

Global Harmonized Carbon Pricing: Looking Beyond Paris

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Session Six:

The elements (term sheet) of an Additional Protocol

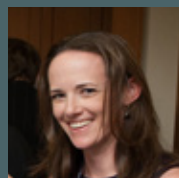
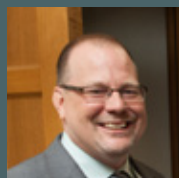
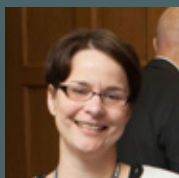
Presentations and Discussion

PARTICIPANTS

Silke Goldberg, Matthew McCullough, Kate Brown de Vejar, Scott Barrett

MODERATOR

Scott Shapiro



Session Six — The elements (term sheet) of an Additional Protocol

Even if a new protocol were universally agreed at the 21st session of the Conference of the Parties to the UNFCCC in Paris, in all likelihood it would not yield the necessary emission reductions commitments. If this were the case, one would want to consider the possibility that a group of key emitters could form a coalition to complement the Paris agreement with an “additional protocol” and commit to explicit carbon pricing. The purpose of our own conference would be that the presentations and debates will lead us to identify the issues along with the basis for their conceptualization and thus provide the elements necessary to draft a “term sheet” with a view to an Additional Protocol.

Presentations

Scott Shapiro

I'm Scott Shapiro, a teacher here at the Yale Law School. We saved the best for last, what everyone always waits for; legal drafting. We will be talking about what a term sheet might look like in case there was an opportunity for any additional protocol. I'm going to dispense any preliminary comments that I had, and we'll move directly to our first speaker, Silke Goldberg.

Silke Goldberg

First of all, let me start by thanking President Zedillo for inviting me here. As a lawyer, it has been a particular privilege to listen to such an erudite assembly of economists during the past two days. A lot of the discussions here were of course quite new to lawyers, so in my presentation I will try and pick up trends and issues that have emerged over last couple of days and translate them into legal issues and drafting with a view to giving you an initial glimpse of the issues that would need to be addressed in a term sheet for a treaty for a carbon floor price.

A lot of the discussions in this conference centered around what might be economically efficient. International agreements are always part of negotiations and part of politics, and, if I may quote Otto von Bismarck briefly, politics is the art of the possible.

In the art of what is possible in international climate change negotiations, the first issue that will need to be addressed is the parties to such a carbon floor price agreement. Then, the scope of that



agreement, and its institutional anchorage (ie, where it will sit from a contractual architecture perspective and which institution, if any, will act as the umbrella organization) will need to be covered. Next, the mechanics of setting the carbon price for which we have discussed a number of different methodologies at this conference will need to be considered. A key issue will be the body who will be in charge of setting it for the purposes of an international agreement and any international and national implementation and enforcement mechanisms to ensure compliance.

In a number of sessions of this conference, the question of the interface of an international carbon floor price agreement with existing international treaties out to be addressed has been discussed. An important part of this interface aspect will be dispute resolution as we cannot be certain that the relationship between the parties will be smooth-sailing all of the time. At some point there will be disputes, either within the “club” of states who are parties to the agreement or between those states who are party to the agreement and those that are not. Finally, this talk will also address necessary next steps on the road towards an international carbon floor price agreement.

In terms of the parties, a lot of discussion in this conference centered around voluntary participation of a small club. So, by necessity, the parties to the agreement will be a “club of the willing”. There was a lot of focus on the necessity of having big emitters at the heart of this club and different approaches and methodologies of how states might be persuaded to join the club. A central argument in this regard is that if countries who emit 80% of the global emissions agree to join the club, then the

international success of the carbon floor price agreement is much more likely. On the flip side of that argument, there was some warning against having far too many smaller state parties involved as this might actually limit the negotiation success due to consensus issues.

From a legal perspective, it is interesting to examine whether there will or should be any criteria as to who will be allowed to join the “club”. Some of these criteria might be linked to the methodologies of how carbon pricing is set, for instance, will jurisdictions with carbon tax be allowed to join (or indeed will this be the only criterion) — or will jurisdictions with a carbon floor price that is introduced and enforced by other means also be allowed to join the club? These issues will need to be addressed *ab initio* by the convening party or institution of the club.

A lot of attention has been spent on the problem of “free riding”, ie, the risk that carbon-intensive industries will shift from jurisdictions with regulated industries to those with unregulated industries. It is most likely that this will be addressed in the agreement through wider participation: The more emitters, large emitters, participate, the less likely it is that “free riding” might be a major issue.

From a legal perspective, it may be desirable to start the club with a small pilot group of large emitters, and then have accession rules for other countries who might wish to join this club of the willing.

The status of this protocol has been debated on a couple of occasions in this conference. Some have argued it should be an additional protocol to the UNFCCC international climate agreement that is being negotiated in Paris.

However, from a legal and political perspective it might be easier to communicate this as a separate agreement that might later be adopted by the UNFCCC for procedural reasons in order to benefit from existing decision-making mechanisms in the existing international agreements.

Looking at the scope of the agreement, one of the first issues to be addressed is which greenhouse gasses might be covered by it. Internationally, most carbon tax regimes and most cap-and-trade regimes seem to focus on CO₂.

There is a question whether greenhouse gases (GHGs) other than CO₂ might be included such as methane for instance and Chlorofluorocarbons. It seems to be that there are convincing arguments in favor of starting with CO₂ in that there seems to be a large consensus in terms of the measurement, reporting and verification (MRV) regimes that are already established.

When you discuss scope, by necessity, the agreement will need to include pricing issues, in particular the price-setting mechanism. How is the price established? Is the price ever reviewed? For how long will the carbon floor price be valid? Is it valid for a year? For two, five, or seven years? One of the experiences from the EU ETS has been that longer validity terms for a particular policy instrument bring more regulatory stability and will send the right investment signals, particularly if the policy regime has an in-built price review mechanism, without having to review all the other parameters.

There was a lot of discussion during this conference about a universal minimum price. The question is, in what currency might this agreement be expressed? For ease of reference, many expressed a preference for this price to be expressed in U.S. dollars. However, it is also possible that this price would be expressed in a basket of currencies of all participating nations. It is also not beyond the realm of possibilities that there might be regional minimum prices above the universal minimum price.

A number of presentations have highlighted the issue of sector differentiation. This is something that this term sheet would address, and this would need to be addressed as part of the scope, together with the price-setting mechanism.

One aspect of the discussion of the scope of the agreement is taxation. I think this was a theme that ran through a lot of the presentations at various points over the last couple of days. What sort of industries will be covered? Where will the emissions be taxed — at source, in the jurisdiction of the headquarters of the emitters or where the relevant products are being consumed? How will a taxation regime relate to the “polluter pays” principle?

I think another issue to be considered is also to what extent an international regime would feature any exemptions. For example, incentives for certain types of technologies in, for example, the New Entrants Reserve 300 (NER 300) in the European Union emission trading system, a policy instrument that facilitates the investment in particularly advanced technologies such as carbon capture and storage (CCS). Another question to be addressed in this context is to what extent are tax credits given for valid emission reductions achieved against a certain baseline by renewable energy technologies?

One of the central elements that emerged from various presentations at this conference has been a plea for simplicity of an international agreement, which might militate against a more sophisticated regime of exemptions. To make any draft of a term sheet acceptable at an international level, it is likely that some exemptions and some infra-marginal exemptions might need to be given, in particular, in relation to resource transfers.

