



# VARIATION IN INCLUSIVE MEMBERSHIP ACROSS INTERNATIONAL ORGANIZATIONS

## A COMPARATIVE CASE STUDY

Bachelor Thesis

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## Foreword

This research paper, which serves as a bachelor thesis paper is written during the final quartile of the final year within the study program B.Sc. European Studies/European Public Administration at the University of Twente in Enschede.

At this place I would like to thank Mr. Dr. Andreas Warntjen for his valuable assistance and support in choosing this topic and guiding me through the whole period of the bachelor thesis process. I owe him gratitude for being always available to clarify my doubts and to answer my questions very quickly. I would also like to convey my gratitude to Mr. Claudio Matera who took the time to read my bachelor thesis and who encouraged me, as well.

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Gratefully,

Thirusa Manoharan

## Abstract

The role of international organizations is a highly discussed concern in the study of world politics. While theoretical studies are concerned with two crucial issues, the international institution's design on the one hand and its effects on state behavior on the other hand, empirical analysis are much more concerned with the latter issue. This leaves an ample room for a specific focus on the design of international institutions. An investigation of the design can be considered as a great enrichment in the study of world politics. It enables a better understanding of the ways how international institutions operate in the world to solve problems and in order to improve the effectiveness in their decision-making. Thus, my focus lies only on design, particularly on the dimension of *inclusive membership*. My main research question is ‘‘Why does inclusive membership vary among international organizations?’’. Thereby, I will follow a non-randomized research. I will conduct a comparative case study to answer my research question. I will mainly examine eight cases which vary in respect to inclusiveness of membership. By extending the work of Koremenos, Lipson & Snidal (2001), I investigated some causes which can be used to explain the variation in inclusive membership across international organizations. By the application of a game-theoretic approach, I will use and analyze secondary qualitative data such as treaty provisions and agreements, but also secondary quantitative data set. Thereby, I will use COIL data set from Koremenos (2013) to answer the research question.

Keywords: *Membership variation, Inclusive Membership, International Organizations, Intergovernmental Organizations, Rational Choice Theory, Game Theory, Prisoner's Dilemma, Cooperation Problems, Collective-Action, Enforcement, Distribution, International Law*

**Abbreviation:**

AC – Agricultural Commodities

ASEAN – Association of Southeast Asian Nations

COIL - Continent of International Law

D – Disarmament

E – Environment

EU – European Union

F – Finance

HR – Human Rights

I - Investment

IMF – International Monetary Fund

IGO – Intergovernmental organizations

MERCOSUR – MERcardo COMún del SUR (Southern Common Market)

MM – Monetary Matters

NAFTA – North American Free Trade Agreement

NATO – North Atlantic Treaty Organization

NGO – Nongovernmental Organization

S - Security

WTO – World Trade Organization

UN – United Nations

UNTS - United Nations Treaty Series

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# 1 Introduction

In recent decades the role of international organizations has been a highly debated topic in the study of world politics. Various observers complain that international organizations are important due to increasing global interdependence but are not effective in their decision-making. This concern might be solved by specific focus on the design of international organizations and by making reasonable suggestions how effectiveness in international organizations can be improved.

However first of all, what is an international organization? There are two existing forms: nongovernmental organizations (NGOs) and intergovernmental organizations (IGOs) (De Mesquita 2013). The focus of this research paper lies on the latter type. They can be categorized into various fields, covering areas such as political economic, security and human rights et cetera (Roussett, Starr & Kinsella 2006). Koremenos (2013) illustrates that an IGO must concern minimum two member states, thus they have to collaborate in meetings and have a “permanent secretariat of some sort of permanent headquarters arrangement” (Wallace & Singer 1970: 346). Thus, when I mention the word international organization I only relate to IGOs. Moreover, an international organization depends on international laws, rules and norms of conduct and serves to solve fundamental challenge to peace including sovereign states (De Mesquita 2013: 241).

## ***Development of international organizations***

*Shortly after the Second World War many states faced a global chaos, struggling for economic stability and political security. International cooperation between states was immediately required in order to solve common problems of groups of states, and this was established through a membership in an international institution. Thus, studies of international organizations confirm a rapid increase in the number of international organizations during the post-war period (Huntington 1993; Roussett, Starr & Kinsella 2006).*

However, while so far theories developed and used in this field are a concern of both institutional design and the effects of institutions on state behavior, the empirical work however has addressed the latter issue more extensively only (De Mesquita 2013; Simmons & Martin 2002). A historical perspective shows that early studies of institutions were more problem-driven, focusing on solving problems during the post-war period. ‘In a newer wave of work on institutions, a more scientific approach was used’, shaped by American politics (Martin &

Simmons 1998: 787). Since 1980s, a ‘‘more progressive research program arose’’, focusing on international regimes and functionalist theories (p.787). Recent research is focusing more on international cooperation and how this can be enhanced by international institutions in a certain policy fields successfully (Haggard & Simmons 1987; Fearon 1998).

In this context, some recent research has focused on the design. For instance Richards (1999) investigated a specific case, namely the institutional design of a global aviation regime. He shows how industry influences design. Koremenos et al. (2001) highlight the variation within the design of international institutions and have a broader and a more rationalist perspective. According to them the design of international organization can vary in *scope, centralization, rules, flexibility and membership* due to re-current problems in *enforcement, distribution, uncertainty and numbers* (p. 769). However, many scholars also rather aim to focus on one or two specific cooperation problems between member states in international institutions. Fearon (1998) follows a game-theoretic approach and concentrates only on problems of bargaining, enforcement and international cooperation. Rosendorff & Milner (2001) show how states design international institutions to overcome escape clauses and uncertainty and how they can facilitate trade agreements.

Summarized, it becomes clear that these studies on institutional design have a broader perspective regarding the variation of design or they rather prefer to focus on specific type of cooperation problems between member states in an international institutions. Consequently, it becomes certain that none of these scholars have focused on cooperation problems, while relating this to the variation in design. This thesis paper serves to contribute to this research field, considering cooperation problems and the design of an international institution simultaneously.

## 1.1 Structure

The structure of this paper is as follows: Firstly, the main research question of this thesis paper is *why does inclusive membership vary across international organization?* One sub-question, namely *to what extent does inclusive membership vary across international organization?* , serves to structure the thesis paper. It enables to achieve a profound understanding of this research. Secondly, a conceptualization of the dependent variable inclusive membership is described. Thereafter, the theoretical framework guided by the collective-action problem theory and the concepts of cooperation problems which may occur in a strategic interaction within a prisoner-dilemma are examined. Collective-action problem is analyzed in line with a mixture of a game-theoretic and rational-choice-theoretic approach. Thus, the theoretical framework



serves to illustrate potential explanations for variation in the inclusiveness of membership. Accordingly, three possible hypotheses are derived. Thirdly, the research design following a comparative case study is highlighted. Thereafter, the case selection method and sampling is represented. Then, the data collection methods including the operationalization of all selected variables are emphasized. After this the main results including a detailed data analysis are provided. With the support of the data analysis a confirmation or refutation of each formulated hypotheses is highlighted. To round up a summarized conclusion and a limitation of the research is concerned.

## 2 Research objective

By extending the research of Koremenos et al. (2001) I will approach a similar research. However, the purpose of this research paper is not to examine the variation of all existing dimensions of the design broadly, but to investigate specifically one dimension. Since the variation in inclusive membership is not highly discussed within the study of world politics and its investigation is relevant for a better understanding of international organization's functions and operations in the world, the paper's research objective is to extensively examine the dimension *inclusive membership*. De facto is that the inclusiveness of membership varies across international organizations. Thus, the paper aims to answer the following main empirical explanatory research question

### ***Why does inclusive membership vary across international organizations?***

My unit of analysis is international organization. My dependent variable is inclusive membership. I try to examine why some international organizations are more inclusive or more restricted and others take a merged form, being partly restricted and partly inclusive. Thus, I search for possible causes (independent variable) which may explain the membership variation among the unit of analysis. The independent variables will be derived from existing literature. As the researchers Koremenos et al. (2001) did in their work, I will investigate potential causes by focusing on different types of re-current cooperation problems within international organizations. Such problems are assumed to have effects on the variation in inclusive membership and can be easily measured (De Mesquita 2013; Koremenos et. al. 2001).

In order to answer the main research question, further following sub-questions will be used.

1. To what extent does inclusive membership vary across international organization?

While considering the main research question and focusing more in theoretical terms in the first line, one may ask to what extent inclusive membership variation is represented in existing cases. Questions, such as how many and which international organizations are perceived to have a more restricted, more inclusive or a merged form of membership, may arise. Thereby, the sub-question is be used to clarify this.

### 3 Theoretical and Conceptual framework

The theoretical framework focuses on the problem of the collection-action and further cooperation problems, which are due to De Mesquita (2013) considered as facets of the cooperation problem of collective-action. It is considered within the rational-choice theory. and is analyzed by using a game-theoretic approach. Game theory helps to clarify two common problems, such as enforcement or differently formulated compliance and distribution problems. Accordingly, the prisoner's dilemma game plays an important role and shows that such cooperation problems may occur within such a game or differently formulated within a strategic interaction between at least two or more states. Thus, in this part specific theoretical predictions are highlighted in order to derive reasoned specific hypotheses that assume that collective-action problems guided by other re-current cooperation problems are possible causes for explaining the variation in inclusive membership across international organizations. However, before turning to the theoretical argumentation the dependent variable inclusive membership needs a decent multidimensional conceptualization.

#### 3.1 Inclusive membership

Membership is about who is part of an entity or institution and about "attaining something by means of this membership" (Olson 2002: 6). Membership status in an institution is given to those who pursue the same main goal or purpose. Thus, based on existing treaty provisions it can be argued that membership criteria are specified in agreements or in specific membership provisions of each entity. As De Mesquita (2013) argues membership can be categorized into three main dimensions, presenting the level of inclusiveness. The first dimension can be described as purely restricted or in other words less inclusive due to regional qualities. Concluding, a (regional) restricted membership means that only member states which fulfil specific regional or geographical criteria is part of the organization. Any other member state which pursues to be part of this organization is excluded. Underlying examples would be such

as the NAFTA, MERCOSUR, ASEAN or the former EC (1951). The second dimension can be perceived as purely inclusive. An inclusive one means that nearly everybody is part of the institution without being obliged to fulfil any further crucial requirements such as economic requirements. The UN can be considered as the only visible case, which proves to have an extraordinary inclusive type of membership. Nearly every state of the world is part of it, as long as the state is peace-loving and accepts the obligations of the UN charter Chapter II (1945). The third dimension which can be placed between the first two dimensions can be described as a merged form, considering a partly restricted and partly inclusive kind of membership (De Mesquita 2013: 261).

The third form strictly means that states who are part of an organizations are obliged to fulfill crucial requirements (for example geographical criteria) but are also inclusive in a sense (Koremenos 2001). However, the merged form does not have to occur in practice strictly as one half is restricted and the other half is inclusive. It is possible that one institution which may concern a merged form of membership, is perceived more restricted than inclusive and another one may be more inclusive than restricted. Indeed, the third merged type itself has two additional dimensions depending on the level of inclusiveness and restrictiveness again. Most of the international organizations have a merged form of membership such as the EU. Originally it was an organization with a restricted membership (EC, 1951). Thus, by the time EU member states formed an economic and monetary entity and member states who fulfils the Copenhagen criteria and other financial requirements can be part of the institution (TEU, Art. 49, Art. 6(1), n.d.). The merged form of membership is the most visible evidence across the cases. It can be observed in many examples such as the NATO, WTO, IMF and World Bank and a lot more.

