

Yale

New Challenges to International Cooperation: Automation and Climate Change

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MacMillan Center

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Last class: domestic support for climate change

- ▶ Transition needs hands-tying commitments.
- ▶ Policies need to consider non-economic costs.
- ▶ Policy generated by market competition likely insufficient.
- ▶ Timing and cost of policies determine implementation.

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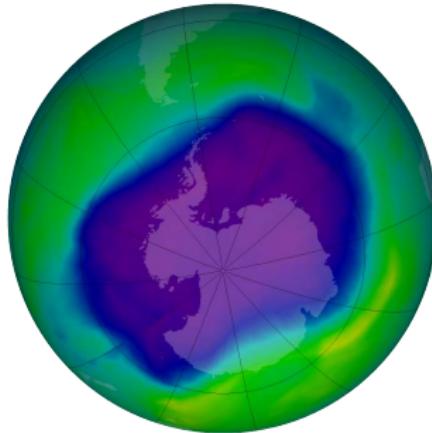
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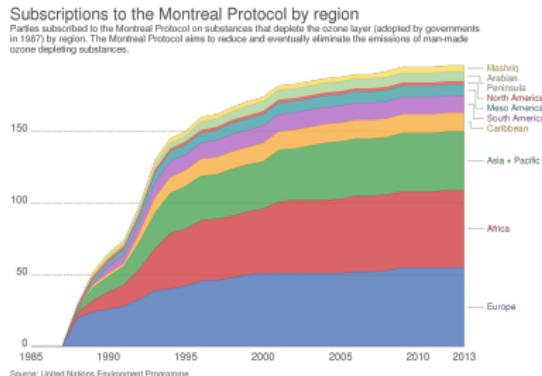
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- ▶ Private transnational regulation may be insufficient.
 - ▶ Too specific and not geared towards welfare maximization.
 - ▶ Public-private partnerships may be needed.

Global cooperation success? Ozone layer and CFCs



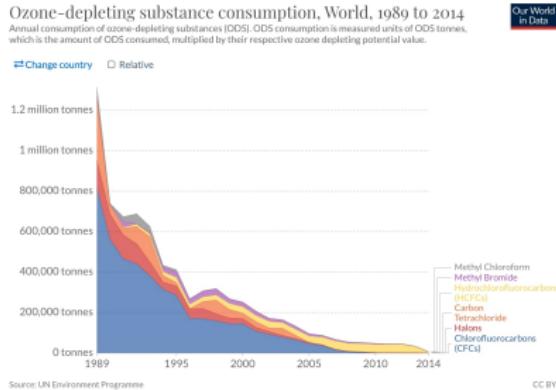
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- ▶ Strengthened (naive) opinions regarding universalism.