My next point is the question of institutional anchorage. Which institution will host this agreement? Is it necessary to create a whole new institution and whole new organization, or can the agreement be concluded under the umbrella of an existing regime and its relevant institutions, such as the UNFCCC? In any event, it will be necessary to consider the decision-making mechanism. For example, will “the club” take decisions by consensus, or will there be majority voting in order to, for example, admit new members and agree new rules and carbon price-setting.

It might be possible to anchor and integrate the agreement with a number of existing global organizations and the relevant international agreements. The most logical approach might be to attach it to the UNFCCC, either as an additional protocol to the agreement to be adopted in Paris in December 2015 by the COP or, perhaps depending on the identity and number of “club members” as a separate agreement that adopts the decision making rules of the UNFCCC regime.

Anchoring the agreement with the UNFCCC does not preclude other organizations from playing a part in the carbon price regime. In an earlier session, it has already been suggested that perhaps the IMF should be given the job of monitoring and enforcing any taxes collected by the club, or the World Bank might also be of assistance, because these are both organizations with some experience in carbon pricing and trading.

Carbon price-setting will be the heart of the term sheet, and indeed the heart of the agreement. There are a number of policy considerations in relation to the actual price setting mechanism. Again, in this part of the presentation I have tried to pick up a number of arguments that have been voiced as part of this conference. Regardless of the policy goal that is ultimately adopted by the club, it will be necessary to formulate a very clear policy, and to have a clear and transparent price-setting mechanism, undertaken or advised by a committee composed of experts nominated from all participating nations, anchored at the relevant anchorage institution.

It will also be important to have a price review mechanism so that the price set by the relevant committee can withstand economic crises, be adjusted in function of economic cycles, and accommodate other changes to the regime. A number of presentations at this conference have explored the question of whether taxes or a cap and trade system would be appropriate for the “club” to implement a carbon floor price. In order to keep it simple and not to get lost in too much detail in a term sheet, it might be easier just to focus on an international minimum price for carbon, then the local or regional mechanism with which that is achieved might actually be secondary, at least from a legal perspective.

This might seem incredibly unorthodox to most economists, but from a political perspective, it may be easier and more palatable to a number of participating nations. It might be possible — from a political and legal perspective - to have regional taxes or national taxes that reflect the relevant carbon floor price, but established cap-and-trade regimes could exist alongside tax regimes so that for instance, in the European Union the EU ETS continues to exist (as this is quite likely anyway even post 2020) A carbon floor price could be integrated into and enforced by the EU ETS by a reserve price equal to the international carbon floor price in EU ETS auctions. Given the range of possibilities for policy and enforcement regimes with which an international carbon floor price could be achieved, it is important that the international agreement is a “light touch” agreement that provides scope for international guidelines and a differentiated regional implementation to increase the likelihood of acceptability internationally.

Another issue that it may be opportune to address in the term sheet is the question of where the revenue from the international carbon floor price goes. There have been many powerful arguments in a number of sessions that any revenue should remain in-country, either to address and abate other forms of taxes, and to be used in the relevant states as the relevant legislators see fit. However, it may also be politically opportune, in particular in the context of the discussion on resource transfers, that a certain percentage be used and allocated for carbon abatement projects in less developed countries, or even as funding for the Green Climate Fund.

This may be not a very palatable proposition to economists. At the same time, many countries have already committed to funding the Green Climate Fund to the tune of about \$100 billion U.S. dollars per year. Therefore, such an allocation of the revenue raised by the carbon floor price might be a source of some of the money to fund this particular institution.

The implementation regime for the carbon floor price will also need to address the question of exemptions. There are a variety of mechanisms with which such exemptions could be achieved, some of which have already been discussed in this conference, such as a tax that might be higher in some sectors, or lower in some other sectors, as long as there is an average tax or price that is equal to the international minimum floor price.

It is important to note that the floor price functions as a minimum, not as a maximum, and the drafting of the term sheet should allow for this. The drafting of the term sheet will also need a robust enforcement mechanism, in particular, in relation to methodologies linked to monitoring, reporting, and verification. There are some lessons that can be drawn from especially the first phase of the EU ETS in relation to these issues in particular.

Whatever mechanism is chosen will need to be robust and easily enforceable. There are a number of issues in relation to the enforcement regime that my colleagues will address in the following presentations, such as, is enforcement possible through the WTO route; and will it be possible to enforce the international minimum for carbon price through a tariff-based penalty, or are there some other possibilities that might actually work much better?

It has already been mentioned on a number of occasions, that inconsistency at the international carbon floor price agreement might lead to inconsistencies and uncertainties with international trade law, and might actually throw into question some of the existing regimes. These issues pertaining to the interface of the carbon floor price agreement with existing treaties will be addressed in a lot more detail by Matt [McCullough].

Finally, the agreement will need to feature a dispute resolution mechanism that addresses in-club disputes, and ultimately, it is also likely that those outside the club might feel aggrieved by some of the policies implemented by the club, and there will need to be an appropriate forum for such disputes – Kate [Brown de Vejar] will address that in a lot more detail.

Now that we have addressed the structural framework for a term sheet and the various elements that will need to be considered, the question is — where do we go from here? Thank you very much.

Scott Shapiro

Okay, by the way, I warn you that discussions of legal drafting are not normally that interesting. Next up, Matt McCollough.

Matt McCullough

First of all, thank you, President Zedillo, and everyone, for allowing me to attend and — first and foremost, attend and hear some really thoughtful discussion on how to address this problem. There are a lot of solutions, there's some overlap, there's some disagreement, and somehow, I got put on the last panel to decide which one is best, in terms of a term sheet.

I come to this as a trade practitioner. I do WTO dispute settlement. My area of emphasis is subsidies law, but also other aspects of international trade remedy law, anti-dumping duties, and safeguards. So, I do have something to say about this, and I've heard a lot of discussion, and hopefully I can add a little bit to what's going on in terms of the international trade dynamics and the existing legal frameworks governing trade in goods. So, we have this panel, and the idea is we have a baseline protocol, and perhaps it's not going to get us to the carbon reduction level that we need, and so we're going to bring together a club of key emitters to do a protocol-plus arrangement among them.

I started out thinking that a carbon tax seemed to be the preferred method, but then there was a lot of pushback today, and obviously there was a lot of good discussion, but I guess I'm going to approach this from, if you're talking about price, I'm going to look at this as a carbon tax issue, and part of that is the simplicity in its application, and how you might make it work in relation to existing trade disciplines.



So, what would a protocol look like? First of all, the idea of carbon taxes under existing international trade law, and how you might apply border measures, I'm not bringing a whole lot of new intellectual property to that question. It's been studied a fair amount. Gabrielle [Marceau] covered a lot of the important issues you have to consider. Others have written about it. I believe Jennifer Hillman wrote a paper back in 2013 that outlined some of the issues, and I think there's been, actually, some very good work on top of that paper in terms of challenging some of Jennifer's solutions, but also probing the problems a little more deeply, and looking at other potential solutions.

What I'd like to do is take it to the next level and assume, okay, we're going to go down this path. We're going to have a carbon tax, we're going to have a border adjustment, and let's play this scenario out. Let's see what happens when you do that, or what could happen. If you have a carbon tax — and, this was addressed, and so I'm overlapping here again — you've got three principal problems that you need to deal with. First, you have a club that's going to do this, you have to worry about a level playing field and how best to preserve the competitiveness of industries subject to the pricing regime.

The second issue is leakage avoidance and how best to discourage industries from moving offshore to jurisdictions where such pricing regimes do not exist.