### 3.2 Collective-action problem under the lenses of rational-choice and game theory

The theoretical starting point of this paper can be reasoned within the rational-choice theory. Many political scientists and sociologists argue that “any complex social phenomena” can be explained by individual actor’s actions (Scott 2000: 2). They have formulated theories based on two assumptions, firstly that all individual’s actions are conducted in a rational manner, meaning that any individual identifies and puts priorities on self-interests and secondly that any individual does a cost-and-benefit analysis of any actions before performing them (Goldstein 2008: 37; Olson 1965, Scott 2000; De Mesquita 2013). However, many others such as Hindmoor (2006) considered a limitation within this theory, which is known as the collective-action problem. There might be other pitfalls regarding this theory, but the collective-action

problem is the main concern of this paper since membership is a concern of this problem, too (Scott, 2000; Barkin, 2006). Now is the moment where one may ask what actually the collective-action problem is? The problem is better known as the so-called free-rider problem (De Mesquita 2013: 243-250, Barkin 2006: 39). As Olson (1995) states “unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, rational self-interested individuals will not act to achieve their common or group interests” (p.2). Thus, collective-action problem awakes and it “hinders the provision of public or common goods” (Hindmoor 2006: 103). In a larger organization when a member state faces the choice whether to contribute to the provision of the collective good or not, it will notice that by free-riding and cheating, it can benefit more from others than changing the provided good a little by its contribution (Olson 1965; De Mesquita 2013). Olson’s argumentative points regarding this problem can be specifically analyzed by using the game-theory, which assumes that states are “rational, strategic and opportunistic and they will cooperate with others if cooperation is in their self-interest” (Goldstein et al. 2008: 40). Within game theory the well-known prisoner's dilemma is highlighted to illustrate the collective-action problem (Hindmoor 2006: 105; Barkin 2006: 39; McCain 2010; De Mesquita 2013, Snidal 1985). However, I will refer to a short story involving two farmers, which are having a similar dilemma as the prisoners. The story behind this game is well described by Hindmoor (2006):

***Illustration: Collective action problem within a Prisoner’s (Farmer’s) Dilemma***

*Imagine a situation in which firstly “the survival of two farmers’ crops depends upon the maintenance of a dam”, secondly a repair of the dam is necessary and only one day is required (Hindmoor 2006:111). This can be actually solved easily by either one farmer, who works a whole day or by both farmers, who work for a half day. However, the collective-action problem awakes, because both farmers prefer the opportunity in which the other farmer works the whole day and both defect. Second option is both farmers prefer to cooperate and share the work. Third possibility is both prefer to work the whole day and the other farmer defects. The worst possible option is both farmers defect and the dam collapses.*

Summarized in such a game, players who are assumed to be rational decide for moves that leads to an outcome in which all players are worse off than under a different set of acts. This can be reasoned by the fact that individual actors, who are assumed to be rational and act only in self-interest, “are unable to achieve a better condition” (Goldstein et al. 2008: 40).

Now this game can be easily transferred to our research purpose. Thus, we can easily assume that collective-action problem may arise when member states prefer the opportunity in which the other member state contribute to the provision of the collective good in an international institution. Following Olson's (1965) discussion, the collective-action problem is strongly related to the numbers of actors, who are assumed to provide individually an equal amount of contributions to the collective good. In a bigger sized organization this kind of problem can happen very easily than in smaller ones. Thus in a bigger sized institution, the phenomena that the costs of providing and consuming a collective good might be higher than the benefits, that may arise. As the size or numbers of actors grow based on the commitment to internal agreement increases, the problem grows as well (De Mesquita 2013: 247). Consequently, the rational outcome is to free ride on "international efforts of others" (p. 227). Thus, this leads to the phenomena that where a collective action problem is high a more inclusive membership is concerned. An inclusive membership is concerned in terms of size or the number of actors involved in an entity. The more member states are involved in an organization, the more inclusive that organization is (De Mesquita 2013; Olson 2009; Marcelova et al. 2009). Consequently, it also means that the bigger the size of an institutions is the more certain it is that due to high level of differences in national interests, member states may or even will not be able to influence policy problems in a way so finally they can solve it as a collective in order to contribute to the collective good in an appropriate way (De Mesquita 2013).

Concluding from this the main and the first hypothesis is as follows:

***Hypothesis I:*** *International organizations with high levels of collective-action problems are more likely to have an inclusive membership than international organizations with low levels of collective-action problems.*

### 3.3 Cooperation problems: Enforcement and Distribution

However in such a simple prisoner's dilemma or in other similar games collective-action problem is shaped by many other common cooperation problems. The main problems are firstly the problem of enforcement or differently formulated of compliance and secondly the problem of distribution (Koremenos et. al 2001). These problems can be also formulated as subtle problems of efficiency and equity that are very popular from the economic terminology (MacLeod 1988; Page 1997; Pascal et al. 2010). Drezner (2000) relates these kinds of cooperation problems to multilateral cooperation. He argues that successful cooperation between states might be influenced or even hindered by lack of enforcement and bargaining

difficulties. Thus, in this research paper they are examined as further causes of variation in inclusive membership (De Mesquita 2013: 139; Downs et al. 1996; Koremenos et. al. 2001).

*Enforcement problems*, known as the problem of efficiency, are all about the failure of the “act of compliance with a law, rule or obligation” (Oxford Dictionaries n.d.). These type of problems can be illustrated by using the following repeated prisoner's dilemma or the so-called campers’ dilemma (Drezner 2000: 83; McCain 2010).

***Illustration: Enforcement problem in the Campers Dilemma***

*The game has its origin in the story of two camp counselors A and B, who share a room with a TV and DVD player. A DVD can be rented for \$5.00 for the weekend. A and B “would each get \$4.00 worth of enjoyment from a weekend movie DVD. Thus, “if each of them rents a DVD on a certain weekend they can each get \$8.00 worth of enjoyment at a cost of a \$5.00.” Thereby, their strategies are to rent (cooperate) or not to rent (defect). The best outcome is if they both cooperate. Thus, A decides to rent a DVD a particular week, B can reward her by renting the following week and the play repeats many weeks with a successful cooperation. The worst outcome is if A does not rent and does not want to cooperate with B, because A enjoys the fact that B rents a DVD. Thus, Buffy can “sanction” her by not renting a DVD and this decision can stay for many weeks (p.327). This phenomena represents the problem of enforcement, illustrating that non-compliance of an agreement between actors may lead to penalties or sanctions.*

This game or this situation examines a social dilemma, whereby the DVD can be considered as a public good or for the two actors. The meaning of defect or non-rent is that the actor who chooses not to cooperate with the other actors is “defecting from an agreement to cooperate” (McCain 2010: 326). This is what is exactly called enforcement problem.

Thus, Koremenos et al (2001) define it as “the strength of an individual actors’ incentives to cheat on a given agreement” or cooperation (p.776). Such problems may occur when states find “(current) unilateral non-cooperation” so promising, thus “they sacrifice long-term cooperation” (p.776). Another expression of enforcement problems is the problem of compliance. Although enforcement and compliance can be separated in their meaning with regards to their specific mechanism, in my thesis paper both are examined as one interchangeable merged concept in order to avoid measurement difficulties. Thus, it does not matter whether I am using the word enforcement or the word compliance, both are intended to have the same purpose in their meaning in my research paper. Thus, Raustiala & Slaughter (2002) define “compliance as a state of conformity or identity between an actor's behavior and

a specified rule'' (p.539). Due to De Mesquita (2013) high level of compliance can be achieved when behavioral requirements of an institution are shallow. These shallow requirements are more likely to be imposed by larger institutions than by smaller institutions. He also highlights that it is easy for a state to comply with requirements ''that do not demand a costly change in behavior'', but it is ''difficult to get many states to agree to the rules that require costly changes in behavior'' (De Mesquita 2013: 261).

Since enforcement or compliance problems are perceived as one facet of collective-action problem, these are assumed to be high when considering an inclusive membership.

Concluding from this, the second hypothesis is as follows:

***Hypothesis II:*** *International organizations with high levels of enforcement or compliance problems are more likely to have an inclusive membership than international organizations with low levels of enforcement or compliance problems.*

*Distribution problems*, which are also known as the problems of equity, occur moreover in coordination games such as in ''battle of the sex's games'' when actors are willing to coordinate due to situations in which they demand for ''alternative coordination points''. A zero-sum game is also another type of game in which the payoffs equal zero. Such distribution problems occur ''when a better outcome'' for one actor ''means less'' or zero for all other involved actors (Koremenos et al. 2001:775, Krasner 1991, Drezner 2000: 83; McCain 2010). In the following, the game of battle of sexes will clarify the problems of distribution shortly (McCain 2010):

***Illustration: Distribution inequity within the game of Battle of Sexes***

*Imagine a story in which a couple would like to go out on an evening for entertainment. The man would like to go to a sportive game such as basketball or football, while his wife would like to prefer a play or show. In this game it does not matter what they prefer, but what matters is that they are differences in their preferences. After work they want to spend the time together while going to one common entertainment, but unfortunately they do not have the possibility to use any communication instruments to contact one another. Consequently, they try to meet together at the same spot. Thus each of them can choose between two possibilities: Game or Show. Both are better off when they prefer the same distribution, but the ''problem of determining which of the two equilibrium is more likely to occur'' arises (p.98). In this neither opportunities are better than the other, but if both disagree and decide for different distributions they may go alone or since their first priority is to spend the evening together and their second priority is the own need, they rather prefer to go frustrated back home with zero payoffs.*



Thus, this situation adequately describes the problem of coordination or in other words the problem of distribution. Distribution problems arise when “more than one cooperative agreement is possible” and states have problems to prefer (p. 775). These kinds of problems are strongly related to bargaining costs. When distributional inequities are large, thus when there are multiple different efficient outcomes, bargaining costs will be large, too (Drezner 2000, Fearon 1998). These kinds of problems are strongly linked to enforcement problems, because both occur in most strategic interactions or games (Koremenos et al. 2001: 773).

The formulation of the third hypothesis follows the same line of argumentation as of the formulation of the second hypothesis. Thus, since distribution problems are considered as another facet of collective-action problem, such problems are assumed to be high when considering an inclusive membership, as well.

Concluding from this, the third hypothesis is as follows:

***Hypothesis III:*** *International organizations with high levels of distributional inequities are more likely to have an inclusive membership than international organizations with low levels of distributional inequities.*

## 4 Research design

### 4.1 A comparative case study

In order to answer the research question in a reasonable way, the most suitable research design seems to be a comparative case study. Following Gerring’s argumentation (2012) amongst others the selection of this particular research design can be reasoned by fulfillment of the following six criteria in my thesis: Firstly, the research question is empirical and secondly it is explanatory. Thirdly, specific theories such as rational-choice theory, game theory and specific concepts such as collective-action and two kinds of cooperation problems, which may give clues about the explanations for the outcome of variation in inclusive membership are incorporated. Fourthly, the number of possible relevant variables are four and more (collective-action, enforcement, distribution and inclusive membership). There are no treatments assigned randomly and there are no observations made at different moments in time. In order to fulfill the last criteria which pretends 1-10 units of observations, I decide to choose eight observations. Thus, the selection of the eight observations are conducted on the basis of the variation in respect to the dependent variable membership. One may ask at this moment why I did not choose 10 units of observations or why I exactly choose eight. This can be reasoned by the limited availability of datasets. It is more reliable to have more observations than less in order



to compare, to analyze and to draw conclusions on the formulated hypotheses in a reasonable way.

