



Coalition Formation in International Environmental Regimes



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Abstract

In negotiations in international regimes states form coalitions to save transaction costs. Until now we have only descriptive, but hardly analytical knowledge on coalition formation in international regimes. The aim of the project is to model and analyse the formation of coalitions. The analysis will be theory-based and data-based. The structure of international regimes and the related negotiations among states, which form coalitions, is best described by a multi-agent-system.

Background

In the anarchic system of states, conflict should be the norm as realism predicts. But regime theory shows that there is cooperation among states despite anarchy (Zangl 2006). As we can observe, there is cooperation e.g. in climate change or biodiversity. The arena in which the cooperation between states takes place is called a regime. Krasner gives an abstract definition: „International regimes are defined as principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area.“ (Krasner 1983: 2).

Until now we have only descriptive, but hardly analytical knowledge on coalition formation in international regimes.

„The number of actors participating in an international regime may vary from two to the complete set of states. Whereas it is more difficult to create regimes with many actors, we do not know much about the effects of numbers on regime consequences.“ (Levy et al. 1995: 279)

„[...] much research on international regimes to date has taken the form of single case studies or structured, focused comparisons using a small number of cases.“ (Levy et al. 1995: 279).

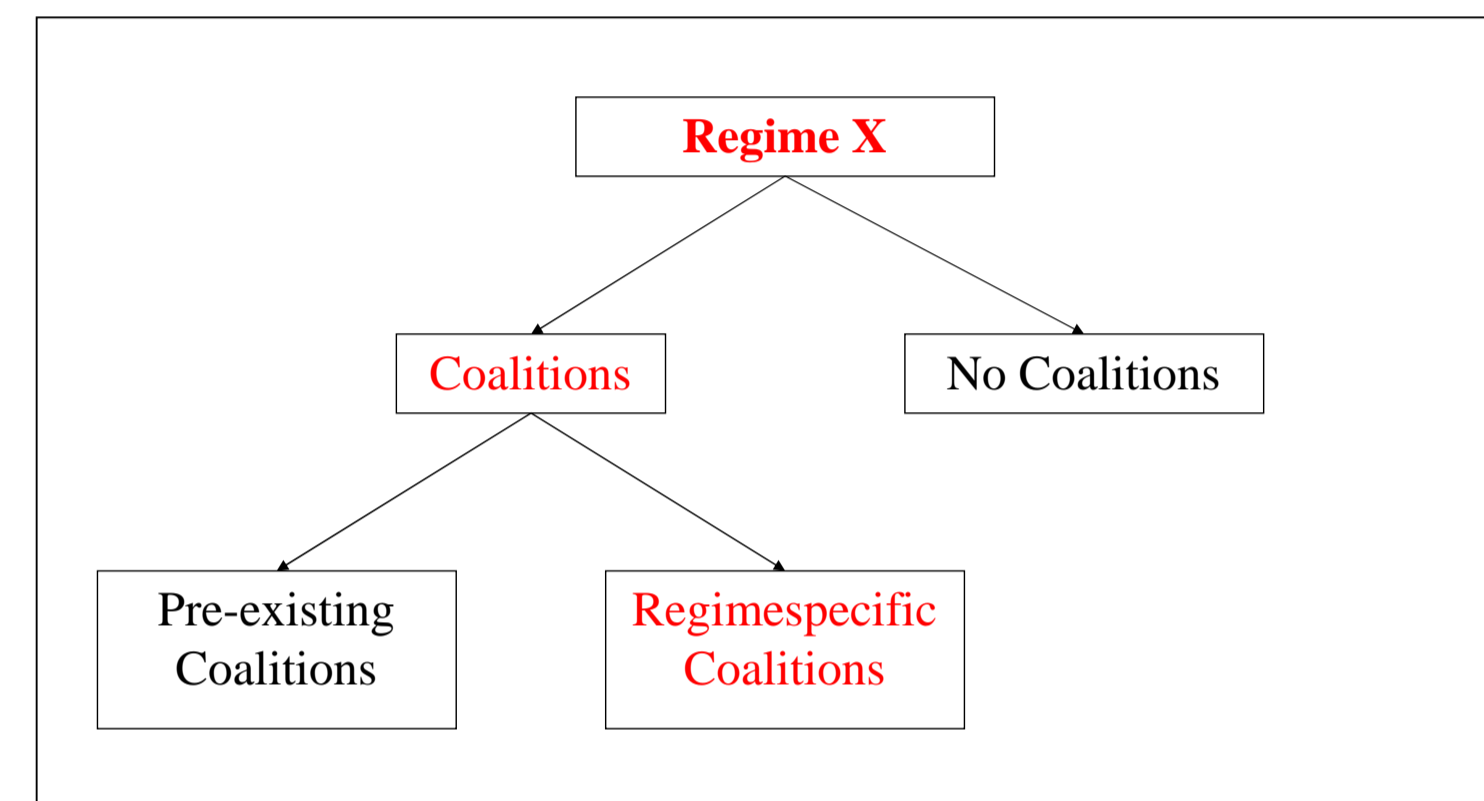
Dataset

Data on all international regimes are not available, however, there are data on international environmental regimes. Therefore, the analysis will concentrate on international environmental regimes. The data used is extracted from the **“International Regimes Database”** by Breitmeier, Young and Zürn (2006). This database consists of **23 international environmental regimes** and includes **more than 200 variables**.