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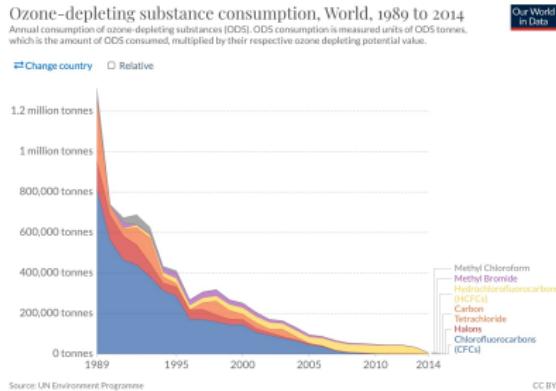
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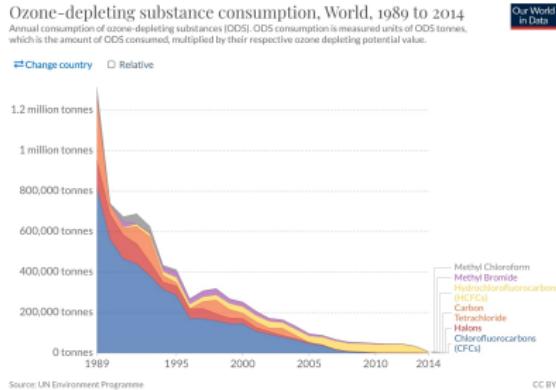
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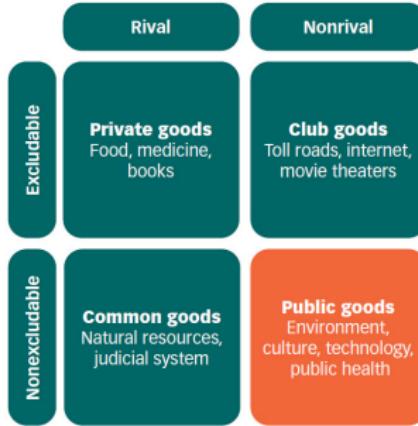
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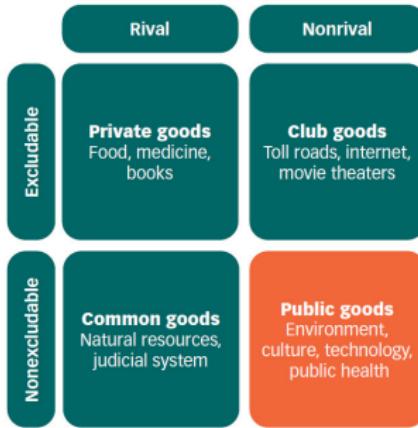
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Climate change adaptation as a global public good



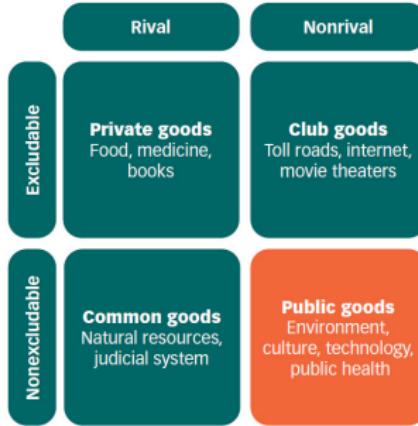
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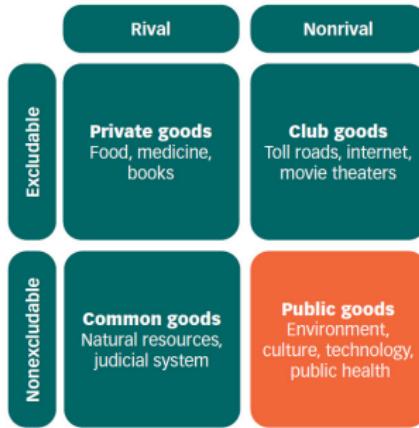
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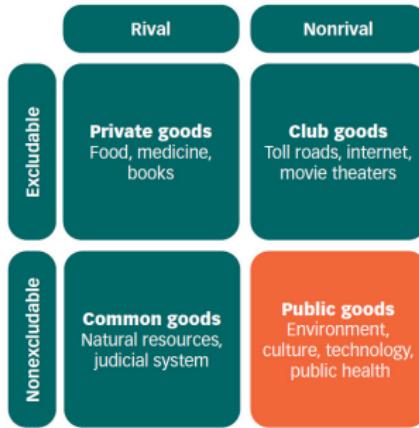
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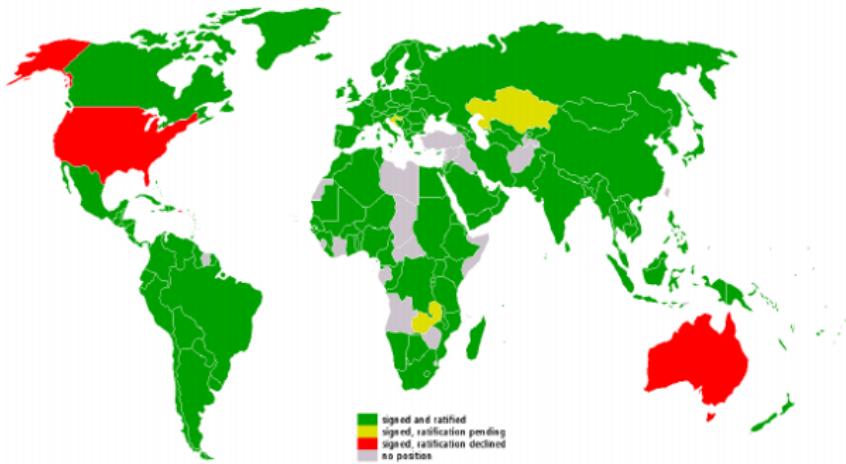
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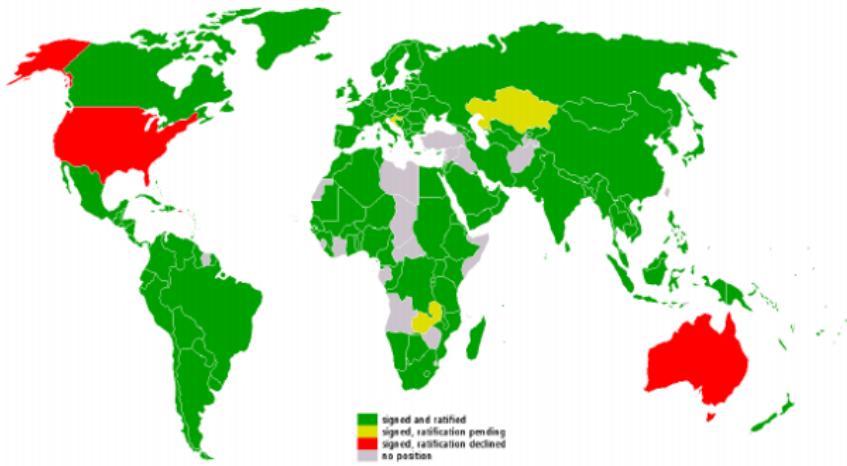
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Hegemons and veto players