Furthermore, similarly De Vaus (2001) who goes more in depth states that a general case study design can be structured alongside six criteria leading to 64 different types of case study designs (e.g. De Vaus 2001: 228-229). Within these different variations I decided for a particular type of case study design, which is rather explanatory than descriptive. Secondly it is rather theory testing than theory building. The theory testing analysis method looks if cases match the set of theoretical predictions. If cases are able to do so then the case supports the theory and if it does not do so then the theory needs to be amended. Thirdly, eight cases are examined in total instead of one single case. Additionally, it considers embedded unit of analysis by examining the variation in inclusive membership within international organizations rather than holistic units of analysis by examining the international organization as a whole. Moreover, it can be described as a parallel rather than sequential case study, examining all cases at the same time. Lastly, it is a more retrospective than prospective type of case study, covering agreements from the past period from the end of the Second World until around 1983 (De Vaus 2001).

#### 4.1.1 Strengths

The strength of a comparative case study is that it enables to study the whole small N-population of international organizations more easily than other methods. A great strength of this type of case study is to achieve a high level of construct validity, because “the ability to measure in a case the indicators that best represent the theoretical concept” is higher in a case study than in other forms of studies (Bennet & Elman 2007: 42; Zeller & Carmines 1980). Moreover, it is argued that generalized applicability enables to assess empirical measurement if the measurement can be perceived within the theoretical context (De Vaus 2001). Moreover a comparative case study gives the possibility of controlling confounders or differently formulated third variables over the most-similar and most different design (Bennet 2004). Most-similar and least-similar case comparisons in international relations are “built on Mill’s method of difference and method of agreement” (Bennet 2004: 38). In the former method, the challenge is to select cases that are similar in all, except dissimilar in one independent variable and in their outcomes. In the latter form, cases that are dissimilar in all, but similar in one independent variable and in their outcomes, are selected. When such cases are examined, confounders which might interfere with the causal relationship are automatically controlled through standardization or ruled out by process-tracing (Mahoney 2012). However, one negative point in is that omitted variables bias and multicollinearity may occur when controlling confounders via most-similar

or most-different designs. Thus, when an omitted variable is correlated with independent and dependent variables, it will produce biased inferences. Summarized, this approach seems to be the best form of research design, since anything else do not seem to be feasible for this thesis paper.

#### 4.1.2 Limitations

However, the use of comparative case study is also confronted with threats. The big threat is the existence of a low level of internal validity. However, De Vaus (2001) and Gerring (2007) argue these can be successfully eliminated “through the understanding of the meaning of the particular behavior” (De Vaus 2001: 233). Thus, there might be problems alongside the factors of history and maturation and these can be solved by including these factors instead of excluding them as this is the case in other types of research designs. This can enrich a better understanding of the wider context. Another threat to comparative case study is the lack of external validity. This type of design has been criticized due to problematic generalization to a population. In this respect, one may ask how the relationship between independent and dependent variable is with cases which are not examined in the study or one may ask what happens when excluding or including one variable. A comparative case study is not able to illustrate a “statistically valid generalization beyond the particular cases” (De Vaus 2001: 237). This type of potential external threats can be reduced by replication of the research. Replication means to do the study under same conditions by producing same results. It serves to a better understanding of the theoretical generalization. Thus, if a study is repeated and if it leads to the same outcome then a certain generalization can be achieved. Inclusion, investigation and comparison of more and other similar further cases can help to achieve “a consistency in the way we expect” based on the theory and this again means more confidence in the formulated theory (De Vaus 2001: 238). However, due to the problems of cost and time only eight observations are able be conducted and not any more. At the same time replication of the research can be considered as a type of Test-Retest method, assessing the level of reliability (Carmines & Zeller 1980). Threats to criterion and content validity is always given in every type of case study and they cannot be eliminated fully. There might be difficulties to measurement. Thus relevant criterion variables are not existing and theoretical concepts are not described with exactness (Carmines & Zeller 1980). Besides, by introducing a third or control variable, the *objective* of an international institution, the spuriousness between the independent variables and the dependent,  $x$  causing  $y$ , can be determined (Babbie 2012; Gerring 2012).

## 4.2 Case selection method and purposive sampling

The purpose of the method of case selection is to find cases that are “valid and challenging the tests of theoretical predictions” and not to choose cases based on the representativeness of a population (De Vaus 2001: 240). The population will be international organizations. I will consider a purposive or strategic sampling (De Vaus 2001). A purposive sampling enables to use my own judgement to select cases which will be best to answer my research questions. This type of sampling seems to be useful for small N samples because random sampling is problematic and unreliable (Cook 2001; Saunders et al. 2011; Gerring 2007). Moreover strategic sampling enriches the theoretical replication by selecting cases on the basis of theoretical predictions. If it is possible to have cases that matches the theoretical prediction, a replication of the theory can be perceived (De Vaus 2001). As already stated in the beginning, I will only focus on inter-governmental organizations and I will exclude non-profit organizations, since inter-governmental organizations are considered to be more crucial in world politics than non-profit organizations. The investigating sample are selected on the basis of variation in the dependent variable inclusive membership. Based on a conceptual framework of inclusive membership and due to availability of data set I will investigate eight cases. I assure that each case representing one observation respectively is investigated individually as one single case. The purpose of this research paper is to examine eight single cases within one multilevel analysis. My selection of cases are representing typical cases. Gerring (2007) states that a typical case can be illustrated as “typical set of values” and “some general understanding of a phenomena” (p.91). The UN is considered to represent a purely inclusive membership. I will choose three further typical cases, NAFTA, ASEAN and MERCOSUR, which represent a regional restricted membership. Besides, I select four more typical cases EU, NATO, WTO and IMF which represent the merged membership form. I selected similar cases, based on Mills principle of “most-similar design”, in order to draw better conclusions on my hypotheses based on the analysis of existing relevant data. Unfortunately the UN is the only existing case representing an extraordinary inclusive membership form. In this context, there are no similar units of observation available to make appropriate comparisons.

However, I am well aware of that one may consider further cases or use different cases than these eight, but these selected ones were my first choice of investigation based on availability of existing data and due to time and cost factors.

### 4.3 Measurement

The following part includes measurement instruments regarding the independent variables collection-action problem, enforcement problem, distribution problem, the dependent variable inclusive membership and the control variable objective.

#### 4.3.1 Dependent Variable: Inclusive membership

*Inclusive membership* is an ordinal variable. It can be categorized from a lowest level of inclusiveness or differently formulated from a purely restricted to a purely inclusive type of membership. A merged form lies exactly in between these two extreme levels. Thus, the exact type of membership can be measured by the critical analysis of the level of legal provisions or agreements set by each selected international institution. Whether there are any requirements a state has to fulfill or not and what kind of requirements, will be stated in the membership provisions of each international entity.

#### 4.3.2 Independent variable: Collective-action problem

As Olson (2009) discussed the level of *collective-action problem* can be determined by the size, in this respect the number of member states which are included in an international organization. It is argued that the bigger an international organization is the higher the chance that the collective-action problem or free-rider problem may arise in an international institution is. This can be reasoned by the fact that the more actors are involved in a group, the more differences regarding the contribution to the collective good may occur. Thus some of these actors do not contribute to the collective good, because they do not see a sense in contributing to a collective good by their low abilities to do so. Consequently, they rather enjoy the contributions of other actors. This is known as the free-rider phenomena.

In this context, the collective action problem can be perceived as a rational variable, covering the scale from 0 to 193 and representing the numbers of member states or the size in an international institution. 193 is the cutting point since the UN is perceived as the biggest institution among all institutions and including nearly every existing state in the world.

#### 4.3.3 Independent variables: Enforcement problems and Distribution problems

Enforcement problems occur when actors find non-cooperation beneficial, thus they are able to sacrifice long-term cooperation. Unfortunately it's difficult to measure actual enforcement problems due to lack of measurement instruments. Therefore, it makes more sense to argue how hard or how great enforcement problems are based on selected agreements made between states

in related policy fields, because such agreements are outcomes of different kind of cooperation problems. At the same time, the focus on related policy fields gives an answers to the formulated sub-question in the beginning. In this case, I will refer to the data set COIL provided by Koremenos (2013). I will look how prominent enforcement problems are in particular policy areas, such as finance, investment, monetary, trade, environment, human rights and security, by examining 144 agreements and I will relate this to the selected eight cases. How strong enforcement problems were in a particular policy area can be measured by the level of percentage of enforcement problem in the amount of the selected agreements. The more agreements, or “technical standards” are made based on enforcement problems, the more states will have interaction and less incentive to defect the long-term cooperation, thus reducing enforcement problems in long-term (Koremenos et al 2001).

By using the data set COIL provided by Koremenos (2013), the same argumentation goes for the measurement of distribution problems. Distribution problems can be measured by the level of percentage of these problems in the amount of the 144 selected signed agreements between states in various policy fields. I will determine how prominent distribution problems are in various sub policy areas and relate this to the selected cases.

#### 4.3.4 Control variable: Objective

As a possible control variable I decided to focus on the objective or purpose of an institution, because the purpose of an international institution is related to membership. Thereby, I will also have a critical look within agreements and treaty provisions provided by each case. I will examine the purpose of member states’ commitment and I will analyze whether this is affecting the relationship between the independent variables and dependent one.

An overview of the measurement can be found in the following:

**Table 1: Overview of measurement**

	Membership (Y)	Collective- action problem (X1)	Enforcement problem (X2)	Distribution problem (X3)	Objective (Z)
Measurement instruments	Treaty provisions or agreements (Criteria based on qualitative critical analysis)	Size of institution (in numbers)	The amount of enforcement problems across policy fields in 144 selected agreements (in percentages)	The amount of distribution problems across policy fields in 144 selected agreements (in percentages)	Treaty provisions or agreements (Criteria based on qualitative critical analysis)

Y = Dependent variable      X (1, 2, 3) = Independent variable      Z = Control variable

## 5 Main Data source

Unfortunately, this research field leaves less room for identifying, collecting and analyzing primary data due to practical issues, cost and time expenses. Even the collection of secondary data is challenging and difficult. However, I will overcome this problematic incident by comparing and analyzing qualitative secondary data in first line. Thereby, I will relate to international law by critically examining treaty provisions and agreements of every selected eight cases. Moreover, international legal provisions are perceived as the main and first source, which give information about the numbers of member states, membership conditions and objective or purpose of any institution. Consequently, based on the analysis I will set various criteria and check whether and to what extent these are fulfilled. Furthermore, by using secondary quantitative data, namely the COIL data set provided by Koremenos (2013), I will focus on a sample of 144 coded international agreements in total covering the period 1946 until 1983.