And then, third, there is the free rider problem, and how to discipline unwilling participants.

I think the consensus solution — and, I put a question mark there, because we can talk about it — is a border tax adjustment, or the alternative is some kind of penalty tax to compel, or to entice, or to discipline parties, or to bring them to the table and become part of the club. So, immediately, when you start talking about border measures of any kind on products, there is an intersection with existing international trade rules. In fact, it's unavoidable; you cannot avoid it.

You have a WTO, you have numerous signatories, and they're not all going to be signing on to the club. Yet, they still have rights, and they can assert those rights against things the club might do. Any agreement the club might have, in terms of how they will manage their arrangement, isn't going to eliminate those rights. So, you have to have a plan, and you have to think out, well, how am I going to approach the term sheet? How am I going to structure this so I can comply with broader WTO rules, yet have some kind of effective progress toward carbon reduction?

So, there's different ways to do this. You could try to write around the WTO disciplines. I don't think that's going to happen within the timeframe that you would like in order to get something done on carbon reduction on a timely basis. Because, you can't negotiate it within the club, you would actually have to bring all the parties together, and those are the same parties that you couldn't convince to be in the club to begin with.

So, I do think that given the sense of urgency and the need to move forward, you're going to have to find a way to work within the disciplines that are in place, and the legal mechanisms that are in place.

So, what are those existing disciplines and mechanisms, and how might you make it work with respect to border adjustment? Well, you have GATT Article III.2 and then you have the exceptions that are permitted under Article XX, with respect to exhaustible resources, and with respect to protecting animal, plant, and human health. I think, as others have said, there is a fair consensus that a border adjustment tax is workable under the WTO and the existing disciplines.

And, I heard — Bill [Nordhaus], you said it earlier today, and it's entirely true — there is no clear guidance on this. This has not been tested head-on at the WTO, what would fly and what wouldn't fly, but I think there is some jurisprudence to rely upon that gives you relatively good support one way or another. I was sharing some thoughts with Gabrielle [Marceau] earlier about whether you could fit a border adjustment within Article III.2, in terms of a carbon footprint tax, and whether that's really a tax on the product, or you're looking at processes, there may be a couple of different ways around that using corollaries in some of the jurisprudence.

One approach would be to treat these as like products, and focus on some physical aspect of the product that you taxed. The other approach would be to treat them as unlike products. Yes, you know, one shoe on one side of the border, and one shoe on the other. But, focused on not the traditional commercial considerations that go into the like product analysis of the WTO, but go into some less-traditional factors such as consumer perceptions about toxicity, or human health, and how that affects commercial decisions. And, there are corollaries on that.

So, let's go and have a border measure, and it's put in place. You are going to have actors outside the club that have rights under the WTO, and I think, without question, you're going to get one or more of them to challenge the border measure through WTO dispute settlement.

But, I still believe if you craft it well, the measure would survive. You know, even if there are some concerns, or if it's a coin toss, through experience, I do know that, in particular, the secretariat and the appellate body, the WTO is still a political animal, and they do read the political winds. I feel if you brought a club together of enough key emitters, and it's an important enough issue, you will have the appellate body checking the wind. If it's a close call, they will steer and find a way.

What you would want to do is, you would craft a measure that would allow you to make arguments under both Article III.2 and Article XX to give you the best chance before dispute settlement at the WTO, to give the appellate body the most options possible to find the solution.

The thing I like about Article 3 is, atmospherically, it leads to, in some sense, the most equitable result, which is the charges that you are applying to your domestic producers are the same charges you're going to be applying to the imports, because that's part of the mandate under Article 3. So, from an equitable point of view, it's more compelling. It raises other issues, of course, and we can talk about that in Q&A.

I'm approaching this from a carbon tax — I'm not sure what's going to happen if we're still dealing with different regimes and different price-setting mechanisms in different countries, because you need the simplicity of a carbon tax to implement this efficiently. If you're dealing with other price-setting mechanisms like cap and trade in another country, that's not an indirect tax. That's not a tax that could be remitted at the border of the country that's exporting.

Then, you get into the question, well, then, they need some credit for that, as part of the border tax adjustment coming into your country. That gets into equivalency, and who's going to measure what is the same, and you're going to get more litigation, most likely from outside the club about what the proper border adjustment should be, and whether there's MFN violations.

So, honestly, I think, to keep it simple, to avoid as much litigation risk as possible from a WTO context, if there was a way to do it, I think a tax, a uniform tax in every country, would be the best way to do it. Whether that's feasible, I don't know. But, as a legal solution, it works the best. The penalty tariff discussion, that's going to put you into Article XX because you're not really connecting it, it's not equivalent, it's not connected directly to what you're trying to address.

I think it would be a hard time justifying that before the appellate body which is why I would try to draft something that can meet all of these, or that you could make arguments under all. If you went into Article XX, I would still seek to have some kind of equivalence in terms of the charge, and have it more directly related to the objective of carbon reduction. You can try to shoehorn a penalty tax in such a way as to entice or to bring people to the table to induce behavior, but it's a bigger stretch of the WTO to make that work.

Beyond the border measure issue, another issue that was mentioned was subsidies. You have all this revenue you're generating from these mechanisms; what are you going to do with it? There's a lot of discussion of targeting the development of industries, and technology, and granting tax credits or exemptions. Well, you are going to have actors outside the club with their rights under the Subsidies and Countervailing Measures (SCM) agreement who will have the ability to go after that.

And, it would be an interesting dynamic, because if you're talking about products that are benefitting that are being exported, those actors outside the club could get their own nation authorities to go investigate, and impose countervailing duties against you. Not very palatable, based on my own experience litigating before the Department of Commerce. It's a very political and biased exercise, and you can imagine the kind of retribution that might be exerted on very unhappy actors outside the club.

So, obviously, you would want to go into this, structure a term sheet in a way to eliminate as much risk of the WTO challenge as possible.

Then there is the nuclear option — one other option is for this club to say, you know what? If you find these measures not in compliance, fine, I'm still not going to comply. Go ahead, Ecuador, if you want to retaliate, be my guest.

And, it's not unprecedented; it's rare, but what you see is, when you get into asymmetrical situations where you have a little country that needs your markets, and also needs your goods, they don't have a whole lot of leverage to get you to comply, and there's not a whole lot of interest in trying to retaliate against you by withdrawing concessions they've given you. And, the cost is minimal to a country like the U.S., when you're dealing with smaller players. Now, that will grow, depending on how many outside actors are involved. But, it is a solution. The downside, of course, is you really undermine faith in the global trading system, and it may blow up if you go that route.

I've talked a little bit about compliance from outside. Some of these same rights that you can exert under the WTO could be exerted by club members against each other. For example, if someone's not collecting the tax they needed to be within the club, you could go to the WTO, or you could use measures, if you're dealing with exports, the national authorities imposing countervailing duties.

Again, I don't know if club members would want that. They certainly could negotiate a deal where they wouldn't do that. WTO's dispute settlement, in this context, I don't think works. I think you would want something more effective. WTO enforcement and compliance is relatively soft. It's only prospective; there's no prospect for damages. It can take a long time, and in some instances, depending on the novelty of the issue, there may not be competency to address particular problems. So, you would probably want to look at a different enforcement mechanism. And, on that, that's, I think, my segue to Kate [Brown de Vejar], who may address some of that. Thank you.

Scott Shapiro

Thank you very much. Kate Brown is up next.