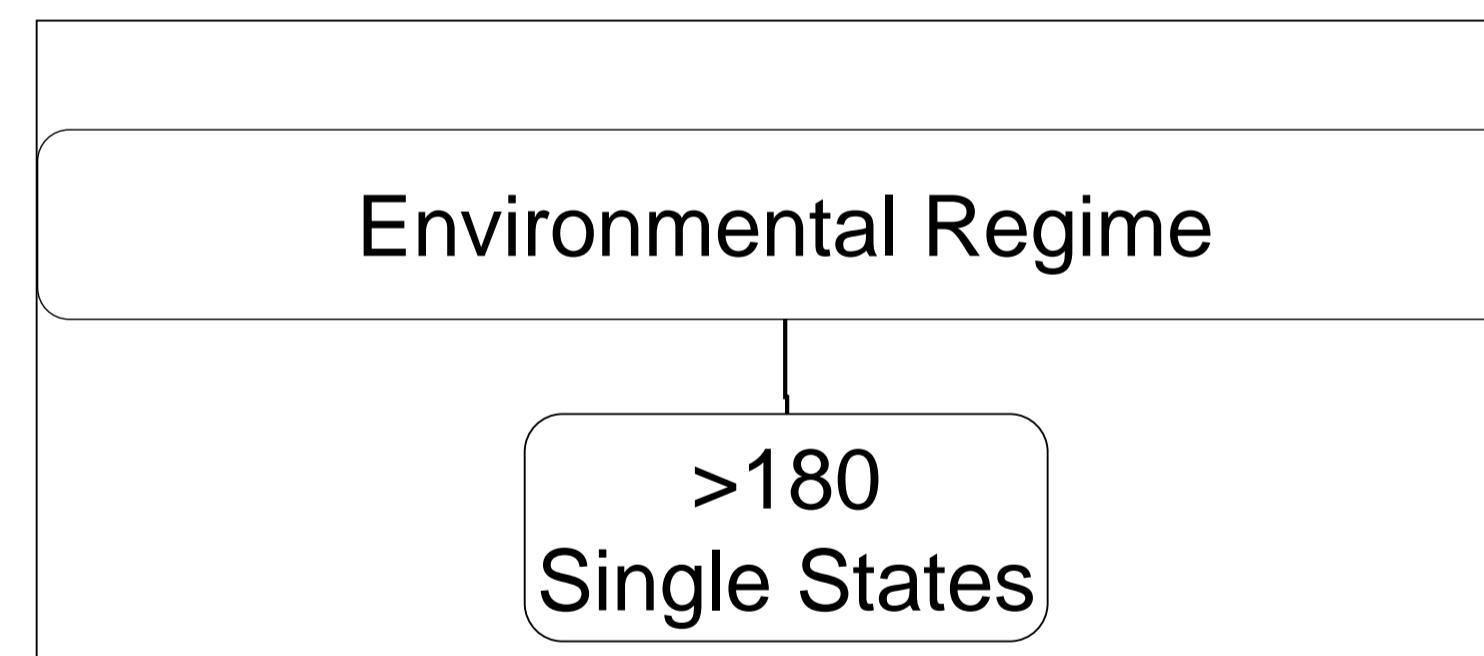
Antarctic Regime	Baltic Sea Regime
Barents Sea Fisheries Regime	Biodiversity Regime
CITES (Convention on International Trade in Endangered Species)	Climate Change Regime
Danube River Protection	Desertification Regime
Great Lakes Management Regime	Hazardous Waste Regime
IATTC Regime (Inter-American Tropical Tuna Commission)	ICCAT Regime (International Commission for the Conservation of Atlantic Tunas)
International Regulation of Whaling	London Convention Regime
Long-Range Transboundary Air Pollution	North Sea Regime
Oil Pollution Regime	Protection of the Rhine Against Pollution
Ramsar Regime	Regime for Protection of the Black Sea
South Pacific Fisheries Forum Agency Regime	Stratospheric Ozone Regime
Tropical Timber Trade Regime	

