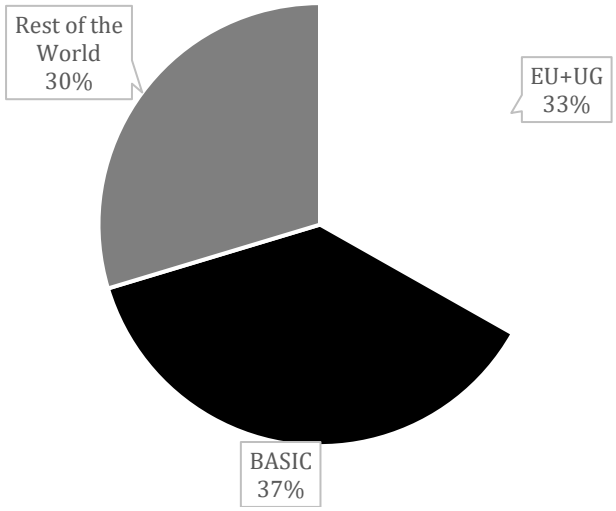


Figure 5. *Share of worldwide GHG emissions by alliances on differentiation, 2015*



Source: Own figures. Data were retrieved from: The World Bank (2021a).

6. Refining Rational Design Theory – The Causal Mechanism Leading to Flexibility

The analysis of the negotiation process leading to the Paris Agreement presented above sheds light on one important aspect of rational design theory. When asking why flexibility is introduced, adducing solely uncertainty as an explanatory factor turns out to be insufficient. Uncertainty offers a plausible explanation for why actors prefer a flexible outcome over a legally binding one. However, this does not last to explain why exactly this preference was translated into an institutional outcome. Looking at the concerns over compliance cost and the relative bargaining power of states during the negotiations offers a key to complete this puzzle. Rational Design Theory's understanding of uncertainty, compliance costs, and bargaining power as factors that separately influence flexibility can be replaced by a more inclusive approach that conceives all these three factors as parts of a single causal mechanism.

During the negotiations for the Paris Agreement, uncertainty acted first and influenced the formation of parties' preferences. The risk of not receiving senatorial approval for the US led them to opt for flexible outcomes in the form of non-binding NCDs. Similarly, the fear of not having the means to complete their economic growth and, at the same time, respond to climate change for the G77, led those countries to opt for the maintenance of differentiation between developed and developing countries on finance.

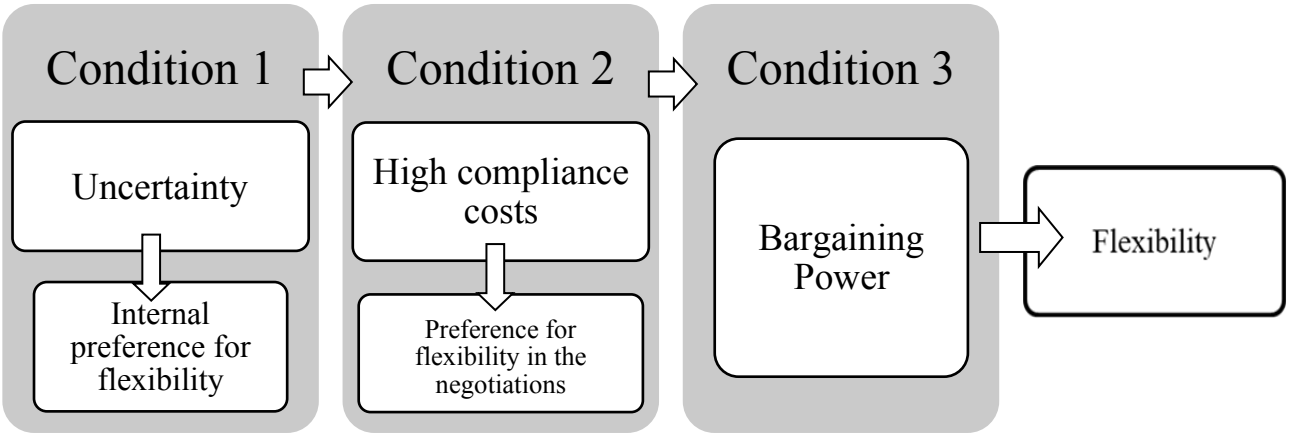
In the second part of the negotiations, compliance costs took the lead. Consistent with Thompson's prediction (see Thompson, 2010: 275), states with higher compliance costs defended their position for flexibility in the negotiations. This was the case for the US and the G77, which respectively stood for not legally binding on NDCs and differentiation on finance.