Kate Brown de Vejar

My discussion proceeds on the basis that the instrument we are developing consists of two key measures. One is a uniform price for carbon implemented by states (members of our "club" of states), by enacting some form of domestic carbon tax which, as we have heard, may form part of a broader collection of tax measures. The second element is a border measure, whether a simple ad valorem tax on all imports from non-club states, or some sort of more-targeted carbon adjustment applied at the border. In either case, we're talking about a tariff applicable to goods imported from non-club states.

In this scenario, there are two particular areas where a dispute resolution mechanism is important. The first category, which has already received some attention during this conference, relates to disputes between a state that is a club member on the one hand, and a non-club state on the other. The second category is disputes among states who are all club members.

Looking at the first category, we have discussed the potential for disputes between states which are club members and which have implemented these measures, and non-club states which are members of the WTO and which claim that the measures in question violate the WTO agreements. Still within this first category, one area which has not yet received attention in this forum is the potential for

disputes between state club members and their non-club, bilateral, or multi-lateral trade partners. There is obviously a wide area of overlap here (many of those trade partners will also be WTO members). But importantly, these bilateral, or multi-lateral arrangements, whether they're free trade agreements (FTAs) or bilateral investment treaties (BITs) or multi-lateral investment treaties (the Energy Charter Treaty comes to mind), contain guarantees that are different from WTO obligations. They contain national treatment obligations, most-favored nation obligations, non-discrimination obligations, no expropriation without compensation obligations, and under the Energy Charter treaty, a transit obligation. Claims of this type may be brought state-to-state. Many of these instruments contain state-to-state dispute resolution mechanisms. But importantly, many also provide for claims by the investors of these states directly against the host state (the club member which has enacted the measures). Now, that's another whole category of potential claimants, over which the state parties to the BIT or FTA have no control. They don't decide whether those claims get brought or not. The corporate actor, the investor, does.



If you think that measures adopted by club members in good faith to combat climate change would be unlikely to form the basis of a legitimate claim by an investor from a non-club state that the measures constitute a breach of international law, at the end of the day, you might be right, but that may not be the primary consideration. Why? Because investors will bring those claims in any case, and they'll bring them for a multitude of reasons. They'll obviously bring them if they think they've got a chance of achieving some form of awarded damages, but investors may also bring claims under a BIT for tactical reasons unrelated to the ultimate success of the case. For example, recently, Philip Morris brought a claim against the Australian government on the basis of its decision to adopt "plain packaging" tobacco legislation. That regulatory measure was challenged on the basis of guarantees found in the Hong Kong-Australia bilateral investment treaty. Most people's instinctive reaction when they hear about the claim is that that it should fail because the measure in question is clearly within the sphere of legitimate regulatory powers of the state, in an area of public interest — human health. However, the cynical strategist in me says that that's not really the point. Philip Morris has brought similar claims against Norway under European legislation, and against Uruguay. It's doing this, in my view, not necessarily because it believes it will ultimately win, but because there's pending legislation,

similar to Australia's plain packaging legislation, before the UK Parliament and in other jurisdictions. The objective may well be to cause those jurisdictions to think twice, and perhaps to delay the enactment of this legislation pending the outcome of the claims against Australia and Uruguay. Meanwhile Australia and Uruguay have had to bear the expense of defending these claims — something other states would no doubt like to avoid.

Thus, irrespective of the ultimate success of its claim, simply by bringing the claim, an investor may achieve some other purpose, including postponing the enactment of similar legislation by other states. A similar litigation strategy could be applied to the enactment of carbon taxes and border adjustments by states, even though the bona fide objective of such measures is to combat climate change.

So the question is, what can we do about the fact that a carbon tax and border tariff combo (whether the border tariff is a uniform tax on all products from a non-club state, or whether it's a carbon adjustment at the border) may attract these types of claims by investors? The answer is: very little. The network of FTAs, BITs and multi-lateral investment treaties exists. And, as was mentioned earlier in relation to the WTO agreements, whatever the states who are members of the club decide to do at the state-to-state level will not change the content of those treaties unless all the same states are involved and they negotiate what is effectively an amendment to their existing treaty obligations.

If you think that it might be difficult to negotiate an amendment to the existing WTO agreements to provide for some sort of "green" carve out, then it is absolutely the other side of impossible that you would be able to amend the 3,000 odd bilateral and multi-lateral investment treaties that are out there. So, the chance of achieving some form of blanket exemption for climate-change related measures in relation to these trade and investment instruments is just about zero.

I think it is important to mention here that these kinds of green carve-outs (and not just green carve-outs, but also carve-outs in relation to measures adopted by the state for health reasons or for reasons of cultural preservation) are starting to be included in treaties which are being negotiated now, and which will apply going forwards. But, you have a body of approximately 3,000 international instruments that are already in existence that don't have those carve-outs. So, in respect of these instruments and these obligations, I echo what our speakers on potential WTO claims have said. The only thing we can do is think about how we craft this carbon tax and border measure package so that it is least likely to give rise to meritorious claims that the measures are in violation of existing international treaty obligations.

Now, all of what I have discussed so far relates to disputes between a state which is a club member and has enacted the carbon tax and border tariff measures on the one hand, and a state which is not a club member or investors from the non-club state on the other. A second area where a dispute resolution mechanism is going to be important in relation to this instrument is in respect of disputes among club members regarding the interpretation and implementation of the obligations that are contained within the instrument.

Here, I would like to recall Bill Nordhaus's challenge: how do we incentivize states to agree to this initiative? And, I posit (and I believe that this was one of the outcomes of the game theory presented by Bill) that one element of incentivizing states to sign onto an initiative of this type is that they have to be satisfied that the obligations contained in this instrument are going to be enforceable against other club members, and that there are going to be consequences for non-compliance.

So, what might this kind of dispute resolution mechanism or enforcement mechanism look like? First, I want to make clear that I am not talking about ongoing reporting or monitoring. That's obviously a very important element of an initiative of this sort, but the dispute resolution mechanism I'm considering kicks in at a point beyond regular monitoring and reporting. Rather, at this point, a dispute among club members already exists. That dispute might be a claim by one club member that another club member is not fulfilling its obligation to collect the carbon tax, or that it is somehow undermining the club members' agreement through subsidies, or by remitting the carbon tax in another form which is inconsistent with the objectives of the agreement. It may simply be a matter of interpretation of the agreement, or it may be that during a periodic review of the agreed carbon price, the club members cannot agree, or the club members' relationship may be affected by some form of external event (a global economic crisis, an oil shock ... the dissolution of the European Union). You need to have a mechanism in place for that to be dealt with by somebody. So, what should that internal club member versus club member dispute resolution mechanism look like?

There is a whole range of options and we can draw upon a wealth of treaties and other international agreements which use a variety of mechanisms. Frequently, we see some combination of mediation, non-binding conciliation, with acceleration to binding arbitration. You can refer the dispute to existing external bodies (the International Court of Justice (ICJ), the Permanent Court of Arbitration), or provide for a new ad hoc body to hear the dispute. There is a plethora of options and this is not the time or the place to provide a blow-by-blow discussion of the advantages and disadvantages of each. One important consideration is that the types of disputes we're talking about may well involve more than two club members, so you're going to have to have capacity for multi-party dispute settlement. Even if the dispute itself is just between two club members, it is likely that the other club members are going to have an interest in the outcome of the dispute, and you're going to have to have some way for them to participate or provide observations in relation to the dispute.

