

The Club Approach: A Gateway to Effective Climate Cooperation?

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„Schneller im Club? Braucht die internationale Klimapolitik eine Überholspur für Pionierstaaten?“

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The Club Approach

Global Warming Gridlock (Victor 2011)

- Better to start with a ‘climate club’, consisting of a few highly motivated (“enthusiastic”) countries?
- Enthusiastic countries:
 - Willing to undertake emissions reductions, even if such reductions do not maximize own welfare
 - Motivated by a “logic of appropriateness” rather than by a “logic of consequences”
- Entice reluctant countries to follow suit
 - Club benefits
 - Conditional commitments
 - [Side-Payments → Separate manuscript]
- Also: Nordhaus (2015)

Research Question

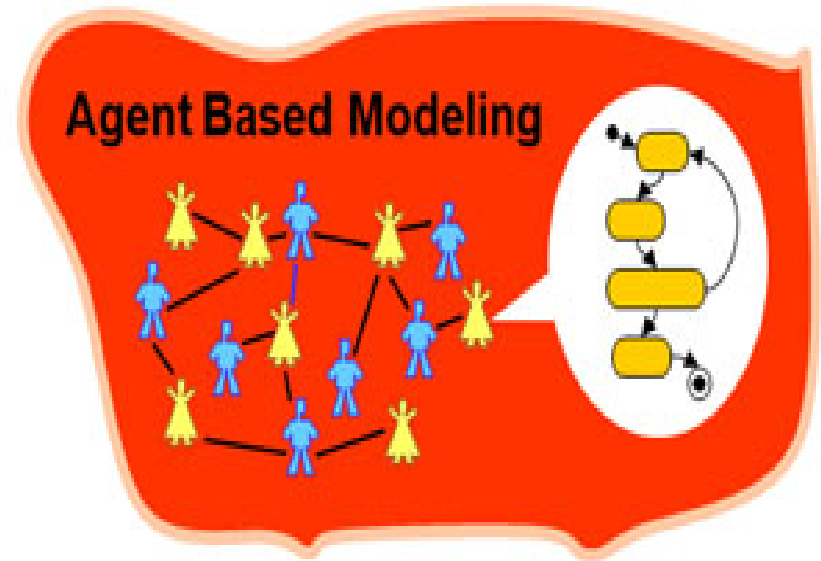
- Under what conditions (if any) might a climate club persist and grow?
- Aims
 - Potential for club persistence and growth, depending on:
 - The constellation of enthusiastic countries (initial members)
 - The existence and size of exclusive benefits for members
 - Whether members can use conditional commitments
 - We do not *advocate* the club approach
 - Rather, we study:
 - Whether the club approach *could* work
 - Under what *conditions* (if any) it could work
 - Aim to contribute toward providing a basis for assessing whether the club approach offers a realistic alternative

Climate Clubs

- Definition: Any group of countries that
 - Starts off with fewer members than the UNFCCC has, and
 - Aims to cooperate on one or more climate-change related activities
 - We focus on climate *mitigation* clubs
- The record of existing climate clubs
 - No better than that of the UNFCCC
 - ‘Discussion clubs’ (Andresen 2014; Weischer et al. 2012)
 - Examples: Asia-Pacific Partnership, MEF, Renewables Club
- Mapping the conditions under which a climate club can effectively reduce global emissions may help us
 - Understand why existing climate clubs have largely failed
 - Judge whether, and if so when, future clubs might be more successful

Method: ABM

- Heterogeneous actors
 - “Enthusiastic” actors
 - “Reluctant” actors
- Dynamic interactions
 - Actors might reverse their membership decision
 - Decision making is repeated until an equilibrium is reached



Model actors

- Enthusiastic actors
 - Have an exogenous motivation to start a club
 - Will not attempt to free-ride
 - Will abandon club if – after negotiating with all other states – the club gives them negative net benefits relative to the no-club scenario
- Reluctant actors
 - Rational and self-interested
 - Join only if private benefits exceed abatement costs (1% of GDP)
- Basic assumptions
 - Open-membership policy
 - Any country satisfying the membership requirement can join
 - Membership requirement
 - Undertake mitigation costing 1% of GDP
 - Binary decision
 - Member/not



Data

Country	% of global GHG emissions	% of GGP	Vulnerability index
China	27.3	12.3	0.30
United States	13.6	22.4	0.20
European Union	9.0	23.2	0.20
India	6.4	2.5	0.43
Indonesia	4.8	1.2	0.34
Russian Federation	4.7	2.8	0.29
Japan	3.1	6.5	0.29
Brazil	2.2	3.0	0.30
Canada	1.8	2.4	0.23
Iran	1.7	0.5	0.29

Results

Equilibrium outcome without conditional commitments

	No club good		Club good scale = 0.1	
Enthusiastic actors	Emissions covered	Members	Emissions covered	Members
China	0	None	0	None
US	0	None	41	US, China
EU	0	None	36	EU, China
China, US	0	None	41	China, US
China, EU	0	None	36	China, EU
US, EU	0	None	50	China, US, EU
China, US, EU	50	China, US, EU	50	China, US, EU
BASIC	37	BASIC	37	BASIC
BRICS	42	BRICS	42	BRICS
	Club good scale = 0.2		Club good scale = 0.25	
China	0	None	0	None
US	47	China, US, India	100	All countries
EU	61	China, US, EU, India, Indonesia	100	All countries
China, US	47	China, US, India	100	All countries
China, EU	61	China, US, EU, India, Indonesia	100	All countries
US, EU	61	As above	100	All countries
China, US, EU	61	As above	100	All countries
BASIC	37	BASIC	100	All countries
BRICS	42	BRICS	100	All countries

Results

With conditional commitments

	No club good		Club good scale = 0.1	
Enthusiastic actors	Emissions covered	Members	Emissions covered	Members
China	0	None	0	None
US	0	None	47	US, China, India
EU	0	None	56	China, US, EU, India
China, US	0	None	47	China, US, India
China, EU	0	None	56	China, US, EU, India
US, EU	50	China, US, EU	56	As above
China, US, EU	50	China, US, EU	56	As above
BASIC	37	BASIC	37	BASIC
BRICS	42	BRICS	42	BRICS
	Club good scale = 0.2		Club good scale = 0.25	
China	85	19 countries	100	All countries
US	85	19 countries	100	All countries
EU	85	19 countries	100	All countries
China, US	85	19 countries	100	All countries
China, EU	85	19 countries	100	All countries
US, EU	85	19 countries	100	All countries
China, US, EU	85	19 countries	100	All countries
BASIC	85	19 countries	100	All countries
BRICS	85	19 countries	100	All countries

Main Findings

- Modest club benefits
 - Can enable some clubs to persist, and induce some other countries to join
- Larger club benefits
 - Can induce universal participation
- Combining club benefits with conditional commitments
 - Powerful under many of the conditions we consider
- Results: fairly robust
 - To changes in the level and distribution of climate damage costs