Once these key actors had expressed their preferences for a flexible outcome, it was their bargaining power that determined the institutional outcome. Aware of their role as a big emitter and leader of the Umbrella Group, the US succeeded in avoiding legally binding NDCs by threatening the EU with non-compliance. Similarly, the G77 managed to obtain the maintenance of differentiation on finance.

Based on this empirical evidence, it is possible to consider uncertainty, compliance costs, and bargaining power as part of a single causal mechanism.

In the first step, uncertainty acts to build the preferences of the actors, which can be in favour or against flexibility. In the second part of the mechanism, compliance costs intervene to consolidate parties' preferences and form their position during negotiations. In this regard, actors with higher compliance costs will argue for flexibility. Once the preferences of actors are built, the third part of the mechanism takes action. This is set up by the relative bargaining power of states. States with more bargaining power and a preference for flexibility will be able to impose their preference on the others and thus lead to the introduction of a flexible outcome. Figure 6 illustrates the hypothesized causal mechanism.

***Figure 2**. The three-conditions casual mechanism leading to flexibility.*



Source: Own Figure.

The casual mechanism illustrated above conceives uncertainty, compliance costs, and bargaining power as three necessary conditions which must be given for flexibility to be introduced.

This suggests the following testable proposition: in international climate agreements, flexibility is introduced if the parties to an agreement a) are uncertain about the future state of the world and thus build a preference for flexibility, b) have high compliance costs and thus argue for flexibility in the negotiations, and c) have more bargaining power than other parties.

Conclusion

The rational institutional design literature has made important contributions to explain the introduction of flexibility in international agreements. Besides establishing a correlation between uncertainty and flexibility, most recent contributions also recognized the role of bargaining power and concerns over compliance costs as valid explanations for flexible institutional outcomes. Despite assessing a linkage between flexibility and several explaining factors, however, current literature does not consider the possibility for these factors to build a single causal mechanism. Starting from this theoretical gap, the analysis presented above investigated the role of uncertainty, compliance costs and bargaining power in the negotiations of two flexibility mechanisms in the Paris Agreement. These findings provide evidence for uncertainty, compliance costs, and bargaining power to construct a causal mechanism that explains flexibility.

Although this contribution could successfully propose a more inclusive explanatory approach to flexibility, the causal mechanism hypothesized still needs some refinement. Its theorization was fulfilled inductively and based on evidence provided by only two of the flexibility mechanisms included in the Paris Agreement, as considering more than one mechanism by maintaining a qualitative approach would have exceeded the scope of this thesis. The first step for giving the theorized proposition more empirical validity, would thus be to test if it applies also to other kinds of international agreements. Flexibility, in fact, is not a peculiarity of climate sphere, but is often included in international law, especially in trade (see Koremenos et al., 2001: 773; Helfer, 2014: 188; Rosendorff and Milner, 2001) and human rights agreements (see Helfer, 2014: 188; Hafner-Burton et al., 2011: 698-704).

In addition, the analysis presented above assumes that the self-interest of each actor determines his/her preferences and decisions, based on a rationalist theoretical approach. As a result, the possibility for actors to act contrary to their own material interests is not considered. Such an approach can be too simplistic, as it underestimates the role which the value systems of actors can play in determining institutional outcomes.

Considering the existence of empirical evidence showing that values might affect negotiations outcomes (see Chuah et al., 2014; Druckman, 2001), a second level of inquiry would be considering whether cultural and personal values might influence the introduction of flexibility. As several recent studies show that stable democracies with strong judiciaries are more likely to argue for escape clauses than countries with weaker domestic courts and a more difficult chance for citizens to remove decision-makers from office (see Hafner-Burton, et al. 2011), future research could also investigate whether particular regime types might favour flexibility.

Social scientists could also explore the role of path dependency in the introduction of flexibility. A possible question to ask in this regard would be how and whether earlier flexibility mechanisms have affected the form and the introduction of today's ones. Climate and trade agreements provide in this regard interesting empirical material to work on, as they often include flexibility and have evolved over time. As for the trade sphere, it would be worthwhile to examine the General Agreement on Tariffs and Trade (GATT) and its evolution into the World Trade Organization (WTO), given also that they have been often used due to their escape clauses as cases to test rational design theory empirically (see Rosendorff and Milner, 2001; Raustiala, 2005 and Koremenos et al., 2001). The evolution of flexibility mechanisms in climate agreements from Kyoto to Paris also provides an opportunity to uncover path dependency.

Research on flexibility can, as shown by the avenues for further research listed above, be used to develop further explanations even beyond rationalistic accounts. In order to move forward and compete with other explanations, however, rational design theory should be able to build a stable theoretical framework. To this end, it should look for a theoretical approach capable of explaining flexibility from preference building to its translation into institutional outcomes. This Bachelor's thesis represents an initial step in this direction.

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