A model that is worth looking at is the one which was adopted in relation to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, entered into under the auspices of the Vienna Convention for the Protection of the Ozone Layer. The Vienna Convention contains an escalating dispute resolution provision, which states that the parties to a dispute shall first negotiate. They may then jointly request that a third party act as an intermediary or mediator. This is followed by either binding ad hoc arbitration or referral of the dispute to the ICJ. A party may also request the formation of a conciliation commission.

This escalating dispute resolution procedure exists side-by-side with the Montreal Protocol's own non-compliance procedure. According to this procedure, a party which has reservations regarding another party's implementation of its obligations under the Protocol may address its concerns in writing to the Protocol Secretariat. There is a procedure for notification and reply, then a period of information gathering, reporting, and determining what may be done to encourage compliance. Ultimately, non-compliance may result in the provision of additional assistance, issuance of cautions, or suspension of specific rights and privileges under the Protocol. As I said, it's a model which could be interesting in the context of the type of instrument we are considering here.

I conclude by reiterating that whatever form of dispute resolution mechanism we choose for disputes among club members, it must result in robust, transparent dispute resolution by decision makers with the requisite expertise. There must be adequate provision for fact-finding, and it must result in a decision that is binding and enforceable. Ernesto, the International Bar Association's Arbitration Committee would be privileged to continue to work with the Yale Center for the Study of Globalization in the development of such a mechanism. Thank you.

Scott Shapiro

Scott Barrett.

Scott Barrett

I spent a sabbatical here some years ago with the Yale Center for the Study of Globalization, and Bill Nordhaus said to me, this must feel like your third home, and it does. And, that's thanks to you, Ernesto, and to Haynie. Haynie's not here right now, but I'd like to thank her as well. Both of you have always made me feel at home, and I appreciate that very much.

Now, for today's conference, you started off, Ernesto, with your introduction. You just repeated it, a kind of warning to me. So you think I'm going to be the skeptic and the difficult customer — the spoiler, as it were — and, you also put me at the very end of the conference, so I was trying to figure out what your thinking was. Was it that, by now most people would have left, and therefore I wouldn't have much to spoil, or was it that, having sat through the conference, maybe I would have been converted.

I've actually found the conference very enlightening; in fact, challenging. I've been spending a lot of time thinking. It amazes me that I've worked on this topic for so many years and I still cannot understand even some basic things. So, let me just try to share some thoughts I have about what I've been hearing at the conference.

Okay, a carbon tax. I think most economists start off thinking about a carbon tax in a first-best world, more or less. That's fairly rough language for what I want to say. But, the case for a carbon tax is extremely strong, as both Marty [Weitzman] and Bill [Nordhaus] have made clear. Jim [Stock] said that if we polled members of the American Economic Association, there would be strong support for this. I think this is absolutely clear, and also, I think it's very important and shouldn't be forgotten.



But, you also want to know would a carbon tax be the right way to go in the real world, and there I'm very open-minded. I see nothing particularly against it as compared with the alternatives. I guess the question I have is whether there's something particularly for it, but I'm open-minded about that. The real world, by the way, the thing that I think is absolutely central about this, is the simple fact that the world is decentralized, and you don't have one country that can adopt a tax or a particular policy on climate, but we have something like 197 of them. I think that is the central problem.

Now, Bill [Nordhaus] started off by saying that there are four different issues around climate, and the last two were particularly important and relevant for this meeting. The first being, is it easier to negotiate a P or Q, a price or a quantity? And, the second being, is it easier to enforce an agreement on price, as compared with an

agreement on quantities. And, I agree, these are two central questions. And then, Marty [Weitzman] spent a lot of time addressing the first point, about which is easier to negotiate, a P or a Q, and I think he made the strongest case you can, that the carbon tax has the edge.

He also is very honest and clear about this, that he doesn't have a theorem that makes that point exactly. He can't pin it down, so he has a feeling, he has an instinct, he has a hunch, that the price has an advantage. And, I'm open-minded to that. I think my inclinations are the same, but I'm not 100% convinced that the price is necessarily better. By the way, I also don't think that the choice is only between a P or a Q. This has come up with a number of things that people have mentioned about the range of types of policies we can adopt to address climate change.

And, the issue about the second question that Bill [Nordhaus], especially, was addressing, was free riding, which I really do believe is the most important thing. Now, I spent a lot of time studying international cooperation on a range of issues, and I've come to the conclusion that the world is very bad at cooperation, and very good at coordination. And, by cooperation, I mean developing an agreement among parties. They all agree that they're better off if they adopt the agreement, but they can't enforce the agreement.

And, Bill is addressing that head-on. Coordination is a little different. Coordination would be, we're all better off if we do one thing rather than another, and given that we all do that one thing that makes

us all better off, all of us want to do it. You don't have any of the same tensions, everyone's kind of with you on that. At the global level, the world is very good at coordination. The one area that's different, by the way, may seem to be trade, but trade is special. Trade is not a public good; trade is bilateral. Bilateral means you have built-in opportunities for reciprocity.

But, for an issue like climate change, we don't have that. I think Bill referred to this as a distinction between internal and external punishment mechanisms, and I think that's an excellent point. Let's look backwards, briefly, where we've been. We had an agreement on quantities; it's called the Kyoto Protocol. So, there was an agreement; numbers were negotiated, they were agreed. But, that agreement couldn't be enforced. The reason for that is that the Kyoto Protocol framed the climate problem as requiring cooperation.

So, everyone was going to make a sacrifice, as it were, and everyone would be better off, that was the presumption behind Kyoto. But, there was no basis for enforcing the agreement externally, so when the United States decided not to ratify, there were no repercussions for the United States. When Canada had the choice of complying or withdrawing, it withdrew; again, with no repercussions.

So, that agreement was always going to fail for that particular reason. Where are we now? We're getting up to Paris. What's new about Paris? There are really two things, there are these INDCs, or intended nationally determined contributions, and they're coming in now. We're starting to see what they look like. They will be submitted. Why? Because they're intended. I don't know about you, but I intend to do all sorts of things. Pretty much every day I wake up with very good intentions. They're also nationally determined. So, countries are going to submit these, but will they amount to anything?

The thing that's really potentially new, I think, is the review process. This means that countries' pledges are going to be open to some kind of review. Although this hasn't been negotiated, there is a question about whether this review process might actually affect behavior. At a meeting at Columbia not long ago with the two co-chairs of the Paris meeting, I asked two questions.

One, do you agree with me that the one thing that's new about Paris, as you read the so-called Geneva Document right now, is the review process? And, number two, do you think it will make a difference? And, they didn't answer my first question, but they both answered the second question, and they both said no, it won't make a difference. So, I'm thinking, well this is interesting. Two co-chairs of a meeting believe that the one thing that's an innovation is not going to make a difference.

So, that's where we are. I'm actually more open-minded to it. David Victor and I had just a couple words about this. It's not usual that he and I would be the more optimistic people in the room, but he and I are actually a little bit open-minded about what might happen. I'm also hoping to do some experiments on this. But, most people are not expecting very much. I think the main concern is that, if people think that Paris is it, and all they do is focus on Paris, then that will be a major mistake. Please, let's not do that, again. We did that after Kyoto; a major mistake. We should be looking now to build on Paris, to negotiate additional protocols.

I actually have always felt that we need a lot of protocols. But, what's interesting is we are going to get another one, I'm pretty sure of that. I'll call it a protocol, but it's actually another amendment to the Montreal Protocol that Kate [Brown de Vejar] had just mentioned. This would control a chemical called hydro-fluorocarbons, which are one of the greenhouse gasses. But, they also are very similar to the CFCs in this basket of chemicals, and in fact, were developed as a substitute for the CFCs that were damaging to the ozone layer.

