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P R O C E E D I N G S

MS. SHENAI: Well, good afternoon, everyone. I'm Neena Shenai and I'm a nonresident fellow at the American Enterprise Institute. My colleague, Josh Meltzer, from Brookings and I are really pleased to welcome everyone and our distinguished panelist today for our joint AEI Brookings program on economic globalization after Ukraine.

This program is part of a joint nonpartisan AEI Brookings project entitled Reconceptualizing Globalization. And Josh and I have led this project for several years and it focuses on bringing innovative thinking to improve the understanding of the importance of international trade, investment for jobs and global economic growth as well as the impact of globalization on the U.S. economy.

And we have with us several panelists today who Josh will introduce, and we are planning an important and timely conversation just given the dynamic geopolitical conditions these days. So, what's the issue?

So, Russia's war in Ukraine has exposed an evolving trend that we really have been seeing building over the past several years. Among the issues of the U.S./China trade war, the COVID pandemic. There's just been a trend of acceleration of the metamorphosis so to speak of the nature of international economic relations.

At the turn of the century, the prevailing liberal international economic theory, which was really the orthodoxy of the day espoused that increased economic activity could bring out positive externalities like political change across the globe. In 2000, and it seems like a long time ago now, the world triumphantly welcomed China into the WTO. Russia was welcomed into the WTO in 2011. The multilateral export control regimes brought together the U.S., Russia, India, others during the post-Cold War era.

But global rules have been morphing and splintering in many ways. And have also in many ways laid bare the underbelly of globalization. And the world appears to be moving increasingly towards what seems like different realities as well as polarized blocks. And the U.S., the EU, others have been able to leverage Russia's dependence on the global economy to put in place very significant sanctions. They're really unprecedented given the size of Russia's economy.

The G7 has just announced more. Russia defaulted on its debt. The U.S. and China have been sparring over trade matters as well as technological supremacy and sanctions. So, we've just seen stark examples of the type of weaponization of interdependence that Henry Farrell and Abe Newman, two of our panelists, claimed several years ago.

So, on the other hand, there have also been moves to so called protect and promote. These are enhanced concepts of issues like so-called friend shoring and binational policies to attempt to leverage and group economic behavior among friendly nations and reduce dependence on autocracies. And private sector activity seems to be evolving and following and moving in that direction as well. So, both these offensive and defensive policies have and will have fundamental effects on the global economy.

In this chaotic world one thing is clear that I think there are major structural changes afoot in the global economic order and they're accelerating. And it's unclear whether major economies are equipped domestically to handle what's to come. In any event, there's just a lot to discuss here today. So, I'm going to turn it to Josh to see if Josh has anything to add to this very sunny TF and then we can kick off the discussion with our distinguished panelists so thank you.

MR. MELTZER: Right. Thanks, Neena. And again, it's a pleasure to be here. It's a pleasure to be co-moderating this event with you and these fantastic panelists. One is I need to do is introduce the panelists and then we can just get into this discussion. We've got plenty of ground to cover. I'm just going to read out short bios in alphabetical order and then we can go from there.

Starting with Henry Farrell who is a Stavros Niarchos Foundation Agora Institute Professor of International Affairs at SAIS Hopkins. 2019 winner of the Friedrich Schiedel Prize for Politics and Technology, and Editor in Chief of the Monkey Cage blog at the Washington Post. Previously, he was Friedrich Schiedel Prize for Politics and Technology, and Editor in Chief of the Monkey Cage blog at the Washington Post. He has written prolifically. He's a coauthor, in fact, with our other panelist, Abraham Newman. So, I'll be repeating some of their authored products probably. But most recently, *Privacy and Power: The Transatlantic Fight over Freedom and Security* with Abraham Newman and *The Political Economy of Trust: Interests, Institutions and Inter-Firm Cooperation*. And welcome, Henry.

Abraham Newman is a Professor in the Edmund A. Walsh School of Foreign Service and

Government Department at Georgetown University. He is the Director of the Mortara Center for International Studies. Again, coauthor of this book of *Privacy and Power* with Henry. And also, coauthor of *Voluntary Disruptions: International Soft Law, Finance, and Power* in 2019. And I'm actually not going to read every book you've written and authored in total. But there's a long list of them there.

And moving to Chris Miller is a Jeane Kirkpatrick Visiting Fellow at American Enterprise Institute where he concurrently also serves as an Assistant Professor of International History at the Fletcher School at Tufts University and Co-director of the school's Russia and Eurasia program. He's also Director of the Eurasia program and a Fellow of the Foreign Policy Research Institute. And his most recent book is *We Shall be Masters: Russian Pivots to Asia from Peter the Great to Putin*. An extremely timely book there.

And finally, but certainly not least Emily Weinstein is a Research Fellow at Georgetown University's Center for Security and Emerging Technology. And she's also a Nonresident Fellow at the Atlantic Council's Globe of China Hub and the National Bureau of Asian research. Emily has testified before the U.S., China Economic and Security Review Commission and Wisconsin State legislature's Senate Committee on Universities and Technical Colleges. I've followed Emily's work a lot recently on sanctions and it's great to have her on this panel given the centrality of that economic piece of what we're going to be discussing today. So great to have everyone onboard today.

So where to start? For me it's I actually decided to go back and re-read weaponizing dependence that Henry and Abraham wrote in – well, it was published in 2019. I guess you sort of embarked on this journey a little before that. And, you know, it stands up – knowing that it will stand up well to the test of time, which is not all that much time. I mean to use the minute phrase, yet it feels like a generation later somehow.