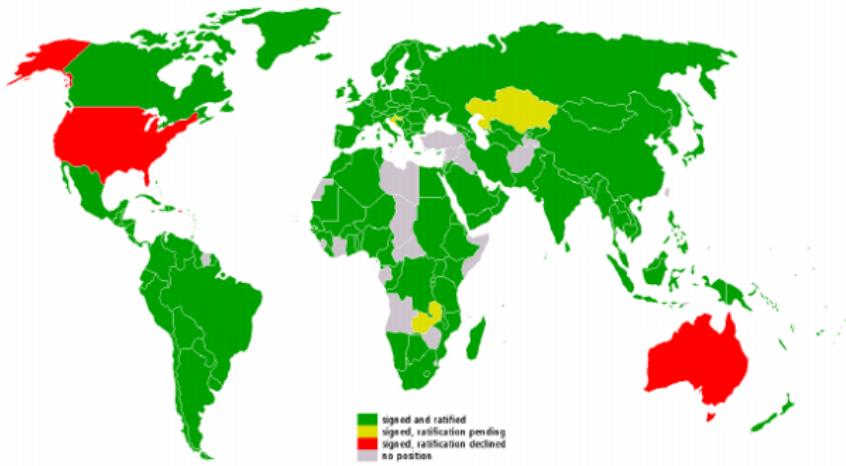
- ▶ Hegemons and other big players may be necessary.
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- ▶ Emitters resisted Paris agreement commitments.
- ▶ Must consider interests and the distribution of power.

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Hegemons and veto players

Table 1 Likely orientations of intergovernmental organization members as a function of power configurations

Power in the negotiation game	Power in the basic game	
	Weak	Strong
Power in the negotiation game	Strong	Prefers strong organization Contributes more than expected given its capabilities
	Weak	Sees for itself few, if any, benefits from membership Passive member, paying at most a small contribution to organizational activities
	Strong	Prefers 1. Organizational reform 2. A weak organization
	Weak	Contributes less than expected given its capabilities; may well work through other channels or at least explore alternative arrangements

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Poorly designed agreements

Figure 1
The regime complex for managing climate change.



Note: Boxes show the main institutional elements and initiatives that comprise the climate change regime complex. (For a more detailed description, see the accompanying text.)