### **COIL data by Koremenos (2013)**

*The COIL data from Koremenos (2013) concerns a COIL sample of 144 agreements, which were randomly selected from UNTS. Koremenos (2013) firstly generated a list of all international agreements by using the particular UNTS in order to obtain a random sample of 144 agreements. Then she divided these agreements into each of the four issue areas security, environment, economics and human rights. The necessary details of these randomly selected international agreements were recorded by using a coding instrument in form of a survey including ten sections and around 500+ questions. As she states clearly ‘‘the reasonableness and consistency of the coding’’ representing ‘a very important issue in any data collection effort’’ is given by an intercoder reliability report (Koremenos 2013: Coding Instrument, Training and Glossary). Further she explains that a intercoder reliability is achieved and determines for each question ‘for which there is a quantitative answer, like multiple choice, or yes/no, etc., disagreements among coders’’ (Koremenos 2013: Coding Instrument, Training and Glossary). The questions and answers which were relevant for my research paper in order to derive conclusions on the second and third hypothesis, concern three of these sections with four questions in total. The first section of interest is section two, concerning the question: How can the cooperation problem be characterized? (18) And involving only two of the relevant categorical answers for my thesis paper are: 18(4) enforcement problem and 18(5) distribution problem. The second section of interest is section four concerning the first question: What is the main issue area? (73) And considers the four categorical answers: 73(a) security 73(b) economics 73(c) environment and 73(d) human rights. The second relevant question is: What is the main sub-issue area? (74) And perceives eight categorical answers, such as 74(a) environment 74(b) security 74(c) disarmament 74(d) human rights 74(e) monetary matters 74(f) agricultural commodities 74(g) investment 74(h) finance. The last section of interest is section five and involves the question: To what type of non-state actors does the agreement refer? The categorical answer of interest in my thesis paper concerns only 97(4) pre-existing IGOs (Appendix A).*

These 144 agreements are divided into four main policy fields such as security, environment, economics and human rights. Two of these main policy fields, namely economics and security can be divided into further six sub policy areas such as security, disarmament, monetary matters, agricultural, investment and finance. Thereby, firstly I will extensively look on the

numbers of agreements in various policy fields and compare this to the total amount of selected agreements. Secondly, I will analyze whether the extent or the percentage of enforcement problems and distribution problems are more prominent in a certain (sub-) policy field than in others. In this respect, the statistical well-known program STATA will be used in order to derive descriptive statistics in form of frequency tables. Consequently, I can argue how high or low the level of enforcement problems are alongside the (sub-) policy fields and relate this to the cases. In order to confirm a significance of these two cooperation problems in different (sub-) policy fields, a simple one-sample t-test will be conducted across policy fields. Additionally, it also will be examined to what extent international organizations are represented in various sub-policy areas and to what extent the two types of cooperation problems are a concern of international organizations in general. However, I will use the existing quantitative data and qualitative data set with no commitment to a particular time period, since the time frame does not matter at all in my paper. However, the agreements provided in the sample of the COIL data were made until 1983. Before starting with analyzing the results, it is important to clarify exactly which (sub-) policy fields are covered by each of the international institution in order to draw conclusions on the formulated hypotheses. Based on the content treaty provisions and agreements regarding the purpose of the togetherness of various member states, various coverage regarding the policy fields can be made (Table 3 & 4).

## 6 Results

In the following part I am going to present a discussion or analysis of my empirical findings and I will relate this to my three formulated hypothesis.

Based on international treaty provisions and agreements, it can be argued that each of the selected international organization is covering (a) particular policy area(s) as follows:

**Table 3: International organizations covering main policy fields**

<b>Policy field</b>	<b>NAFTA</b>	<b>MERCUSOR</b>	<b>ASEAN</b>	<b>EU</b>	<b>NATO</b>	<b>WTO</b>	<b>IMF</b>	<b>UN</b>
<b>Security</b>	-	-	-	X	X	-	-	X
<b>Economics</b>	X	X	X	X	-	X	X	-
<b>Environment</b>	-	-	-	X	-	X	-	-
<b>Human Rights</b>	-	-	-	X	-	-	-	X

Source: International treaty provisions and agreements across selected international institutions (2015)

X : fully covered                      - : not covered



**Table 4: International organizations representing sub-policy fields**

<b>Sub-policy field</b>	<b>NAFTA</b>	<b>MERCOSUR</b>	<b>ASEAN</b>	<b>EU</b>	<b>NATO</b>	<b>WTO</b>	<b>IMF</b>	<b>UN</b>
<b>Environment</b>	-	-	-	X	-	X	-	-
<b>Security</b>	-	-	-	X	X	-	-	X
<b>Disarmament</b>	-	-	-	-	-	-	-	X
<b>Human Rights</b>	-	-	-	X	-	-	-	X
<b>Monetary Matters</b>	-	-	-	X	-		X	-
<b>Agricultural</b>	X	X	X	X	-	X	-	-
<b>Investment</b>	X	X	X	X	-	-	X	-
<b>Finance</b>	X	X	X	X	-	-	X	-

Source: International treaty provisions and agreements across selected international institutions (2015)

X : fully covered                      - : not covered

The following part is structured as follows. Firstly, by referring to treaty provisions I will discuss and confirm shortly the extent of inclusiveness of membership in each selected international institution. Secondly, I will have a look on the first formulated hypothesis and by following Olson's argumentation and empirical evidence, the hypothesis will be confirmed or rejected. Thirdly, I will recall the second and third hypotheses individually and based on the discussion of the empirical evidence I will confirm or reject the hypotheses. Thereafter, based on the analysis of treaty provisions, I will again investigate whether the control variable objective or purpose has an effect on all relationship determined in the formulated hypotheses. Finally, I will summarize my findings and state clear whether each of the hypothesis can be confirmed or rejected.

## 6.1 Data analysis

### *Inclusiveness of membership*

**Table 7: Membership criteria**

Criteria	NAFTA	MERCUSOR	ASEAN	EU	NATO	WTO	IMF	UN
<b>Geographical criteria</b>	X	X	X	X	(X)	-	-	-
<b>Free-trade agreement</b>	X	X	X	X	-	-	-	-
<b>Specific criteria</b>	-	-	-	X	-	-	-	(X)
<b>No specific criteria/ Vague legal framework</b>	-	-	-	-	X	X	(X)	(X)

Source: International treaty provisions and agreements across selected international organizations (2015)

X : fully covered

(X) : partly covered

- : not covered

In order to determine to what extent the inclusiveness in membership vary across international organizations, treaty provisions and agreements of these institutions are considered to be the best source. In most of the legal frameworks criteria or requirements are stated, which a member state is obliged to fulfill in order to be part of a particular international institution (Table 7). When analyzing these legal frameworks I firstly came to the conclusion that the organizations NAFTA, MERCOSUR and ASEAN only have an agreement respectively, which is based on collaboration of the involved member states and which is mainly committed to have a free-trade area (NAFTA Agreement 1994: Art 102; MERCOSUR Agreement 1991: Chapter 1; ASEAN Agreement 1967: Art 2). Another visible observation is that all three organizations follow a regional requirement. NAFTA is placed in North America and Central America. MERCOSUR is placed in South America. ASEAN covers the region of South-east Asia. Consequently, the membership requirements are very specific and restricted to geographical and free-trade criteria. The second conclusion which can be made is that the NATO and the WTO do not have a concrete legal framework at all. The NATO's foundation can be reasoned by the Principles of the 1949 Washington Treaty Art. 5. Furthermore, it conceives membership action plans underlining military criteria (NATO 1949). However, it also becomes clear that the NATO depends on a geographical criteria. The NATO connects member states from Europe and from North America. The WTO's legal foundation is based on provisions from article XII Marrakesh agreement. However, there are no specific requirements member states have to fulfill in order

to be part of the multinational trade (WTO 1995). Another conclusion which can be made is that even if the IMF and the UN have a legal framework regarding the membership they are very open to member states (IMF 1945: Art 2; UN Charter 1945: Ch II). The final conclusion I come across refers to the EU. The EU can be described as a European economic and monetary entity. Member states are obliged to fulfil specific criteria which are outlined in the treaty provisions of the EU, e.g. Copenhagen criteria (EU 1992: TEU 49). All member states follow a geographical or regional requirement. They are all placed in Europe.

Summarized it can be argued that when member states of particular international institutions fulfil a regional criteria and are committed to have a free-trade area, they seem to be more restricted than others. Thus three cases NAFTA, MERCOSUR and ASEAN can be perceived to have a restricted membership. However, member states of other international institutions which have no such two concrete criteria seem to be more inclusive than restricted, such as the EU, NATO, WTO, IMF and the UN. However, the NATO and the EU can be described as more restricted than inclusive. Both institutions fulfill a geographical criteria and are founded for different purposes than only to have free-trade area. The WTO and the IMF can be seen as more inclusive than restricted. They can be viewed as restricted in the context of their individual purpose e.g. trade or investment and inclusive due to their openness. The UN can be seen as purely inclusive, because nearly every state in the world is part of this organization and the only requirement states have to fulfill is to love and to keep peace. Based on this argumentation the various categories can be drawn as follows:

**Table 2: Inclusiveness in membership across international organizations**

Purely Inclusive	More inclusive than restricted	More restricted than inclusive	Purely restricted
UN	WTO IMF	EU NATO	NAFTA MERCOSUR ASEAN

Source: International treaty provisions and agreements across selected international institutions (2015)

### *Collective-action problem*

When following various scholar's argumentation, such as Olson (1965), Hindmoor (2006) Hardin (1982) and De Mesquita (2013) it becomes clear that the best predictor of collective-action problem is the size of a group or the number of actors in a group. It has been argued that the larger a group is the higher is the collective-action problem. This can be reasoned by the fact that in a larger group some actors may not contribute to the collective good and may enjoy

the contributions of others, because they feel like they are not able to contribute to the collective good due to their low level of competences and resources. Consequently, they prefer free-riding. This phenomena can be seen in any situations where a large group is perceived. Thus, in my thesis paper the size across the selected international organizations is determined in order to relate this to the level of collective-action problem. In this case following first hypothesis that was:

***Hypothesis I:*** *International organizations with high levels of collective-action problems are more likely to have an inclusive membership than international organizations with low levels of collective-action problems.*

Having this hypothesis in mind, I can recall very quickly the size of each of the selected eight international organizations. NAFTA is the smallest institution, which has got three member states, followed by MERCOSUR with five member states, followed by ASEAN with ten member states. The medium sized institutions are the EU and the NATO with 28 member states in each case. Organizations which can be perceived as very large are the WTO with 166 member states, followed by the IMF with 188 member states and followed by the UN, possessing 193 member states (Table 8).

**Table 8: Size of international organizations**

	NAFTA	MERCUSOR	ASEAN	EU	NATO	WTO	IMF	UN
<b>Number of MS</b>	3	5	10	28	28	161	188	193

Consequently, based on this empirical evidence the formulated hypothesis can be easily confirmed or also cannot be rejected. The size of an international organization has a positive effect on the inclusiveness of membership. It can be reasonably argued that the larger a group is, the more easily may a collective-action problem or free-rider problem occur within the group, thus the more inclusive is a group. However, the UN is the only organization, which consists of highest level collective-action problem and the most inclusive form of membership. The probability that within the UN some states are free-riding because they may feel like not having the competences to contribute to the collective good is higher than in the remaining cases. Amongst others, such as the NAFTA, MERCOSUR or the ASEAN feature the lowest level of collective-action problem and they have a restricted membership. Other cases fall in

between, whereby the EU and the NATO can be also perceived more restricted than inclusive. However, the WTO and IMF can be conceived more inclusive than restricted due to size.

#### *Cooperation problems: Enforcement problem & Distribution problem*

Recalling the first and second following hypothesis again:

**Hypothesis II:** *International organizations with high levels of enforcement or compliance problems are more likely to have an inclusive membership than international organizations with low levels of enforcement or compliance problems.*

**Hypothesis III:** *International organizations with high levels of distributional inequities are more likely to have an inclusive membership than international organizations with low levels of distributional inequities.*

Thus, it becomes clear that these two hypotheses cannot be easily confirmed or rejected like the first formulated hypothesis. As already discussed, the measurement difficulty leads me to focus on these two cooperation problems individually within various (sub-) policy fields firstly in order to determine how prominent these problems are. Then these outcomes are contributed to international organizations based on their coverage of various (sub-) policy fields (Table 3 & 4). Based on the COIL data it becomes clear that in total nearly in 43% of the selected 144 agreements, IGOs were referred by the agreements. However for around 54% the certainty of IGOs' reference was not available. It can be broadly argued that nearly half of them are certainly a concern of IGOs and another half of them might be a concern (Table 5 & 6). Consequently, there is evidence that IGOs play a huge rule in solving problems between states and in shaping the international law.