This agreement would be adopted, this will work; I'm absolutely convinced of that. Because, we know that Montreal has worked, and one thing about this that's different from the approach we've taken to climate, is that it addresses production and consumption, both of them. And, consumption is defined as production plus imports minus exports. So the obligations in Montreal were defined in terms of trade. Montreal also included financial transfers, and this is really important.

Marty [Weitzman] wasn't really looking at financial transfers. Bill, you're not really looking at financial transfers. You actually have them in the Montreal Protocol, but they're determined in very concrete terms, based on compensating developing countries for the extra costs of using the new chemical, as compared with the ones being used before. And, in terms of financing this, there is a focal point. The focal point is the United Nations' scale of assessments, which is how we fund the whole United Nations budget.

The UN has 193 members right now, and they agree every three years on how to fund the UN. Now, that's a small amount of money compared to what we're talking about with climate change, but nonetheless, they are able to reach agreement on that. And, the final aspect of this is that the Montreal Protocol, and an amendment under the Montreal Protocol incorporates a trade ban. It's not on everything, of course, but on the HFCs, products containing HFCs, and so on.

An amendment to Montreal is going to work because this agreement has the character of creating a coordination game. I don't have time to tell you the whole story about how it works, but what you get here is a situation in which the threat to restrict trade is credible and deters anyone from not participating. In the end, what happens is, trade is never restricted, everyone participates, and the agreement is fully implemented. Now, in the future, I think we need other agreements. Montreal is just one that it looks like we're going to get.

Myself, I've worked on how to devise coordination agreements. And, these are oriented around individual sectors and gasses. So, they're much more narrowly defined. And, although I think some of these would work, when you add them all up, I don't think they can do enough to deal with this problem. So, that's one reason I'm excited about Bill Nordhaus' work, because he's going at it in a very big, blunt, and bold way.

So, let's think about a carbon tax agreement. Now, we're talking about a cooperation agreement, okay? It's not going to be like a coordination game; it's different. And, I said the world's not good at

this, but let's start off by being rather limited in ambition, and suppose that we were negotiating a carbon tax like we're negotiating quantities, more or less, now, for Paris, for countries that are going to make their declarations of what they would agree to do. What would it look like?

Well, I think we'd see that the tax rates that individual countries declare would be different. They're not all going to be the same. The baselines that they're going to choose would also be different. What I mean is that the other policies countries adopt throughout their economy, would affect the efficacy of the carbon tax, and these other policies may vary. There will be exemptions. One important feature of the Swedish tax, like all the carbon taxes that I'm aware of, is that there are exemptions.

I also think it's possible that there'll be conditionalities. So, countries might agree to adopt a tax, and be willing to go higher, but only if other countries were joining in. That's capturing the collective action problem. Plus, the exemptions are capturing the trade leakage issue.

Now I want to introduce one piece of jargon, that's the Nash equilibrium. This is basically what the world would do absent an effective agreement to cooperate. And, I'm wondering whether we really have a grip on what this means. Focusing on taxes, different countries would have different tax rates. Bill has actually calculated the social cost of carbon for individual countries. So, imagine that you line them up, and you called the country with the highest social cost of carbon for itself number one, the country with the second-highest value number two, and so on, and so forth.

You know, that would be the Nash equilibrium for the game, although the rules of the game would be defined as not allowing trade between the countries, and limiting emissions. But, of course, country 1 would be willing to pay country 2 to abate a bit more, because they would be better off. If you take the numbers seriously, that's the implication of that. Country 2 would be willing to pay country 3, and so on, and so forth.

So, actually, I wonder whether there might be an opportunity for an agreement where you're basically ratcheting up the global carbon tax so that it's at the value of the social cost of carbon for country 1 everywhere. Now, here I think there's still going to be a bargaining problem, because there are going to have to be some financial transfers, so that's not trivial.

And, on top of that, I'm not 100% sure (I haven't done the modeling) about whether there would be a need for enforcement. And then, the real question is, can we achieve more than that? So, what most of us would want to achieve, and what Bill is basically aiming at in his paper, is the social cost of carbon for the world would be applied uniformly. I think that's the ultimate aim, Ernesto, for what you would like to see. That value is going to be bigger than the biggest single value for any individual country.

Now, there will be some question, and Kate asked about this before, about agreeing on what this number is. I think, yes, we don't know what the number is, but I don't see agreement on the number, necessarily, to be a big issue. There will be a bargaining around side payments. That will be big. Enforcement is going to be very big, and this is what Bill's paper is really about. What's interesting

about this, and Dick Cooper pointed this out, the mechanism that Bill's using for enforcement is really independent of the instrument that's used.

So, I don't see the tariff mechanism as making the case for a carbon tax; it could be used to enforce something else. And, I do have a concern. I don't know, but I do have a concern about how countries would react to the unilateral imposition of a tariff. Matt [McCullough] was talking about blowing up, I'm thinking of war. Okay, it's bit emotional, but if some countries feel that this was not a legitimate process that gave rise to this, they felt that they weren't getting the deal they wanted, I think there could be repercussions.

Whereas, under the Montreal Protocol, the trade restrictions were negotiated from the very beginning. Countries accepted them. In the bargain, they also have provisions for financial transfers.

Moreover, and as Santiago Rubio pointed out, with Bill's work, if we wanted to go for the full cooperative outcome, for a high social cost of carbon, it's not even obvious that this approach would work, which I find disappointing.

But, as I said earlier, this is the hardest collective action problem in history. We're not ready for it.

To conclude, is there a case for a global harmonized carbon tax? Well, from the perspective of first best, absolutely. And, actually, I think that's an important point; it's not a purely academic point. Is there a case for unilateral carbon taxes? Well, we already have some, and I think the answer to that is, obviously, yes.

But, there will be allowances for leakage, that's where, particularly, the exemptions are coming in, and there may pressure for a border tax adjustments, too. Is there a case for a multilateral agreement on a low value? Not necessarily the global social cost of carbon value — actually, that seems to me to be plausible. That might be something worth considering. Is there a case for a multilateral agreement at the very high level? I don't hear that, yet. I don't hear that, yet.

But, the one important thing, the last thing I want to say, is, what are the alternatives? We don't have any other good alternatives, so I would never be critical of the carbon tax. I don't see it as being remotely worse than anything else. It's better than many other categories. But, I don't see this instrument as changing, fundamentally, the ability of the world to bring about collective action on climate change. And with that, I conclude.

Discussion

Scott Shapiro

I'm going to ask the first question, since we're not constrained by anything in this room. I was curious, what if the Security Council were to bless the club? The Security Council has superpowers, and a good argument can be made that this implicates international peace and security. So, I mean, if you had the big emitters of the P5, perhaps that might work. That's a question.

Scott Barrett

Great question. I've thought of this. Dick Cooper said earlier that Bill's use of the trade restrictions could have applied to other issues, which is true, because, as he also pointed out, the trade restrictions are directly linked to the instruments that are used to address climate change. We're choosing the trade system, or he's choosing the trade system. And, it is alluring.

But, it's not the only one that we have, and the other one that would come to my mind would be the Security Council, and climate change has come up before the Security Council twice so far. So, if the world believes that this is — I wouldn't say existential, but if they believe this is of grave concern to peace and security worldwide, this is possible.

Now, then you have to ask, would the Permanent Five not only say this, but would they prescribe measures that they themselves, collectively, would be willing to enforce? And that, I think, again, that's asking quite a lot, but if it were a matter of peace and security, this would be binding on all states. So, if the P5 were willing to enforce this, this is conceivable. I actually think this is the right way to think about climate change; and if you're a consumer of drama like I am, I think it's the natural way to think about it.

