

Symposium on International Climate Negotiations

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Once again there is hope that a strong international agreement will emerge from the annual—now the 21st annual—United Nations Conference of the Parties. Before Kyoto, we hoped that the new Protocol would eventually grow into a universal commitment similar to reducing emissions by some percent below 1990 levels, and this would translate into a uniform price on carbon. Instead, repeated negotiation failures led the world to abandon the ideas of having a common commitment and a uniform price after the Copenhagen conference.

In the hope of finding a way to repair these failures, we invited renowned experts on climate policy and the economics of cooperation, not just to present their ideas, but to discuss and debate them as they wrote their papers. The continuing discussion has been lively. All authors agree that what was lost at Copenhagen needs to be rediscovered, and that carbon price coherence is not all that is needed, but it is an essential element.

While all agree that carbon price coherence is central, that is of no value if it cannot be negotiated. And that negotiation failure has been the sticking point for two decades. A better approach to negotiation will be needed, and so we have made “how to negotiate” the focus of this symposium. This focus requires a distinction that is often overlooked. Two things matter most to the success of a negotiation: *what* outcome you aim for and *how* you go about getting there. Everyone knows this, but it is easier to focus on *what* you want than on *how* to structure the negotiations. So the “how” part is usually ignored and almost never analyzed systematically. In fact, the “how” part is so important that all papers in this symposium conclude that the Paris approach to the negotiations, pledge and review, will fail because it fails to inhibit free riding. And three papers conclude that the Kyoto approach, attempting to negotiate commitments to national emission quantities, will doom any negotiation process for the same reason.

The underlying starting point of all papers is that climate change is a tragedy of the commons and hence characterized by the free-rider dilemma. All authors agree that a uniform global price on carbon is what they *want* to solve the climate dilemma (although none insist on perfect uniformity). But by examining *how* to overcome a free-rider dilemma, they all arrive at a critical conclusion: climate change cannot be solved by a patchwork of volunteerism, as Weitzman calls the approach adopted for the Paris conference. And Gollier and Tirole conclude that the “pledge-and-review” approach “will deliver appealing promises and renewed victory statements, only to prolong the waiting game.” Again, all authors agree.

As an alternative, all four papers of this symposium propose to negotiate an international commitment. Importantly, international commitments are not national policies. Indeed, the commitments under consideration allow for similar national policies that can range from

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universal cap-and-trade to harmonized carbon taxes. This change from the frequent blurring of national and international perspectives has caused much confusion, so let us be clear. If you believe the EU's Emission Trading Scheme has worked well, this is not an argument to commit to international cap-and-trade because, as all symposium authors agree, cap-and-trade policies could be used under an international commitment to a carbon price. And if you favor carbon taxes, this is not an argument for an international price commitment, because a carbon tax could be used under an international commitment to emission quantities. Furthermore, international carbon pricing does not call for "harmonizing" or equalizing taxes between countries. Instead, all countries could rely only on cap-and-trade with a price floor to price carbon or tax different fossil fuels differently. Because any form of carbon pricing can be used under either international scheme, this symposium is about negotiating an international commitment and is not much concerned with national policies.

The first paper, by Gollier and Tirole, should seem most familiar. Its first half sets the stage for the symposium, and explains the need for action and the reason that the "waiting game" continues. Gollier and Tirole then present the two strategies for global price coherence: a global carbon price commitment and a global cap-and-trade mechanism. Both approaches allow "national taxes or cap-and-trade." And both select a key global variable, either the price, P , or the global cap, Q . They review the twenty-year demise of the Kyoto Protocol, the shortcomings of three national cap-and-trade systems, and the relatively high carbon taxes in Sweden and France. Then follows a most powerful critique of the Pledge-and-Review process of negotiations scheduled for the Paris climate conference of 2015. Essentially everything up to this point is agreed upon by all authors.

The second half of their paper begins a debate between the two approaches to setting a global price on carbon. For the reader's convenience, we now outline these two approaches.

Gollier and Tirole's approach specifies that the global cap, Q , should be negotiated first. And then the allocations of tradable carbon permits, $\{A_i\}$, should be negotiated for each country i . As with the Kyoto Protocol, this approach places no restrictions on national climate policies. This potentially allows countries to adopt only non-price climate policies that result in what Gollier and Tirole identify as an inefficient "command-and-control approach"—an approach that has been prevalent under the Kyoto Protocol which takes the same approach towards national policies. So the carbon price referred to by an international cap-and-trade agreement may not lead to any reasonable price on *carbon emissions* in some countries, and it seems unlikely to lead to the hoped-for global price on carbon emissions. Rather, it will price international carbon permits.