- Disagreement on measures; unclear incentives to cooperate.
- Vague obligations; discretion; consensus but no enforcement.
- Uncertain about the cost/benefit from regulation in expectation.
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Table 1 | Prospects for coordination and cooperation under four different conditions.

	Potential joint gains are high	Potential joint gains are low
Agreements are not self-enforcing (cooperation is required for collaboration)	Possible cooperation with high rewards, but with dangers of defection that rise with the depth of cooperation.	Little incentive to seek to cooperate, although shallowness of cooperation limits dangers of defection.
Agreements are self-enforcing (coordination is sufficient for collaboration)	Likely coordination, with limited but realizable gains, often leaving potential gains 'on the table'.	Easy coordination, limited by the low level of potential gains.

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Box 1 | The range of interests reflected in national pledges.

- (1) **Create the global public good of reduced climate change.** It might be thought that most countries seek to contribute to a global public good. But only a small fraction of world emissions — perhaps one-quarter or less — comes from jurisdictions such as the EU and some regions in the United States (for example, California and the northeast) — that are primarily motivated by global public goods. For the rest, other logics drive preferences.
- (2) **Create local or national public goods that happen to address, as well, the global public good of climate change.** An example is provided by measures to reduce emissions of soot or black carbon, which both cause local health problems and contribute to global warming. One of the important advances in climate science over the past decade has been to understand how these 'co-benefits' are linked to global climate change⁷¹. However, most climate science has analysed these links by starting with policies aimed at slowing global warming and showing the local or national co-benefits. A political analysis would emphasize the local benefits, as these often drive policy decisions.
- (3) **Generate competitive economic benefits, such as the creation of new industries — solar, wind, batteries.** Governments will be more interested in emission regulations at home and

abroad insofar as they believe that they have competitive advantage, real or potential, in zero-carbon industries, such as solar and wind power. But they may, at the same time, persist in high-emissions activities, especially where vested interests — for instance, in coal power — are strong, so their search for economic benefits can be beneficial or harmful from the standpoint of mitigating climate change.

- (4) **Bargain for side-payments, such as requests for money to help pay the cost of controlling emissions and adapting to climate change.** This motivation is likely to be especially strong for relatively poor developing countries, particularly those countries likely to bear significant costs as they prepare for and adapt to rising sea levels, more extreme weather and other effects of global climate change.
- (5) **Create reputational benefits.** Governments have stakes in a wide variety of issues, and may find it advantageous to be seen as leaders in providing global public goods. According to J. S. Nye, doing so may enhance their soft power⁷². For other states, as climate pledges become the norm, it could be important not to be stigmatized as a non-cooperator, which could hurt the state with respect to issues in which it has clear interests.

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Class exercise: How can we design a mechanism to increase cooperation?

1. Make groups of 2/3 people.
2. What is necessary for a mechanism to generate cooperation in relation to climate?
3. How can we start thinking about designing this mechanism?
4. 10 minutes.
 - ▶ Feel free to use the Internet.

reset

Designing optimal agreements for addressing climate change

- ▶ To effectively bind states, agreements must be self-enforcing.
 - ▶ No incentive to withdraw/noncompliance.
- ▶ Reciprocity needs contingent exchanges; reasonable punishments.
 - ▶ E.g., WTO benefits; dispute settlement mechanism; exit clause.
- ▶ Trade off between membership and compliance:
 - ▶ Difficult quota: only the most committed are members.
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Addressing the trade-off

- ▶ Participation constraint: joining the agreement \succ leaving it.
- ▶ Incentive compatibility: complying \succ not complying.
- ▶ Addressing trade-off requires independent investigators.
 - ▶ Creates a cost from deviation (what is it?).
- ▶ Issue linkage can facilitate self-enforcement.
- ▶ Climate clubs can facilitate this (to what extent?).