**Table 5: The amount of IGOs related to policy fields (in percentages)**

<i>Policy field</i>	<b>Security</b>	<b>Economics</b>	<b>Environment</b>	<b>Human Rights</b>	<b>Total</b>
<i>IGOs</i>	32	34	48	78	43
<i>Not available</i>	68	61	52	22	54
<i>N</i>	25	71	25	23	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

**Table 6: The amount IGOs involved in sub-policy fields (in percentages)**

<i>Sub-policy field</i>	<b>E</b>	<b>S</b>	<b>D</b>	<b>HR</b>	<b>MM</b>	<b>AC</b>	<b>I</b>	<b>F</b>	<b>Total</b>
<i>IGO</i>	50	11	86	75	0	11	88	0	43
<i>Not available</i>	50	89	14	21	100	89	12	79	54
<i>N</i>	24	18	7	24	9	19	26	19	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

However, focusing specifically on the two cooperation problems, which are mentioned in the formulated hypotheses, it becomes obvious that in total around 29% of the selected agreements refer to enforcement problems and around 30% are a concern of distribution problems. Consequently, it becomes visible that both types of cooperation problems are equally referred in the selected agreements (Table 9 & 10).

**Table 9: The amount of cooperation problems related to policy fields (in percentages)**

<i>Policy field</i>	<b>Security</b>	<b>Economics</b>	<b>Environment</b>	<b>Human Rights</b>	<b>Total</b>
<i>Enforcement problems</i>	28	27	36	30	29
<i>Distribution problem</i>	36	20	16	70	30
<i>N</i>	25	71	25	23	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

**Table 10: The amount of cooperation problems related to sub-policy fields (in percentages)**

<i>Sub-policy field</i>	<b>E</b>	<b>S</b>	<b>D</b>	<b>HR</b>	<b>MM</b>	<b>AC</b>	<b>I</b>	<b>F</b>	<b>Total</b>
<i>Enforcement problem</i>	38	6	86	30	0	21	56	5	29
<i>Distribution problem</i>	17	11	100	70	78	21	0	16	30
<i>N</i>	24	18	7	23	9	19	25	19	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

Hence, it becomes also clear that around more than a half of the total amount of enforcement problems and around 40% of the total amount of distribution problems are also related to pre-existing IGOs (Table 11).

Table 11: The amount of cooperation problems IGOs deal with (in percentages)

Cooperation problem	Enforcement problem	Distribution problem	N
<b>IGO</b>	<b>55</b>	<b>40</b>	<b>62</b>
<b>Not available</b>	10	23	78
<b>Total</b>	29	30	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

The strong correlation between the cooperation problems and IGOs can be also confirmed by the outcome of a one-sample t-test, which confirms statistical significance. Thus, the P-value following the 5% level is nearly zero in both outcomes (Appendix B: Figure 25 & 26). Consequently, there is significant evidence for cooperation problems having an effect on IGOs.

### *Enforcement problems*

Table 9: The amount of cooperation problems related to policy fields (in percentages)

<i>Policy field</i>	Security	Economics	Environment	Human Rights	Total
<i>Enforcement problems</i>	<b>28</b>	<b>27</b>	<b>36</b>	<b>30</b>	<b>29</b>
<i>Distribution problem</i>	36	20	16	70	30
<i>N</i>	25	71	25	23	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

**Table 10: The amount of cooperation problems related to sub-policy fields (in percentages)**

<i>Sub-policy field</i>	<b>E</b>	<b>S</b>	<b>D</b>	<b>HR</b>	<b>MM</b>	<b>AC</b>	<b>I</b>	<b>F</b>	<b>Total</b>
<i>Enforcement problem</i>	38	6	86	30	0	21	56	5	29
<i>Distribution problem</i>	17	11	100	70	78	21	0	16	30
<i>N</i>	24	18	7	23	9	19	25	19	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

Now turning the discussion extensively to enforcement problems, following conclusions can be made. Firstly, when considering the main policy fields of security, environment, economics and human rights, it becomes obvious that enforcement problems are nearly equally, e.g. around 30%, represented across these policy fields (Table 9). However, enforcement problems are only in policy field environment, e.g. 36%, slightly higher than in other three policy fields (Table 9). Secondly, when considering these policy fields in eight further sub-policy fields, big differences regarding the amount of enforcement problems across sub-policy fields become visible. The highest amount of enforcement problems can be counted in the policy area disarmament, e.g. 86%, followed by such problems in investment, e.g. 56%, and finally in environment, e.g. 38% (Table 10). In the policy area monetary matters no enforcement problems are considered, while in policy fields finance and security, e.g. 5% in finance and 6% in security, the lowest amount of enforcement problems are observed (Table 10).

Consequently, contributing this to the selected eight cases, the first empirical evidence suggests that enforcement problems are nearly equally distributed across international organizations. Based on this evidence only, the formulated second hypothesis can be rejected. However, when considering the second empirical evidence, covering following sub-policy fields of disarmament, investment and environment, enforcement problems are perceived as high. A simple one sample t-test of enforcement problems confirms statistical significance across nearly all selected policy fields except in sub-policy areas security and finance (Appendix B: Figure 1-12). Thus, security and finance are excluded from the following discussion.

Recalling the policy coverage of each international organization (Table 3 & 4), it can be easily argued that in first line the UN, which is covering disarmament among others, features a very high amount of enforcement problems in this policy fields, e.g. 86% (Table 10). In the context of disarmament, the formulated second hypothesis cannot be rejected, because the UN is considered to have a purely inclusive membership. Secondly, it can be examined that NAFTA,



MERCOSUR; ASEAN, EU and IMF which are covering the policy field investment among many other policy fields, show more than a half of the amount of enforcement problem in this policy area, e.g. 56% (Table 10). In the context of the cases NAFTA, MERCUSOR and ASEAN, the formulated second hypothesis can be rejected, because these three have a purely restricted membership. In the context of the EU and the IMF, the hypothesis can be partly confirmed, following the same argumentation as of the UN. Hence, the EU has an inclusive and a restricted membership. Thirdly, it can be argued that the EU and the WTO, which are covering the policy field environment, show more than one-third of enforcement problems, e.g. 38%, in the policy field. In the context of environment, the formulated hypothesis can be confirmed (Table 10). Interestingly, there are no enforcement problems related to the policy field concerning monetary matters. This is a policy field which is covered mainly by the EU and IMF. In both cases within the context of investment, the hypothesis can be rejected, because both are covering this policy field and are assumed to have an inclusive membership. The amount of enforcement problems in the policy area human rights and agricultural commodities are low, e.g. 30% in human rights and 21% in agricultural commodities, in order to make appropriate conclusions on the hypothesis (Table 10). Thus, it can be argued that the EU and UN, covering the human rights issue, concern a low level of enforcement problems and on the basis of the knowledge that the EU has a partly inclusive membership and the UN has a purely inclusive membership the hypothesis can be rejected. The same argumentation goes for the policy field agriculture, which is covered by the EU and the WTO. Finally, the hypothesis can be rejected.

### *Distribution problems*

**Table 9: The amount of cooperation problems related to policy fields (in percentages)**

<i>Policy field</i>	<b>Security</b>	<b>Economics</b>	<b>Environment</b>	<b>Human Rights</b>	<b>Total</b>
<i>Enforcement problems</i>	28	27	36	30	29
<i>Distribution problem</i>	36	20	16	70	30
<i>N</i>	25	71	25	23	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

**Table 10: The amount of cooperation problems related to sub-policy fields (in percentages)**

<i>Sub-policy field</i>	<b>E</b>	<b>S</b>	<b>D</b>	<b>HR</b>	<b>MM</b>	<b>AC</b>	<b>I</b>	<b>F</b>	<b>Total</b>
<i>Enforcement problem</i>	38	6	86	30	0	21	56	5	29
<i>Distribution problem</i>	17	11	100	70	78	21	0	16	30
<i>N</i>	24	18	7	23	9	19	25	19	144

Source: Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681.

Now moving the discussion to the third hypothesis regarding distribution problems, following empirical evidence can be considered. Firstly, when considering the main policy fields differences regarding the distribution problems across policy fields are visible. The amount of distribution problems is relatively high in the policy field human rights, e.g. 70%, followed by more than one-third in the field of environment, e.g. 36% (Table 9). In the remaining two policy fields the amount of distributions is below 20% (Table 9). Secondly, when examining these policy fields in eight further sub-policy fields, huge variations regarding the amount of distribution problems across sub-policy areas can be noticed. The highest amount of distribution problems can be counted in the policy area disarmament, e.g. 100% (Table 10). Thus every agreement made in this policy field refers to distribution problems. This is strongly followed by such problems, which are visible in monetary matters, e.g. 78% and in human rights, e.g. 70% (Table 10). While in policy field's finance and security, e.g. 16% in finance and 11% in security, the lowest amount of enforcement problems are observed, in the policy area investment no distribution problems are considered at all (Table 10). In this context the relation of these two problems to a particular policy field is different, making clear that the amount of enforcement problems and distribution problems are not always connected to similar policy fields.

Consequently, contributing this to the selected eight cases, the first empirical evidence already suggests that distribution problems are highly placed across international organizations, especially in the policy field human rights. Human rights is mainly a concern of the EU and the UN. In this respect the hypothesis cannot be easily rejected. The UN is perceived as extraordinary inclusive and the EU is considered as partly inclusive. Now the question may arise why distribution problems are relatively high in the policy field of human rights (e.g. 70 & 78%). This phenomena can be explained by the fact that human rights is a policy area, which has been in the first line covered by individual states. Thus only the national state has an

exclusive competence in this field and decides how to treat its citizens who show a violation of human right matter within its country. In an international institution, such as in the UN or the EU, distribution problems may arise very easily. This can be explained by the fact that when many states are involved in a discussion regarding a human rights matter, various preferences in cooperative actions against the particular violation of human rights may arise. Thus, states can have disagreement about various issues, such as how and to what extent the rules, rights and punishment should be incorporated. In an institution such as the UN, around 193 states are involved. Hence, the UN concerns actors which are shaped by various differences in culture, in ideology, in institutions and even in their common human right practice. Such differences contributes to the increase of distribution problems in this policy area (Koremenos & Hong 2012: 5-6).

In all other three policy fields, the amount of such problems is low to draw appropriate conclusion on the hypothesis. However, considering the second empirical evidence, covering the sub-policy fields of disarmament, monetary matters and again human rights, distribution problems are conceived as high. Additionally, again a one sample t-test of distribution problems across these policy fields confirms statistical significance in almost all selected policy fields except within the sub-policy areas security and finance. Finally, security and finance are excluded from the following discussion again (Appendix B: Figure 13-24).