A global price commitment, as discussed by the other three papers, specifies that green-fund commitments, $\{G_j\}$, are negotiated first (possibly as a function of the carbon price), and then a global carbon price, P , is chosen. As Weitzman explains, "a price commitment can be met by either permit pricing, fossil fuel taxes, or a tax, a cap-and-trade system, a hybrid system, or whatever else results in an observable price of carbon." So while vastly more flexible regarding national policies than a harmonized carbon tax, a global carbon price cannot be satisfied by inefficient command-and-control policies. The result is that every country must set an average price on their carbon emissions equal to the global carbon price.

Gollier and Tirole consider the dimensionality of the negotiation challenge. Negotiating the global cap, Q , and then n permit allocations, $\{A_i\}$, means $n+1$ parameters must be negotiated. Negotiating n national green-fund parameters $\{G_j\}$ and one global price, P , also gives a total of $n+1$ parameters, although they acknowledge that the paper by Cramton, Ockenfels

and Stoft suggests a simplification of the green-fund negotiation to one dimension. The central point here is that all of the papers agree that dimensionality is a crucial aspect in the design of a workable climate negotiation process. However, dimensionality is not the entire story, and readers may notice that no argument is provided to counter the claims of the other three papers that negotiating the set of permit allocations, $\{A_j\}$, has proven impossible.

The remainder of the Gollier and Tirole paper compares the relative difficulties of implementing international equity transfers under the two proposals and also the relative difficulties of measuring national average carbon prices and national emissions. In both cases they suggest that the cap-and-trade approach will likely have the advantage.

Stiglitz provides an overview of the case for a global carbon price, beginning with a consideration of the ethical issues of developing countries. He then discusses the vulnerability of poor countries, the reluctance of the rich to bear much of the poor countries' burden and the difficulties of negotiating what could be more than a trillion worth of permits. After considering comprehensive approaches to allocating permits, he suggests they could not be negotiated and that we should avoid any such "grand bargain." However, he suggests transferring to poor countries, perhaps, 20% of carbon revenues collected in rich countries. The paper also argues that pricing carbon is actually quite cheap, but that fossil-fuel exporters will need to be brought into the agreement through the threat of trade sanctions.

Weitzman focuses on the theory of negotiating a climate agreement among many parties. He argues that negotiating many permit allocations is likely impossible and suggests that a single price could serve as a focal point since it is widely viewed as desirable and relatively fair, and because it provides a "countervailing force" that acts to prevent free riding. More specifically, he considers the accuracy of the outcome if the price were democratically determined, concluding the global price "can come as close to an optimal price on emissions as the median per-capita marginal benefit is close to the mean per-capita marginal benefit." Recognizing that burden-sharing transfers will also need negotiating, Weitzman suggests these will be considerably smaller and hence easier to negotiate than transfers under cap-and-trade.

Finally, Cramton, Ockenfels and Stoft take a broad view, integrating and extending the other three papers, and they argue in favor of a global carbon price. Their analysis is underpinned by considerations of the behavioral game theory of cooperation. Reciprocal agreements—"I will if you will"—have been found to be the main source of sustained cooperation in laboratory experiments, in natural settings, and in theory. Reciprocity is the glue that stabilizes the small-group solutions to problems of the commons observed by Ostrom (1990). But to obtain such an agreement among many players, a common commitment is needed. They argue for agreeing on a single global carbon price, and agree with Stiglitz and Weitzman that a common quantity commitment is more difficult if not impossible to achieve.

Cramton et al. tackle the problem of negotiating green-fund transfers in a similar manner, by finding a focal formula for green-fund transfers, thereby providing negotiators with a one-dimensional common commitment. They also explain the advantages of negotiating green-fund transfers first and the global price second, and why Q is not a common commitment but rather a common aspiration which fails to simplify the negotiation of permit allocations.

The view of all symposium authors is that much can be gained by building reciprocity into the design of international climate negotiations. We believe the key ingredient is a common commitment and not merely a common aspiration such as a global cap. Reciprocity, not altruism, can make cooperation directly beneficial and thereby change the self-interest of countries to align more closely with the common good. Only then can an effective climate treaty emerge from the negotiations.

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