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Limitations

- ▶ The distribution of power matters to define veto player.
- ▶ First mover advantage can exist - could difficult cooperation.
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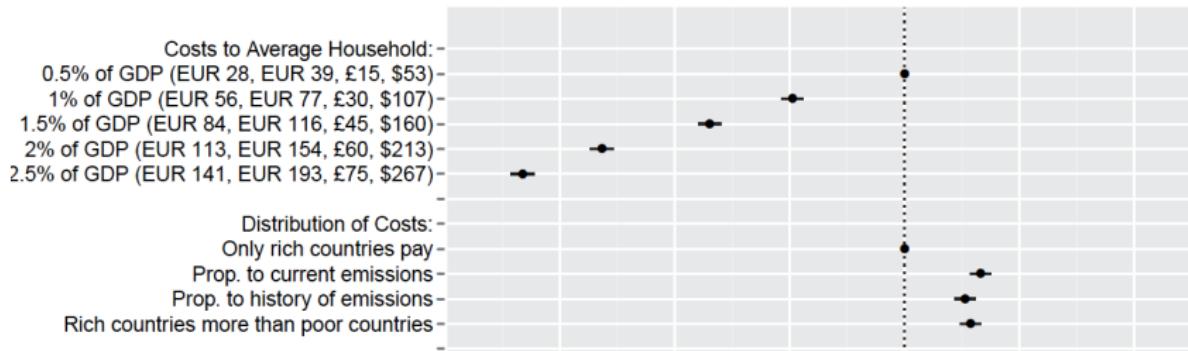
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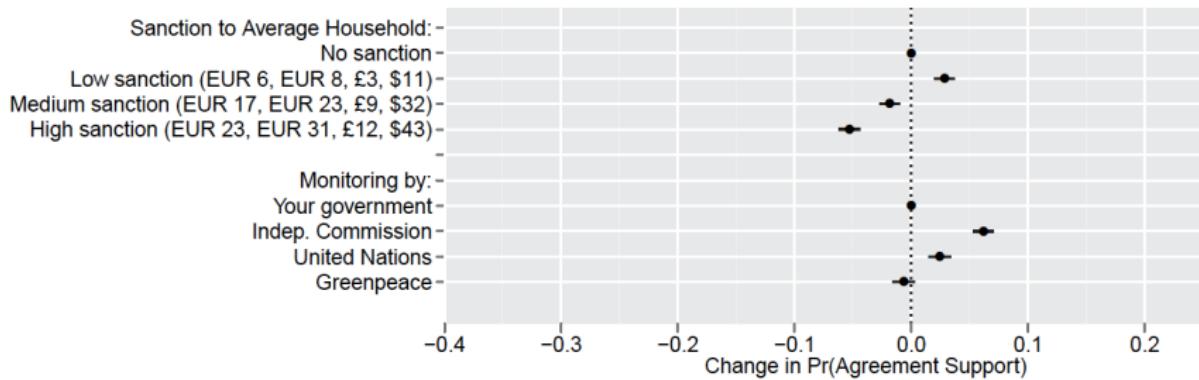
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The costs matter for domestic support