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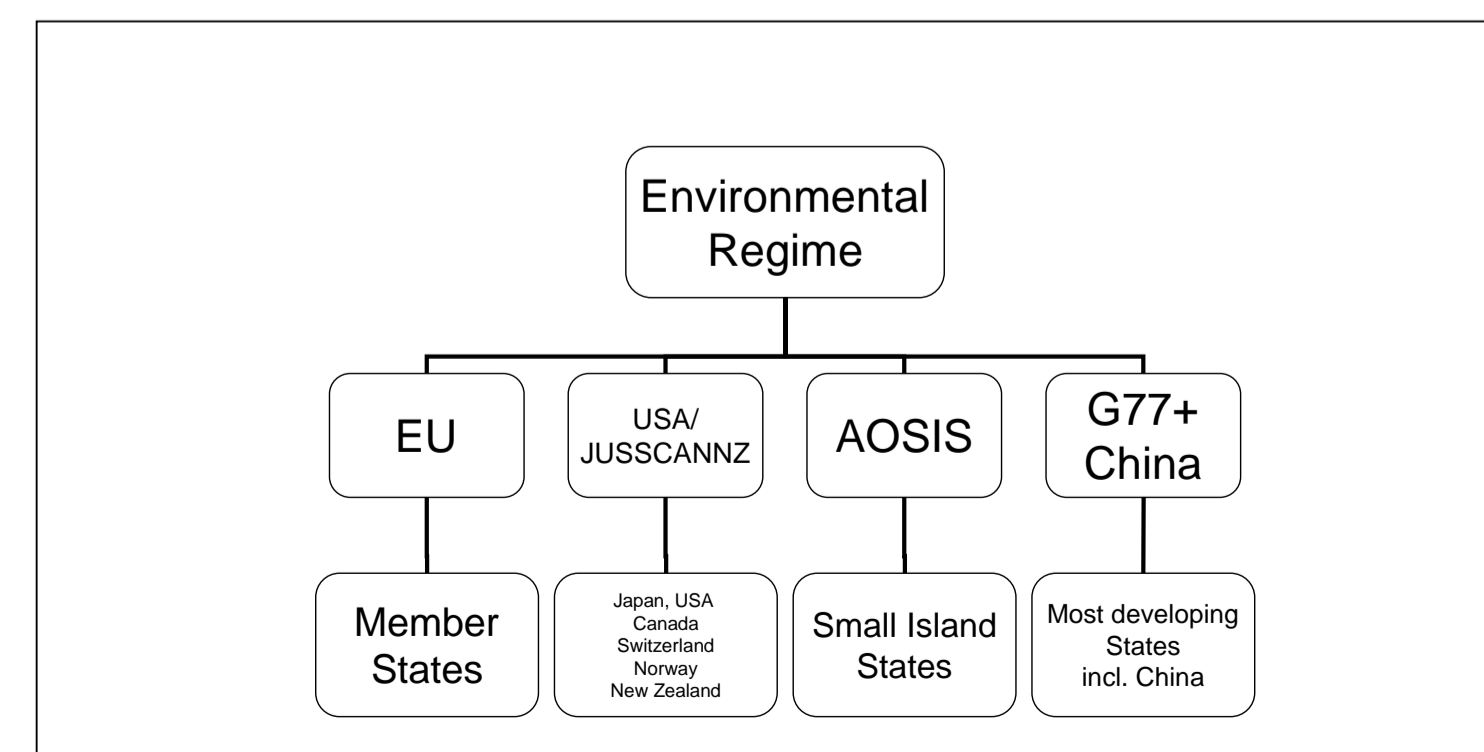
The focus of the analysis



Heuristic principle I: disordered negotiations among the complete set of states



Heuristic principle II: In order to save transaction costs, states form coalitions. These coalitions negotiate to form the environmental regime



Hypotheses (in Development)

H 1	The higher the number of participating actors, the more likely coalitions occur.
H 2	Actors with greater power tend to form coalitions among each other.
H 3	The more powerful a state is, the less often he forms a coalition with an other state.
H 4	Actors, who are negatively affected by a negotiated issue tend to form coalitions among each other.
H 5	The more power a coalition has, the more likely an other state joins that coalition.
H 6	It is more likely that state A forms a coalition with state B, if state B is a member in the same supranational federation (e.g. EU) as state A.
H 7	It is more likely that states form coalitions with their geographical neighbours, than with other states.

The Basic Model

The basic model describes two phases in the coalition formation process, the formation of the initial coalitions and the coalition game in which the final coalitions evolve.

In the first step, the “Exclusive Membership Multiple Coalition Δ -Game” as suggested by Finus (2001) will be implemented.

At time step $t=0$ actors simultaneously announce a list of actors with which they like to form a coalition. Those actors that mutually list each other will form a coalition (Finus 2001: 296).

In the second step states play the coalition game.

Every actor decides at every following timestep $t>0$ to stay in his actual coalition or to join another coalition.

The coalition structure is called stable if there is

- no incentive for a signatory to a coalition to leave the coalition and
- no incentive for a non-signatory to join the coalition.

References

- Breitmeier, H., Young, O. R. und M. Zürn (2006): Analyzing International Environmental Regimes. From Case Study to Database. Cambridge: MIT Press.
- Krasner, S. D. (1983): Structural Causes and Regime Consequences: Regimes as Intervening Variables. In Krasner, Stephen D. (Hrsg.): International Regimes. Ithaca/New York/London: Cornell University Press. 4–22
- Finus, M. (2001): Game Theory and International Environmental Cooperation. Cheltenham, Northampton: Edward Elgar.
- Levy, M. A., Young, O. R. und M. Zürn (1995): The Study of International Regimes. In: European Journal of International Relations 1: 267–300.
- Zangl, B. (2006): Regimetheorie. In: Schieder, Siegfried und Manuela Spindler (Hrsg.): Theorien der Internationalen Beziehungen. Opladen/Farmington Hills: Budrich. 124–144.