Richard Cooper

Just a comment on this. I think you can't only have the P5 members. You need a much bigger club. Some in that group could vote against it. The P5 are necessary, but not sufficient.

Scott Shapiro

Right, you'd have to have a majority for this. Okay, Adele Morris?

Adele Morris

Well, thanks very much for this useful discussion. I think it's important to think about how such an

institution might evolve. A couple of thoughts; one, I don't know that we would start this way, in thinking about a new collective institution, because the U.S. couldn't be part of it until the U.S. domestic politics allow a discussion of a price on carbon, and when that happens, I think it'll be critical to have the U.S. in there as a key player.

In the meantime, if you want to have a conversation about pricing carbon, it's better to do it in a consultative process than with an explicit goal to be starting the negotiation around prices. I have a paper on how you might do that. But, eventually, it's critical that we evolve to this sort of framework. I want to give Marty a few talking points on why he's right.

Let me just start with the experience we've had in negotiating quantities. We know negotiating quantities, the effort is opaque, and we get BAU (business-as-usual) targets, we get hot air targets, we get all kinds of targets that really have zero or negative additionalities. When you're talking about prices, particularly if you're accounting for fiscal cushioning, that's additional. So, that seems to me like a critical point in the favor of prices. But, there are also a bunch of other advantages.

If you negotiate around prices, your effort is capped, and that gives reassurance to countries most worried about their economic growth. Also, a price-based agreement is more likely to be negotiated by finance ministers and trade ministers who actually know what they're talking about. Part of the reason our quantity-based negotiations have failed is because they're negotiated by environment ministers who really don't have any clue about the economic implications of the agreements they're trying to strike.

In my observation, having been part of this, we need to turn it into an economic negotiation. The way to do that is to change the framework and be talking about prices. The other advantage of prices is that enforcement, or the determination of compliance, is nearly contemporaneous. We can tell who's imposing what prices, and what revenue flows occur, whereas if you have quantity targets you have multi-year targets with cumulative emissions bounds, and then you have to wait until the emissions inventories are done, which typically takes two years after a five-year compliance period.

So, it might be seven years by the time you start, technically, the compliance period — before you've known whether anybody complied. I don't think you have that problem at all in price-based agreements. I also think price-based agreements directly mitigate concerns about trade, and as Carolyn has so eloquently said, that's a key point and a concern of the interlocutors, and if you're just talking about quantities, you get into these situations where everybody's squabbling over which base year they're going to use for the departures of their emissions relative to. And, everybody has different incentives on which base year to pick, because depending on which base year, you could take a bigger percentage reduction for the exact same emissions target. But everybody wants the optics of their target to look more stringent than somebody else's optics of their target, even for the exact same emissions quantities.

So, if you're just negotiating around prices, you get around this stupidity of the formulation of the emissions targets and base years. You just can't believe how much time is wasted on that kind of squabbling over formulas.

Just a few other thoughts. You said that the quantities were determined in Kyoto, but they actually weren't. What was determined in Kyoto were the targets against which compliance was going to be determined. But, the inventories that were going to be compared to those targets were never concluded, because you had to have an accounting system for land exchange and forestry, afforestation, reforestation, and deforestation, under Article 3.3, and additional activities under Article 3.4. Those talks collapsed in the fall of 2000 at The Hague.

So, we actually never got to the point where the quantities that would be compared to the targets, which I agree were concluded, that critical compliance emissions were never concluded, and then the U.S. withdrew before those negotiations were done. That just illustrates further the difficulty of the quantity-based target. So we have a proposal on how you could introduce pricing into the negotiations in our Asian and Pacific Policy Studies paper, and I'd be happy to share with anybody who's interested.

Scott Shapiro

I enjoyed that. David Victor.

David Victor

Very briefly, I guess you should look for lots of friendly clubs, and maybe the Security Council is one of them. I'm very skeptical of that. You've got the full membership of the Security Council, which is not organized in a way that aligns with your goal of getting important countries, at least initially, with minimum carbon prices. And then of the P5, you've got one, Russia, which is a pain in the ass, and is also once warming, to some degree. So, I think that's going to produce a volatile arrangement.

But, be that as it may, I was struck at all four of these presentations, especially the presentations from the lawyers, that there are all these moving parts. And, I want to make a comment which is more a bit of advice to Ernesto, and wherever you go with this, which is to figure out the parts that really matter the most, and articulate that as a core, and then articulate other elements, because I think it's going to be hard for a lot of people, especially with all the chaos leading up to Paris.

What you want in Paris is a door to be left open to this kind of stuff, and then you want people in Paris, when they realize the Paris agreement is going to produce, more or less, business as usual, you want them at the final day to be saying, in addition to all this business as usual, I'm doing this. It's a process, as opposed to an actual outcome, because you can't get the outcome between now and then.

You want a really clean core set of articulations about the minimum price, about equivalence — as I said in the earlier panel, I think equivalence issues are going to be very important for creating a large enough group where we can deal with the participation problem — about what internal enforcement

would look like, about where and how you could use trade for enforcement, with all of the issues of compatibility with the WTO/GATT standards.

To somehow excerpt from all the complicated legal stuff into a handful of things that really matter the most, I think it's going to be very, very important. Otherwise, people are going to have no idea what to actually do and say in that last week in Paris.

Scott Shapiro

Why don't we just go down the panel?

Scott Barrett

When I was explaining how the Security Council might be involved, obviously I'm not thinking they're going to do it next week. But if you think about this problem, the range of possibilities for what might happen in the future, and the inability of the system as it stands to do anything about the problem, something is going to give. Now, it wouldn't necessarily be that, it could be something else. But, I don't think it's inconceivable.

The Security Council has acted in other areas on, for example, securing nuclear materials, basically prescribing regulations for the whole world. I never followed up to see how much that's being enforced, but if the reason they did that was because the treaty system was failing, because the only countries that were going to be at risk were the ones that were not participating in the treaties — it's the classic problem.

So, I think it's conceivable, and I'm not thinking about the world as it is today, I'm thinking about a different kind of world where people see this as being a very large risk. Also, the responses may not be about reducing emissions in the kind of leisurely way we often think about it. Maybe emergency kinds of measures, like what you've written on, David, geo-engineering, or something like that.

Silke Goldberg

Let me start by saying that climate change is of a magnitude that is actually an existential threat to humankind. So, from that perspective, it might be politically proper to have it addressed at Security Council level.

However, and this is the proviso: in the Security Council, whether it's P5, P15, or any other sort of configuration, it's the same countries, the same participants who participate in the Kyoto Protocol, in the Paris negotiations, and who might participate in the additional protocol negotiations.

So, it is not necessarily set as a given, that just because this happens at the Security Council level, the outcome might be different. It might certainly help in giving these sort of negotiations a different impetus, and it might be a political signal, I'm just not sure that the outcome would necessarily be different.

The second point I wanted to make is in relation to the moving parts; I completely agree. What I tried to do in my presentation is to show what the moving parts might be in each of the various categories. I think it would be important to come to negotiations, discussions, whichever way you want to label it, with a core proposal, because whatever is the first iteration of a draft, it's not going to look anything like the final draft that might eventually be adopted. But, if you're clear about a core set of policies that you want to achieve, there is a higher chance of success of these goals being reflected in the ultimate agreement.