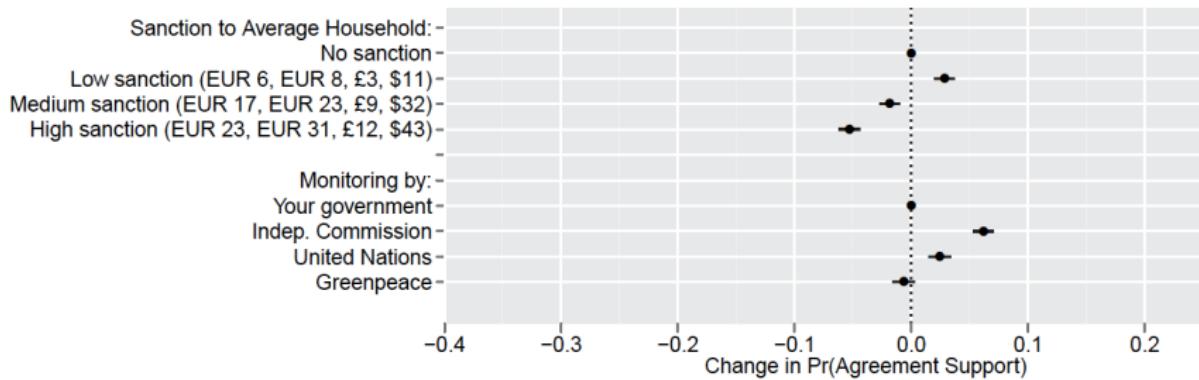
- ▶ Costs are the major driver of domestic support.
- ▶ Citizens prefer to not pay; willing to punish.
- ▶ Moderate costs/punishments are supported more if reciprocity.
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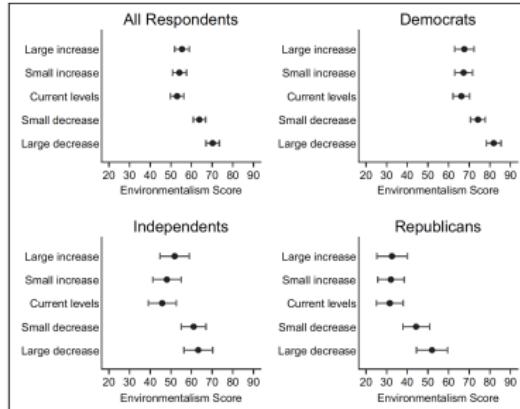


Figure 1. Effect of changes in foreign energy consumption on the average level of U.S. environmentalism.

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Class exercise: How can we improve incentive compatibility in int' agreements?

1. Make groups of 2/3 people.
2. Which assumption would you relax to address the discussed shortcomings?
3. Would you relax another assumption that is critical? Which one?
4. 10 minutes.
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reset

Can private companies address the lack of international cooperation?



- Cities may adopt voluntary standards (domestic incentives).
- PTROs adopt voluntary standards using market incentives
 - Consumer demand, reputation, avoid regulation, etc.
- Can complement IOs norms and programs.

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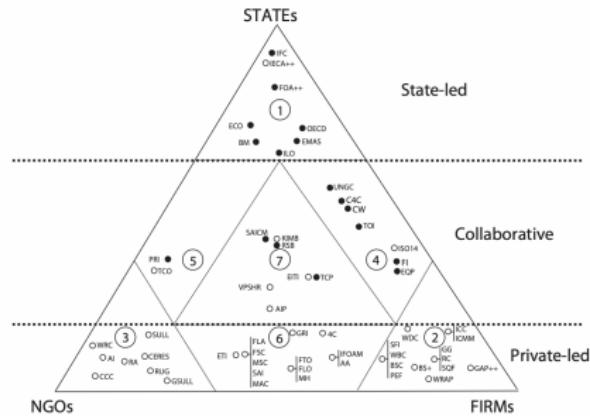
TABLE 3. Diversified PTROs with climate standards and year established

Business based	
Ethical Tea Partnership	1997
Green Globe Certification Standard for Sustainable Tourism	1999
International Council on Mining and Metals sustainability principles	2003
Program for the Endorsement of Forest Certification	1999
Sustainable Forestry Initiative	1994
Nongovernmental organization based	
Plan Vivo	2008
Rainforest Alliance Sustainable Agriculture Network	1997
Sustainability Consortium	2010
Collaborative	
4C Association code of conduct for coffee	2006
Bonsucro standard for sugar cane	2004
EPEAT standards for electronics products	2005
Equitable Origin standard for petroleum	2009
Fairtrade Labelling Organizations	1997
Forest Stewardship Council	1993
Global Reporting Initiative	1997
Global Roundtable for Sustainable Beef	1997
Global Sustainable Tourism Council	2010
IFOAM organic agriculture standard	1972
Roundtable on Sustainable Biofuels	2007
Roundtable on Sustainable Palm Oil	2003
Roundtable on Sustainable Soy	2006
UTZ certified standard for agricultural products	2002

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Figure 1.1. The governance triangle