Consequently, recovering the policy coverage of each international organization again, similar argumentation as regarding enforcement problems can be made (Table 3 & 4). Thus, it can be easily argued that in first line the UN, which is covering disarmament among others, features the highest amount of distribution problems in this policy field, e.g. 100% (Table 10). In this case, the formulated third hypothesis cannot be rejected, because UN is considered to have a purely membership. Secondly, it can be examined that more than two-third of amount of distribution problems can be placed within the policy field monetary matters, e.g. 78% (Table 10). Consequently, within the cases of the EU and the IMF the formulated third hypothesis cannot be rejected, because the IMF is perceived more inclusive than restricted and the EU is considered as partly inclusive in its membership. Thirdly, it can be illustrated that the EU and the UN, which are covering human rights amongst others, show more than two-third of amount of enforcement problem in this policy area, e.g. 70% (Table 10). In this context, the formulated third hypothesis cannot be rejected, because the UN features an extraordinary inclusive membership, while the EU holds a partly an inclusive membership. Surprisingly, while there are no enforcement problems related to the policy field monetary matters, there are no distribution problems related to the policy field investment (Table 10). This again confirms that

the amount of distribution and enforcement problems are not always equally related to same policy fields. The amount of distribution problems in the policy area agricultural commodities and environment are low, e.g. 21 % in agricultural commodities and 17 % in environment, in order to make appropriate conclusions on the hypothesis (Table 10). Thus, it can be argued that the EU and the WTO, covering the agricultural and environmental issue, concern a low level of distribution problems and on the basis of the knowledge that the EU has a partly inclusive membership and the WTO has a more inclusive than restricted membership the hypothesis can be rejected. In the cases of NAFTA, MERCUSOR and ASEAN the hypothesis cannot be rejected, because in most of the policy areas which are covered by them, distribution problems are either low or cannot be taken into consideration due to lack of statistical significance e.g. finance.

### *Control variable: Objective*

Table 12: Objective of international organizations

	NAFTA	MERCUSOR	ASEAN	EU	NATO	WTO	IMF	UN
<b>Objective/Purpose</b>	Free-trade	Free-trade	Free-trade	Economic and monetary entity	Military purpose	Multinational trade	International Monetary and investment purpose	International Peace

Source: International treaty provisions and agreements across selected international organizations

Based on treaty provisions and agreements of the selected organizations, the objective or purpose of each international institutions can be easily categorized (Table 12). NAFTA, MERCOSUR and ASEAN exist for free-trade purposes in their regions, while the NATO is founded for military and security objectives. The EUs purpose of entity is mainly economic and monetary but other factors such as environmental issues play also a role. The WTO is mainly founded to enable multinational trade across 166 states in the world. The IMF has its purpose in international monetary and investment matters. Finally, the UN reasons its existence in peace-keeping across states.

Consequently, it becomes clear that nearly every selected international organization has its own purpose or objective varying amongst others. Only in the cases NAFTA, MERCOSUR and ASEAN, similarities can be seen. It can be easily argued that objective has an effect on the level of inclusiveness of membership in some international organizations. International organizations, following a free-trade purpose only, are more likely to have a restricted membership. However, it is very vague to draw conclusions on other cases, since each of them has a different objective or purpose. Consequently it is vague to argue that objective has an effect on inclusiveness of membership across international organizations. It is also difficult to argue that the purpose of an international organization solely has an effect on the type of cooperation problems or other way around, because the variation in purpose across international organization is too high in order to draw conclusion on the effect on other factors.

## 7 Conclusion

Summarized, it can be stated that the first formulated hypothesis, which assumes that high level of collective-action problems have a positive effect on inclusive membership across international institutions cannot be rejected or can be easily confirmed due to empirical evidence. However, an easy confirmation looks different when considering the second hypothesis, which assumes that high level of enforcement problems have a positive effect on inclusive membership across international organizations. Based on the first empirical evidences, which confirms an equal amount of enforcement problems in all selected policy fields, the second hypothesis can be rejected. However, when considering the second empirical evidence, the hypothesis cannot be rejected in the cases of the UN, the EU, the WTO and the IMF due to empirical evidence. The empirical evidence confirms that in these cases related to (a) particular field(s) enforcement problems are relatively high compared to others and that they have a positive effect on inclusive membership. In the cases of the NAFTA, MERCOSUR, ASEAN, when relating these to particular policy fields, the hypothesis can be certainly rejected. However, conclusion on the NATO cannot be drawn due to statistical non-significance within the sub policy field security. Consequently, in four cases, thus related to policy fields such as disarmament, investment and environment, the hypothesis cannot be rejected and in the remaining others it can be rejected.

The confirmation of the third hypothesis looks also different again. The third hypothesis assumes that high level of distribution problems have a positive effect on inclusive membership across international institutions. When considering the first and second empirical evidence, the hypothesis cannot be rejected in nearly all cases except in the cases of the WTO and NATO.

For the NATO the same argumentation as for enforcement problems can be followed. Statistical evidence shows a non-significance of distribution problems within the sub-policy field security. Consequently, in almost all selected cases, when related to the policy fields such as human rights, disarmament, monetary matters, the hypothesis cannot be rejected. Besides the empirical evidence confirms that even in the context of NAFTA, MERCUSOR and ASEAN the hypothesis cannot be rejected. This can be reasoned by the empirical evidence, which shows that the level of distribution problems is low within the three policy coverage of these institutions e.g. investment, agriculture and finance except in monetary matters.

Recalling the following research question ‘Why do inclusive membership vary across international organizations?, one of my formulated hypothesis cannot be rejected and can be used in order to give an answer to the research question of my paper. In this context, empirical evidence confirms that problem of collective-action derived from theories have a positive effect on the variation of the inclusiveness of membership across international organizations. Consequently, it can be certainly stated that the more actors are involved in an institution the higher is the change to have a collective-action problem within this institution. Hence, empirical evidence confirm that collective-action problem has an effect on the variation in membership across international institutions visible. It can be confirmed that the higher a collective-action problem in an international institution is the more inclusive is this international institution in its membership. However, in the context of enforcement and distribution problems, the answer to the research question cannot be easily given. This underlies the fact that empirical evidence shows that only in some cases, related to a particular policy field, the formulated hypotheses cannot be rejected and in others cases these can be easily rejected. Especially in the field of disarmament and human rights, which are both covered by the UN and partly by the EU (e.g. human rights) the hypotheses cannot be rejected. Unfortunately, non-significance in statistical evidence regarding the sub-policy field security does not allow to make conclusion on the case of NATO at all. Summarized it can be stated that cooperation problems might have a positive effect on the variation in membership across international organization, but it can only be argued alongside policy fields, which are covered by international organization. Hence, it cannot be clearly stated that the selected three cooperation problems indeed have an effect on the variation in membership across international institutions.

However, at this moment I am well aware that cooperation problems are not the only factors affecting the variation in inclusive membership across international institutions and probably other factors have to be included, as well. In the following part, the limitations of this thesis paper and suggestions for further research are shortly discussed

## 7.1 Limitation

The outcome of my research makes me well aware of various limits. In my thesis paper, I have only investigated three factors, namely collective-action problem, enforcement problems and distribution problems due to lack of time and space. However, I noticed that it would be more valid to include more factors, such as for example Koremenos (2013) has done in her work, for instance including more factors such coordination problems, uncertainty, positive or negative externalities and many more would be more valid in order to draw find a more appropriate answer to the research question. Thus, to make conclusions based on only these three factors might be vague regarding the answer to the research question. Another point that I have to recall is the measurement difficulty, which are can be perceived as threats to internal and external validity. In this respect, I think it is difficult to argue alongside the policy fields solely and then contribute this to international organizations based only on criteria which I derived from treaty provisions and agreements in order to make the coverage of policy fields of any international institutions clear. Consequently, there might be threats to (criterion) validity, which can be reasoned by the fact that the criteria for the coverage of policy fields of an international institution is not appropriate. Maybe other scholars would set different criteria for the coverage of policy fields of these international institution. Another issue, which becomes obvious is that the used COIL data set, which is also provided by Koremenos (2013), was very helpful in order to provide empirical evidence, however the selected 144 agreements were mostly made before 1985. Contradictory, it would be great to have a sample of more present agreements between states in order to compare the current data with those from before. Moreover, it has been argued that the rise of IGOs is increasing since 1991 (end of the Cold War), thus it would be informative to have agreements which were made after 1991 until present between member states. Finally, in my thesis paper I only investigated eight cases in order to draw conclusions on the relationship between cooperation problems and the variation in inclusive membership due to data availability. However, now I am well aware of that it would be better to include many more cases and to conduct a more cross-sectional or even longitudinal study. Parallel to this, it would also make sense to conduct a single case study for each of the selected eight cases and then to compare these studies and to draw conclusions in order to have a more consistent results.

Summarized it can be concluded that there are various limits regarding my thesis paper visible. Various issues and limits, which cannot be dealt in a simple bachelor thesis paper. This paper can be perceived at one side as an extension of the work of Koremenos et al (2001) by focusing only on one dimension, but on the other side it can be seen as a starting point for further research

in the field of membership variation. There are various issues and factors except the cooperation problems, which are related to membership, which has to be incorporated, improved and enriched by further research.

## 7.2 Social and scientific relevance

The social and scientific relevance of this paper is to have a better understanding of the one part of any international institution's design. The design of an institution is less discussed in the literature and if it is the case then it is only discussed broadly. By focusing on a specific dimension of the design, a better understanding of the performance of an international institution can be achieved. The quality of the design and the level of the performance or effectiveness are somehow interlinked. Thus, a good design may lead to a good performance. Consequently, an international institution can be changed in respect to the dimensions of design in order to perceive a better performance. It is important to understand why international organizations vary due to their inclusiveness of membership and why they cannot all have a standard membership type. This is again important in order to have a better understanding of the way how international institutions operate in the world and how they relate to various incidents and cooperation problems states are confronted with, since their activity is rapidly increasing in the nearby future. Avoidance of various cooperation problems may be achieved by specific focus on the dimension of membership.

In the daily life scenario currently the problematic matter of including or excluding the member state Greece from the EU or rather from the Eurozone points out the importance of membership and cooperation problems in an international organization. Another real-life example would be the Ukraine. The question of including or excluding the Ukraine in the EU is also a concern of membership and of cooperation problems which are adequately linked to membership. These examples highlight the importance of the awareness of membership variation, linked to cooperation problems and international law.



## 8 References

ASEAN (1967). Free-trade agreement. Retrieved from [http://www.asean.org/images/2012/Economic/AFTA/Common\\_Effective\\_Preferential\\_Tariff/Framework%20Agreements%20on%20Enhancing%20ASEAN%20Economic%20Cooperation%20.pdf](http://www.asean.org/images/2012/Economic/AFTA/Common_Effective_Preferential_Tariff/Framework%20Agreements%20on%20Enhancing%20ASEAN%20Economic%20Cooperation%20.pdf)

ASEAN (1967). Free-trade agreement. Retrieved from [http://www.asean.org/images/2012/Economic/AFTA/Common\\_Effective\\_Preferential\\_Tariff/Agreement%20on%20the%20Common%20Effective%20Preferential%20Tariff%20Scheme%20for%20the%20ASEAN%20Free%20Trade%20Area.pdf](http://www.asean.org/images/2012/Economic/AFTA/Common_Effective_Preferential_Tariff/Agreement%20on%20the%20Common%20Effective%20Preferential%20Tariff%20Scheme%20for%20the%20ASEAN%20Free%20Trade%20Area.pdf)

Babbie, E. (2012). *The basics of social research*. Cengage Learning.

Barkin, J. S. (2006). *International organization: theories and institutions*. Palgrave Macmillan

Bennett, A. (2004). Case study methods: Design, use, and comparative advantages. *Models, numbers, and cases: Methods for studying international relations*, 19-55.

Bennett, A., & Elman, C. (2007). Case study methods in the international relations subfield. *Comparative Political Studies*, 40(2), 170-195.