Scott Shapiro

Just to be clear on the issue of the Security Council—when I asked my question, I wasn't imagining that the Security Council would set the carbon price. The thought was that there might be issues having to do with WTO compliance or something, and they might bless that. They might say, look, countervailing duties in this club, should be deemed presumptively valid, or something like that. That was the thought, just like when the Security Council, under Chapter 7, imposes sanctions, people don't worry about the WTO. So, that was the thought. Number two, about the lawyers scaring everyone — that's their job.

Silke Goldberg

A small thought on the business community: I was involved in a different project with a number of NGOs in Europe in relation to climate change liability. One of the questions raised in that project was the impact of a regime that governs liability for the effect of climate change. One of the things we found was that to the extent that there was a regulatory regime of any kind, whether that be price, whether that be quantity, as long as it was big enough and internationally enforceable, companies would embrace and welcome that regime and it would bring legal certainty and would lessen the possibility of lawsuits for non-compliance by, for instance, local NGOs.

Matthew McCullough

I think if you look at the G2 approach, which I think is good, you have to look back at the United States. We've talked a lot about sticks to bring people in, but there wasn't as much discussion of carrots to convince players to come in. And when I look at the U.S.-China bilateral relationship, there are various economic and political concessions I could see the U.S. making to try to bring China into that grouping.

One area that I live and breathe every day is the trade remedy area, and the kind of treatment that the United States gives China in terms of treating them as a non-market economy, some of the arbitrary trade rules that apply that have come up, that's worth something to China, both economically, but politically. You just can't tell China to come play ball with us, you have to think more creatively, to use some tools to bring them to the table. But if you could get the United States and China together, it would be important.

Scott Shapiro

Bill Nordhaus.

William Nordhaus

I predicted to myself that this would be a very sobering panel, and it was. I live in a family of lawyers, and I know whenever you ask a question, the answer is much more complicated than you ever could have imagined. And, I did not imagine.

I've been watching this for many years, and watching it evolve — the science, the economics, the politics. I take a rather longer view. I just assume that Paris is not going to do anything, and that we'll carry on a little bit longer. And, I ask myself, what would I like my students who I'm teaching now, when they get to where you are, what are the key things I would like them to know, or to have absorbed if they were here today.

One is, we didn't actually talk about the seriousness of climate change. We usually have at least one climatologist to frighten us and show us the latest things, but maybe we're beyond that; I think it's always useful to remind ourselves. When I give a talk, I always spend at least 15 minutes on the latest roundup of where we are. I think the roundup of where we are is that things are very serious. Maybe we're not yet in Marty Weitzman's far tails, but we're surely not on the benign tails.

The second thing, which I think has changed a lot over the last decade, is the importance of price. I think people who have not been working on this for a long time cannot remember what it was like 15 years ago when you would mention carbon price or carbon tax, and somebody would just stare at you as if you were speaking a foreign language. And, particularly in the environmental community, partly in response to what's happened with the SO₂ program, but also as a result of the failure of the Kyoto Protocol, I think in a wide variety of communities it is widespread among people. Jim Hanson, for example, has been in favor of a carbon tax for many years, and he's one of the most pessimistic of the climatologists.

It is not surprising that economists particularly like it, because it came out of that discipline, but I think it's a very widespread view. Not just a carbon tax, but the role of prices; not just in abatement, but also inducing innovation. That's one of the lessons that I would like people to hear or, if we were to do a manifesto, to emphasize the importance of price. And, I won't say the failure of quantities, but let's say the lack of success.

And then, the third thing, which is maybe not so controversial, but which Scott has emphasized is the importance of what is called free riding, although that doesn't capture what really is at work here, which is that countries in any regime we have developed to date do not take the kinds of deep abatement measures that are necessary to really slow climate change.

You could call it free riding, you could call it ideology, you could call it obfuscation, bloviation. Whatever you call it, it's clear that no country, no region, is really taking these actions. I see it in the framework of game theory as free riding, but it's basically that you haven't gotten collective behavior to take the kinds of actions that are necessary. And that's one of the points that I want to emphasize.

I also want to emphasize that where we've come from 1929 to today is really astounding in terms of the trade regime. It's been a long slog, but there are now, for example, 80 lawyers at the WTO, up from six. This one is probably going to take a lot of lawyers as well, but it's also going to take a lot of time and negotiation, and getting people to change their mindset about what the issues are. The panel was really interesting in pointing out that this isn't going to be done overnight, that there are lots of issues along the way that we're going to have to resolve.

Scott Shapiro

Thomas Sterner.

Thomas Sterner

Thanks very much. Now I can make a comment and then have to run. I was thinking that at the end of two days we've gotten to the raw power core of things, and of course, nothing will work if the U.S. and China aren't on board. So, it becomes sort of androgynous. The Kyoto Protocol wasn't well designed, but another reason it didn't work was, of course, that the U.S. and China didn't join.

Now that we've gotten down to this G2 kind of thinking, I think it's very important to remember the poor world, as well. Even if the U.S. and China could enforce a lot on their own, it is very important to, for example, take India as a symbol. It's a billion and a half people, and with a level of poverty that is completely different from China. It's very important that somehow India is included in the negotiations.

Ernesto Zedillo

We are approaching the end of our conference. I would like to say a little bit of what I'm thinking will be next steps, at least for my Center. And of course this is subject to your consideration, opinion, and approval.

I think the time for having done this is right. I don't think we are being negative about Paris, but evidently there is a very robust consensus that we are not going to get anything really meaningful in Paris. And I don't know whether next steps that could produce something meaningful will be right after to Paris, or five years after Paris, or 10 years after Paris. I don't care. But, I think it is our intellectual and societal duty to start thinking ahead.

Quite frankly, I haven't heard anything in this meeting that has discouraged me from doing this. It is clear to me that if rather sooner than later the world doesn't start to deal seriously with this problem, then we are going to have very serious consequences, not in my lifetime, but in my grandchildren's lifetime.

I think there are two objectives. One is to make the intellectual statement that we get together to look for alternatives — alternatives to a process which has failed dramatically, and whose failure will be reiterated in December— and on that we are being good citizens of the world.

And, second, who knows? If we start to socialize this, we may get some adherence from people who might sympathize and start talking about it. I was mentioning an anecdote about my fellow Elders, the group that was established by Nelson Mandela, who was the first Chairman, and then Desmond Tutu was the second Chairman. We have people like Mary Robinson and Gro Harlem Brundtland, Kofi Annan and so on, and so forth, none of whom really cares or knows about the technical matters of this, and who were very much on the Kyoto approach. I tried to explain about this using arguments that I have heard from others, and I ended up convincing them that what we have been doing is wrong, and that as a group with some influence, we should go out and say the world has to negotiate a harmonized carbon price.

The more arguments I have, and ideally the work that our friends from the International Bar Association give us, then I think we have — every one of us — a better chance to socialize this. In my view, as compared with other endeavors of a similar nature, in this meeting we have been more interdisciplinary than in other discussions, and I think that's great news. I have heard the hard economic arguments; I have heard the political economy arguments -- which typically tend to be very negative because seemingly people don't trust political systems to produce the right solutions, nowadays; and I have heard legal arguments. There is, in my view, enormous value added in the exercise that we have undertaken. As I mentioned, David Rivkin, President of the International Bar Association, unfortunately could not make it here, but he is fully behind this exercise. So, I am glad that he had these three fantastic representatives. It was so stimulating to see you digesting and then processing a lot of the things that were said here.

Having said that, I only need to tell you, again, thank you very much for coming here, and you will continue hearing from us. We don't give up, okay? Thank you.