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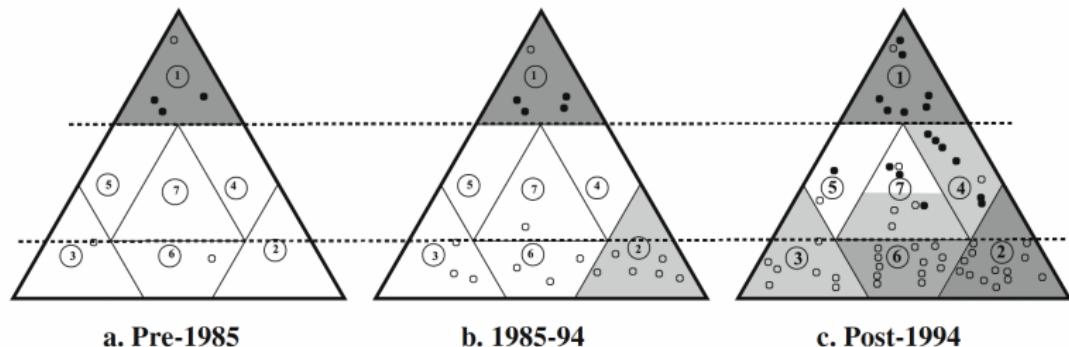


Fig. 2 a-c Evolution of the governance triangle. Shading indicates density of schemes in each zone

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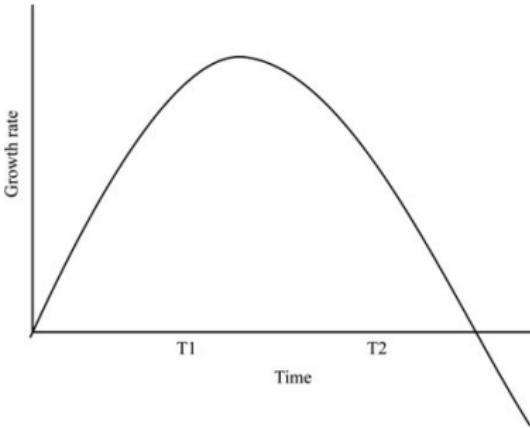


FIGURE 1. *Organizational growth rates over time*

- ▶ Fragile, with higher “death rates” than IGOs.
- ▶ Limited scope: local/urban citizens and firms in industry.
- ▶ Firms are not social-welfare maximizers.
- ▶ Private groups may be needed due to the domestic constraints.

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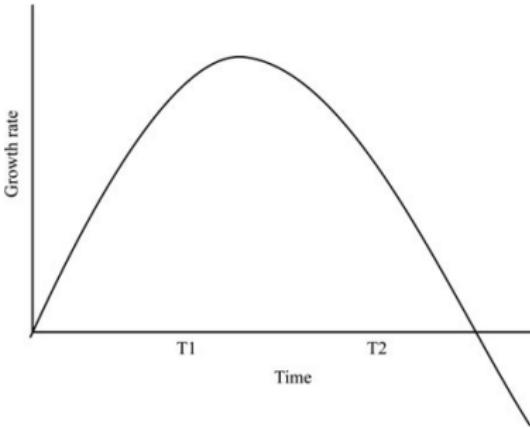