Carlsnaes, W., Risse-Kappen, T., Risse, T., & Simmons, B. A. (Eds.). (2002). *Handbook of international relations*. Sage.

De Mesquita, B. B. (2013). *Principles of international politics*. Sage.

De Vaus, D. A., & de Vaus, D. (2001). *Research design in social research*. Sage.

Downs, G. W., Rocke, D. M., & Barsoom, P. N. (1996). Is the good news about compliance good news about cooperation?. *International Organization*, 50(03), 379-406.

Drezner, D. W. (2000). Bargaining, enforcement, and multilateral sanctions: when is cooperation counterproductive?. *International Organization*, 54(01), 73-102.

European Union (1992). *Lisbon Treaty*. TEU: Art 49.

Fearon, J. D. (1998). Bargaining, enforcement, and international cooperation. *International Organization*, 52(02), 269-305.

Gerring, J. (2007). *Case study Research*. Cambridge University press.

Gerring, J. (2012). *Social science methodology*. Cambridge University press.

Goldstein, J. S., Pevehouse, J. C., & Sernau, S. (2008). *Principles of international relations*. Pearson Longman.

Haggard, S., & Simmons, B. A. (1987). Theories of international regimes. *International Organization*, 41(3), 491-517.

Hardin, R. (1982). *Collective Action*. Baltimore: Johns Hopkins University Press.

Hindmoor, A. M. (2006). *Rational choice*. Palgrave Macmillan.  
*International Organization*. (n.d.). Retrieved March 20, 2015, from <http://iojournal.org/>

Huntington, S. P. (1993). *The third wave: Democratization in the late twentieth century* (Vol. 4). University of Oklahoma press.

International Monetary Fund (1945). *Art II: Membership*. Retrieved from  
<http://www.imf.org/external/pubs/ft/aa/index.htm>

International Monetary Fund. Agreement. Retrieved from  
<http://www.imf.org/external/pubs/ft/aa/index.htm>

Koremenos, B., Hong M. W. (2012). Explaining Away the Human Rights Dummy.  
Retrieved July 07, 2015, from  
[http://www.iilj.org/courses/documents/koremenos\\_explainingawaythehumanrightsdummy.pdf](http://www.iilj.org/courses/documents/koremenos_explainingawaythehumanrightsdummy.pdf)

Koremenos, B., Lipson, C., & Snidal, D. (2001). Rational design: Looking back to move forward. *International Organization*, 55(04), 1051-1082.

Koremenos, B. (2013). The Continent of International Law. *Journal of Conflict Resolution*, 57(4): 653-681. Retrieved May 27, 2015, from  
<http://www.isr.umich.edu/cps/coil/population.html>

Koremenos, B., Lipson, C., & Snidal, D. (2001). The rational design of international institutions. *International organization*, 55(04), 761-799.

Krasner, S. D. (1991). Global communications and national power: Life on the Pareto frontier. *World politics*, 43(03), 336-366.

MacLeod, W. B. (1988). Equity, efficiency, and incentives in cooperative teams. *Advances in the Economic Analysis of Participatory and Labor Managed Firms*, 3, 5-23.

Mahoney, J. (2012). The logic of process tracing tests in the social sciences. *Sociological Methods & Research*, 0049124112437709.

Markelova, H., Meinzen-Dick, R., Hellin, J., & Dohrn, S. (2009). Collective action for smallholder market access. *Food policy*, 34(1), 1-7.

Martin, L. L., & Simmons, B. A. (1998). Theories and empirical studies of international institutions. *International Organization*, 52(04), 729-757.

MERCUSOR (1991). Free-trade Agreement. Retrieved from  
<http://www.sice.oas.org/trade/mrcsr/mrcsrtoc.asp>

McCain, R. (2010) Game theory – a nontechnical introduction to the study of strategy. Singapore, World Scientific.

NAFTA (1994). Free-trade agreement. Retrieved April 01, 2015, from  
<http://www.internationaldemocracywatch.org/index.php/north-american-free-trade-agreement>

- NATO (1949). Retrieved from [http://www.nato.int/cps/en/natolive/topics\\_49212.htm](http://www.nato.int/cps/en/natolive/topics_49212.htm)
- Oliver, P. E., & Marwell, G. (1988). The Paradox of Group Size in Collective Action: A Theory of the Critical Mass. II. *American Sociological Review*, 1-8.
- Olson, M. (1965). *The Logic of Collective Action*.
- Olson, M. (2002). The logic of collective action. *Public goods and the theory of groups*, 2.
- Olson, M. (2009). *The logic of collective action* (Vol. 124). Harvard University Press.
- Oxford Dictionaries*. (n.d.). Retrieved April 01, 2015, from <http://www.oxforddictionaries.com/de/definition/englisch/non-compliance>
- Oxford Dictionaries*. (n.d.). Retrieved April 01, 2015, from <http://www.oxforddictionaries.com/definition/english/enforcement>
- Page, T. (1997). On the problem of achieving efficiency and equity, intergenerationally. *Land Economics*, 580-596.
- Pascual, U., Muradian, R., Rodríguez, L. C., & Duraiappah, A. (2010). Exploring the links between equity and efficiency in payments for environmental services: A conceptual approach. *Ecological Economics*, 69(6), 1237-1244.
- Raustiala, K., & Slaughter, A. M. (2002). International law, international relations and compliance. *International Relations and Compliance. Princeton Law & Public Affairs Paper*, (02-2).
- Richards, J. E. (1999). Toward a positive theory of international institutions: Regulating international aviation markets. *International Organization*, 53(01), 1-37.
- Rosendorff, B. P., & Milner, H. V. (2001). The optimal design of international trade institutions: Uncertainty and escape. *International Organization*, 55(04), 829-857.
- Roussett, B., Starr, H., & Kinsella, D. (2006). *World politics: The menu for choice*. Cengage Learning.
- Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students*, 5/e. Pearson Education India.
- Scott, J. (2000). Rational Choice Theory. From Understanding Contemporary Society: Theories of the present. *Sage publications*.
- Simmons, B. A., & Martin, L. L. (2002). International organizations and institutions. *Handbook of international relations*, 192-2.
- Snidal, D. (1985). The game theory of international politics. *World Politics*, 38(01), 25-57.

United Nations (1945). *Chapter II: Membership Art. 3-6*. Charter of the United Nations. Retrieved from <http://www.un.org/en/documents/charter/chapter2.shtml>

United Nations (1945). *Charter of the United Nations*.

Wallace, M., & Singer, J. D. (1970). Intergovernmental organization in the global system, 1815–1964: a quantitative description. *International Organization*, 24(02), 239-287.

World Trade Organization (1995). Retrieved from [https://www.wto.org/english/thewto\\_e/acc\\_e/acc7\\_3\\_e.htm](https://www.wto.org/english/thewto_e/acc_e/acc7_3_e.htm)

Zeller, R. A., & Carmines, E. G. (1980). *Measurement in the social sciences: The link between theory and data*. CUP Archive.

## 9 Appendices

### 9.1 Appendix A: Survey by Koremenos (2013)

In the following I will provide the selection of questions, which were relevant for my thesis paper, from the survey map by Koremenos (2013):

#### ***Section 2***

*Question 18. How can the cooperation problem be characterized?*

*Answers: 18(4) enforcement problem and 18(5) distribution problem*

#### ***Section 4***

*Question 73. What is the main issue area?*

*Answers: 73(a) security 73(b) economics 73(c) environment and 73(d) human rights.*

*Question 74. What is the main sub-issue area?*

*Answers: 74(a) environment 74(b) security 74(c) disarmament 74(d) human rights 74(e) monetary matters 74(f) agricultural commodities 74(g) investment 74(h) finance*

#### ***Section 5***

*Question 97. To what type of non-state actors does the agreement refer?*

*Answers: 97(4) pre-existing IGOs.*

## 9.2 Appendix B: Frequency tables

**Frequency table 1: IGOs related to main policy fields**

```
. tab q97_4 q73, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.97.4	q.73				Total
	a	b	c	d	
0	0	4	0	0	4
	0.00	5.63	0.00	0.00	2.78
1	8	24	12	18	62
	32.00	33.80	48.00	78.26	43.06
NA	17	43	13	5	78
	68.00	60.56	52.00	21.74	54.17
Total	25	71	25	23	144
	100.00	100.00	100.00	100.00	100.00

**Frequency table 2: IGOs related to sub-policy fields**

```
. tab q97_4 q74, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.97.4	q.74					Total
	a	b	c	d	e	
0	0	0	0	1	0	5
	0.00	0.00	0.00	4.17	0.00	3.42
1	12	2	6	18	0	63
	50.00	11.11	85.71	75.00	0.00	43.15
NA	12	16	1	5	9	78
	50.00	88.89	14.29	20.83	100.00	53.42
Total	24	18	7	24	9	146
	100.00	100.00	100.00	100.00	100.00	100.00

q.97.4	q.74			Total
	f	g	h	
0	0	0	4	5
	0.00	0.00	21.05	3.42
1	2	23	0	63
	10.53	88.46	0.00	43.15
NA	17	3	15	78
	89.47	11.54	78.95	53.42
Total	19	26	19	146
	100.00	100.00	100.00	100.00

### Frequency table 3: Enforcement problems in main policy fields

```
. tab q18_4 q73, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.18.4	q.73				Total
	a	b	c	d	
0	18 72.00	52 73.24	16 64.00	16 69.57	102 70.83
1	7 28.00	19 26.76	9 36.00	7 30.43	42 29.17
Total	25 100.00	71 100.00	25 100.00	23 100.00	144 100.00

### Frequency table 4: Enforcement problems in sub-policy fields

```
. . tab q18_4 q74, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.18.4	q.74					Total
	a	b	c	d	e	
0	15 62.50	17 94.44	1 14.29	16 69.57	9 100.00	102 70.83
1	9 37.50	1 5.56	6 85.71	7 30.43	0 0.00	42 29.17
Total	24 100.00	18 100.00	7 100.00	23 100.00	9 100.00	144 100.00

q.18.4	q.74			Total
	f	g	h	
0	15 78.95	11 44.00	18 94.74	102 70.83
1	4 21.05	14 56.00	1 5.26	42 29.17
Total	19 100.00	25 100.00	19 100.00	144 100.00

.