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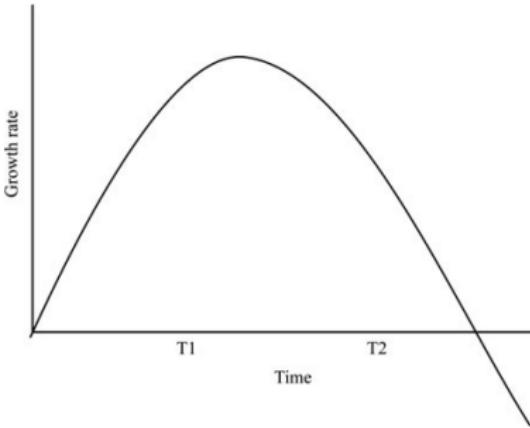
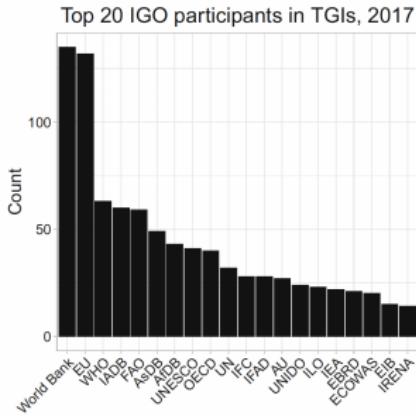
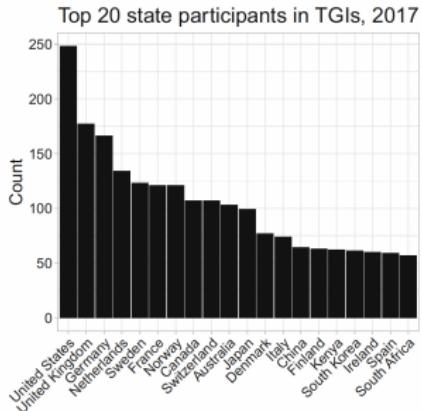


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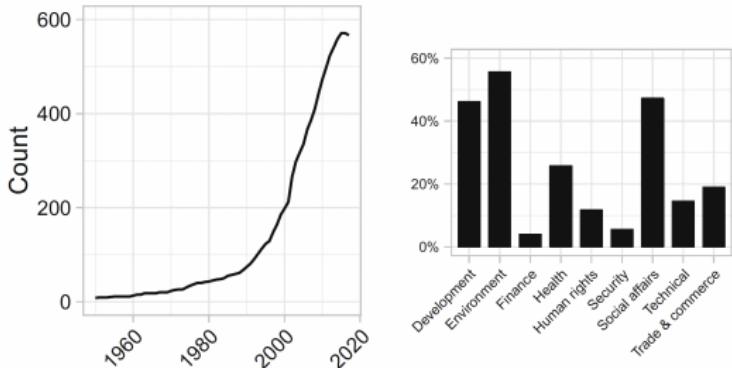


Fig. 1 TGI growth and issue areas

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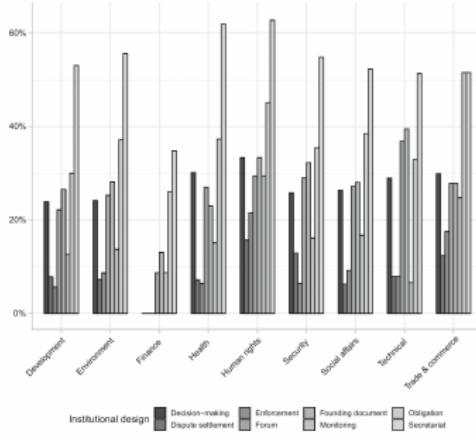


Fig. 4 TGI institutional design across issue areas

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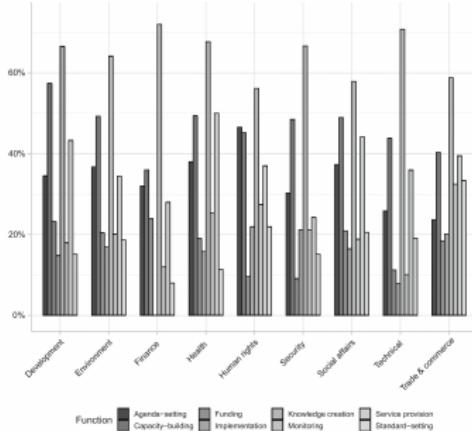


Fig. 2 TGI functions across issue areas

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- ▶ Limited scope: local/urban citizens and firms in industry.
- ▶ Firms are not social-welfare maximizers.
- ▶ Private groups may be needed due to the domestic constraints.

Class exercise: Should firms have direct/formal participation in climate change agreements?

1. Make groups of 2/3 people.
2. Should firms participate of the decisions of international organizations for addressing climate change?
3. Should firms participate in the decisions of multilateral agreements for addressing climate change?
4. 10 minutes.
 - ▶ Feel free to use the Internet.

reset

Next class...

**Can transnational movements increase support
for climate change policy?!**