## Frequency table 5: Distribution problems in main policy fields

```
. tab q18_5 q73, col
```

Key
<i>frequency</i> <i>column percentage</i>

q.18.5	q.73				Total
	a	b	c	d	
0	16 64.00	57 80.28	21 84.00	7 30.43	101 70.14
1	9 36.00	14 19.72	4 16.00	16 69.57	43 29.86
Total	25 100.00	71 100.00	25 100.00	23 100.00	144 100.00

## Frequency table 6: Distribution problems in sub-policy fields

```
. . tab q18_5 q74, col
```

Key
<i>frequency</i> <i>column percentage</i>

q.18.5	q.74					Total
	a	b	c	d	e	
0	20 83.33	16 88.89	0 0.00	7 30.43	2 22.22	101 70.14
1	4 16.67	2 11.11	7 100.00	16 69.57	7 77.78	43 29.86
Total	24 100.00	18 100.00	7 100.00	23 100.00	9 100.00	144 100.00

q.18.5	q.74			Total
	f	g	h	
0	15 78.95	25 100.00	16 84.21	101 70.14
1	4 21.05	0 0.00	3 15.79	43 29.86
Total	19 100.00	25 100.00	19 100.00	144 100.00



## Frequency table 7: Enforcement problems related to IGOs

```
. . tab q18_4 q97_4, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.18.4	q.97.4			Total
	0	1	NA	
0	4 100.00	28 45.16	70 89.74	102 70.83
1	0 0.00	34 54.84	8 10.26	42 29.17
Total	4 100.00	62 100.00	78 100.00	144 100.00

## Frequency table 8: Enforcement problems related to IGOs

```
. . tab q18_5 q97_4, col
```

Key
<i>frequency</i>
<i>column percentage</i>

q.18.5	q.97.4			Total
	0	1	NA	
0	4 100.00	37 59.68	60 76.92	101 70.14
1	0 0.00	25 40.32	18 23.08	43 29.86
Total	4 100.00	62 100.00	78 100.00	144 100.00

### 9.3 Appendix C: Statistical significance: One-sample t-tests

**Figure 1: Enforcement problems in main policy field security**

```
. ttest q18_4 == 0 if q73 == "a"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	25	.28	.0916515	.4582576	.0908406	.4691594

```

      mean = mean(q18_4)                                t =    3.0551
Ho: mean = 0                                           degrees of freedom =    24

      Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9973          Pr(|T| > |t|) = 0.0054          Pr(T > t) = 0.0027

```

**Figure 2: Enforcement problems in main policy field economics**

```
. ttest q18_4 == 0 if q73 == "b"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	72	.2777778	.0531563	.4510464	.1717871	.3837685

```

      mean = mean(q18_4)                                t =    5.2257
Ho: mean = 0                                           degrees of freedom =    71

      Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 1.0000          Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000

```

**Figure 3: Enforcement problems in policy field environment**

```
. ttest q18_4 == 0 if q73 == "c"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	25	.36	.0979796	.4898979	.1577801	.5622199

```

      mean = mean(q18_4)                                t =    3.6742
Ho: mean = 0                                           degrees of freedom =    24

      Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9994          Pr(|T| > |t|) = 0.0012          Pr(T > t) = 0.0006

```

**Figure 4: Enforcement problems in policy field human rights**

```
. ttest q18_4 == 0 if q73 == "d"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	24	.3333333	.0982946	.4815434	.1299954	.5366713

```
mean = mean(q18_4)                                t = 3.3912
Ho: mean = 0                                       degrees of freedom = 23
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 0.9987                        Pr(|T| > |t|) = 0.0025                        Pr(T > t) = 0.0013
```

**Figure 5: Enforcement problems in sub-policy field environment**

```
. ttest q18_4 == 0 if q74 == "a"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	24	.375	.1009466	.4945354	.166176	.583824

```
mean = mean(q18_4)                                t = 3.7148
Ho: mean = 0                                       degrees of freedom = 23
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 0.9994                        Pr(|T| > |t|) = 0.0011                        Pr(T > t) = 0.0006
```

**Figure 6: Enforcement problems in sub-policy field security**

```
. ttest q18_4 == 0 if q74 == "b"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	18	.0555556	.0555556	.2357023	-.0616564	.1727675

```
mean = mean(q18_4)                                t = 1.0000
Ho: mean = 0                                       degrees of freedom = 17
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 0.8343                        Pr(|T| > |t|) = 0.3313                        Pr(T > t) = 0.1657
```

**Figure 7: Enforcement problems in sub-policy field disarmament**

```
. ttest q18_4 == 0 if q74 == "c"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	7	.8571429	.1428571	.3779645	.507584	1.206702

```
mean = mean(q18_4)                                t = 6.0000
Ho: mean = 0                                         degrees of freedom = 6
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9995          Pr(|T| > |t|) = 0.0010          Pr(T > t) = 0.0005
```

**Figure 8: Enforcement problems in sub-policy field human rights**

```
. ttest q18_4 == 0 if q74 == "d"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	24	.3333333	.0982946	.4815434	.1299954	.5366713

```
mean = mean(q18_4)                                t = 3.3912
Ho: mean = 0                                         degrees of freedom = 23
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9987          Pr(|T| > |t|) = 0.0025          Pr(T > t) = 0.0013
```

**Figure 9: Enforcement problems in sub-policy field monetary matters**

```
. ttest q18_4 == 0 if q74 == "e"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	9	0	0	0	0	0

```
mean = mean(q18_4)                                t = .
Ho: mean = 0                                         degrees of freedom = 8
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = .                Pr(|T| > |t|) = .                Pr(T > t) = .
```

**Figure 10: Enforcement problems in sub-policy field agricultural**

```
. ttest q18_4 == 0 if q74 == "f"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	19	.2105263	.0960917	.4188539	.0086452	.4124074

```
mean = mean(q18_4)
Ho: mean = 0
t = 2.1909
degrees of freedom = 18
```

```
Ha: mean < 0
Pr(T < t) = 0.9791
Ha: mean != 0
Pr(|T| > |t|) = 0.0419
Ha: mean > 0
Pr(T > t) = 0.0209
```

**Figure 11: Enforcement problems in sub-policy field investment**

```
. ttest q18_4 == 0 if q74 == "g"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	26	.5769231	.0988095	.5038315	.3734211	.780425

```
mean = mean(q18_4)
Ho: mean = 0
t = 5.8387
degrees of freedom = 25
```

```
Ha: mean < 0
Pr(T < t) = 1.0000
Ha: mean != 0
Pr(|T| > |t|) = 0.0000
Ha: mean > 0
Pr(T > t) = 0.0000
```

**Figure 12: Enforcement problems in sub-policy field finance**

```
. ttest q18_4 == 0 if q74 == "h"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	19	.0526316	.0526316	.2294157	-.0579433	.1632064

```
mean = mean(q18_4)
Ho: mean = 0
t = 1.0000
degrees of freedom = 18
```

```
Ha: mean < 0
Pr(T < t) = 0.8347
Ha: mean != 0
Pr(|T| > |t|) = 0.3306
Ha: mean > 0
Pr(T > t) = 0.1653
```

**Figure 13: Distribution problems in main policy field security**

```
. ttest q18_5 == 0 if q73 == "a"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	25	.36	.0979796	.4898979	.1577801	.5622199

mean = mean(q18\_5) t = 3.6742  
Ho: mean = 0 degrees of freedom = 24

Ha: mean < 0 Ha: mean != 0 Ha: mean > 0  
Pr(T < t) = 0.9994 Pr(|T| > |t|) = 0.0012 Pr(T > t) = 0.0006

**Figure 14: Distribution problems in main policy field economics**

```
. ttest q18_5 == 0 if q73 == "b"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	72	.1944444	.0469695	.3985498	.1007898	.2880991

mean = mean(q18\_5) t = 4.1398  
Ho: mean = 0 degrees of freedom = 71

Ha: mean < 0 Ha: mean != 0 Ha: mean > 0  
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0001 Pr(T > t) = 0.0000

**Figure 15: Distribution problems in main policy field environment**

```
. ttest q18_5 == 0 if q73 == "c"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	25	.16	.0748331	.3741657	.005552	.314448

mean = mean(q18\_5) t = 2.1381  
Ho: mean = 0 degrees of freedom = 24

Ha: mean < 0 Ha: mean != 0 Ha: mean > 0  
Pr(T < t) = 0.9786 Pr(|T| > |t|) = 0.0429 Pr(T > t) = 0.0214

**Figure 16: Distribution problems in main policy field human rights**

```
. ttest q18_5 == 0 if q73 == "d"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	24	.7083333	.094776	.4643056	.5122743	.9043924

```
mean = mean(q18_5)                                t = 7.4738
Ho: mean = 0                                         degrees of freedom = 23
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 1.0000          Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000
```

**Figure 17: Distribution problems in sub-policy field environment**

```
. ttest q18_5 == 0 if q74 == "a"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	24	.1666667	.0777087	.3806935	.0059139	.3274194

```
mean = mean(q18_5)                                t = 2.1448
Ho: mean = 0                                         degrees of freedom = 23
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9786          Pr(|T| > |t|) = 0.0428          Pr(T > t) = 0.0214
```

**Figure 18: Distribution problems in sub-policy field security**

```
. ttest q18_5 == 0 if q74 == "b"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	18	.1111111	.0762216	.3233808	-.0497024	.2719246

```
mean = mean(q18_5)                                t = 1.4577
Ho: mean = 0                                         degrees of freedom = 17
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9184          Pr(|T| > |t|) = 0.1631          Pr(T > t) = 0.0816
```

**Figure 19: Distribution problems in sub-policy field disarmament**

```
. ttest q18_5 == 0 if q74 == "c"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	7	1	0	0	1	1

```
mean = mean(q18_5)          t = .
Ho: mean = 0                degrees of freedom = 6
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = .                Pr(|T| > |t|) = .                Pr(T > t) = .
```

**Figure 20: Distribution problems in sub-policy field human rights**

```
. ttest q18_5 == 0 if q74 == "d"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	24	.7083333	.094776	.4643056	.5122743	.9043924

```
mean = mean(q18_5)          t = 7.4738
Ho: mean = 0                degrees of freedom = 23
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 1.0000          Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000
```

**Figure 21: Distribution problems in sub-policy field monetary matters**

```
. ttest q18_5 == 0 if q74 == "e"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	9	.7777778	.1469862	.4409586	.438827	1.116729

```
mean = mean(q18_5)          t = 5.2915
Ho: mean = 0                degrees of freedom = 8
```

```
Ha: mean < 0                Ha: mean != 0                Ha: mean > 0
Pr(T < t) = 0.9996          Pr(|T| > |t|) = 0.0007          Pr(T > t) = 0.0004
```



**Figure 22: Distribution problems in sub-policy field agricultural**

```
. ttest q18_5 == 0 if q74 == "f"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	19	.2105263	.0960917	.4188539	.0086452	.4124074

```
mean = mean(q18_5)                                t =      2.1909
Ho: mean = 0                                       degrees of freedom =      18
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 0.9791                        Pr(|T| > |t|) = 0.0419                        Pr(T > t) = 0.0209
```

**Figure 23: Distribution problems in sub-policy field investment**

```
. ttest q18_5 == 0 if q74 == "g"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	26	0	0	0	0	0

```
mean = mean(q18_5)                                t =      .
Ho: mean = 0                                       degrees of freedom =      25
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) =      .                        Pr(|T| > |t|) =      .                        Pr(T > t) =      .
```

**Figure 24: Distribution problems in sub-policy field finance**

```
. ttest q18_5 == 0 if q74 == "h"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	19	.1578947	.085947	.3746343	-.0226732	.3384627

```
mean = mean(q18_5)                                t =      1.8371
Ho: mean = 0                                       degrees of freedom =      18
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 0.9586                        Pr(|T| > |t|) = 0.0828                        Pr(T > t) = 0.0414
```

**Figure 25: Enforcement problems related to IGOs**

```
. ttest q18_4 == 0 if q97_4 == "1"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_4	63	.5555556	.0631069	.5008953	.4294067	.6817044

```
mean = mean(q18_4)                                t =      8.8034
Ho: mean = 0                                       degrees of freedom =      62
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 1.0000                        Pr(|T| > |t|) = 0.0000                        Pr(T > t) = 0.0000
```

**Figure 26: Distribution problems related to IGOs**

```
. ttest q18_5 == 0 if q97_4 == "1"
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
q18_5	63	.3968254	.0621334	.4931689	.2726224	.5210284

```
mean = mean(q18_5)                                t =      6.3867
Ho: mean = 0                                       degrees of freedom =      62
```

```
Ha: mean < 0                                Ha: mean != 0                                Ha: mean > 0
Pr(T < t) = 1.0000                        Pr(|T| > |t|) = 0.0000                        Pr(T > t) = 0.0000
```