But you laid some intellectual groundwork and a framework to thinking about the moment we are in, in this space. And so, I think for me that provides a helpful kind of launching pad for this discussion more broadly. And in that article, you talk about two types of sort of weaponizing the dependent through the so-called panopticon effect where you have sort of a central node. You have access to all that information that give you control and power.

And through the choke point effect which is when you control access to a central, you

know, group service trade fund and so forth. And it seems that in the Russia context when it comes to what has been happening with Ukraine, we've got both elements of play here to some extent.

We've got the panopticon effect through the intelligence gathering. I think we're being made increasingly aware of that U.S. intelligent agencies have not only had access to even public – being very public about. And we've had clearly the choke point effect I think through the use of sanctions and other restrictions on finance and capital which have really sought to degrade Russia's military machine and economy in parallel.

So, I guess what I'd simply like to do is ask this to all panelists. What have we learned so far looking at what's been happening in Russia and Ukraine about the coercive power of networks? How do they operate? How effective are they? And what are the key kind of learning points or messages that you think are coming out of what you observed so far? Maybe I'll turn it over to Henry and Abraham. If you want to kick off that conversation given that I sort of pivoted it off your article. But then I'd love to bring Chris and Emily as well for their reflections.

MR. FARRELL: Well, thank you so much for the very kind introduction. I should say that Abe and I are very, very happy to see how many people have found this work to be useful. We're also very happy to see that many other people are coming in and others are beginning to contribute insights and information that we certainly would be incapable of doing ourselves. So, this is for obvious reasons becoming a virgining field of inquiry.

As to what is happening with respect to Russia, I think on the one hand, it clearly shows that these kinds of techniques can be applied at a much larger scale than they were, for example, with respect to Iran, which is important state but was not nearly as well integrated in the global economy as Russia is. Even if Russia's integration in some unusual ways.

I think also we begin to see some of the question marks that begin to open up when you try to do this kind of stuff at a much bigger scale. So that on the one hand, you need much, much clearer goals than I think the U.S. and its allies have expressed so far. So, it's very, very hard to know from public statements at least whether the goal is, as you suggested, perhaps to try and degrade Russia's military operatus. Whether it is to bring Russia the negotiation table. Whether it's to permanently degrade Russia as a power. There are other options too.

But these strategies point in somewhat different directions. We don't know which of these the United States and its allies are pursuing, which makes it very hard to in some ways to actually figure out how successful they are.

And the other thing that I think we're seeing more of especially when we look at the energy crisis is that when you try to apply these things to big-ish countries in the world economy, you are likely to have a variety of perhaps unexpected and unanticipated consequences as you begin to see spillover between the effects that are achieved and the workings of the global economy.

So, I think that we really need – we're beginning to – only beginning to understand what these consequences are. But this is something that really, I think is going to have to be a very, very important question both for policymakers and indeed for scholarly research. Is figuring out to what extent can you do this kind of stuff at scale without having big repercussions which perhaps can be to some extent undermining of the political effects that you're trying to achieve.

MR. NEWMAN: And maybe just to add two other, I think areas where I think we need more research and really a better understanding is, first, is just where are these choke points in the global economy? You know, one of the ones that I think we're seeing right now is, you know, Boeing and Airbus and the supply chain for airline maintenance.

You know, I don't think that's one that people thought was a strategic weapon that could be deployed against another country. Similarly, this one we've known about more, but it just has gone out of favor of when we're thinking about it is Lloyds of London and it's, you know, critical role that it plays in providing insurance to shipping.

You know, these are kind of, you know, dotted across the international economy. And I think public policymakers they need to really have maps to understand, you know, where are these both to use in this way of putting pressure on Russia. But also, you know, in order to protect against vulnerabilities at home. And you've seen, I think supply chain reviews, which I think are good first effort at these. But, you know, it's really way beyond just supply chain reviews. That we need to think about how the structure of the global economy can be used as a strategic resource, but also as a vulnerability.

The second point I just want to raise is, you know, we need a better understanding of when hubs, these central points, can degrade. You know, when do they stop being useful as a point of

coercive? And, you know, people often say, well, the U.S. dollar is going to be replaced if we overuse sanctions. That could be true. I'm personally pretty skeptical, but that's going to be the way that it's going to happen.

But you definitely see countries investing in what I would call dark spaces where they try to circumvent oversight, the panopticon effect. And I think that's probably more likely than we're going to see of the dollar just vanish overnight. And so, policymakers need to think about what are the alternative strategies that targets might use? And, you know, how do we maintain these in a responsible way?

And I think part of it is about the legitimacy of the effort that's being undertaken. So, I think the difference between what we've seen in the Russia campaign where we are putting pressure on Russia versus Iran under the Trump administration. It's all about, you know, bringing in the allies. These are unilateral tools that are being used, this type of coercive. But you can still put a political legitimacy around them that makes them more or less viable in the long term.

MR. MELTZER: Yeah, that's a lot there. And let's circle back to some of those points you raised shortly.

Emily, can I bring you in because sanctions is in some respect the application of a choke point, I guess. And would love to get your perspective on this.

MS. WEINSTEIN: Sure. No, and thanks again to you and Neena and Brookings and AEI for setting this up. I think – I mean personally you brought together three of my favorite scholars so I'm very happy to be here as part of this. So, I think we'll have a great conversation.

But just to fill in the first part that is the big question you asked about what have we learned? I think I want to go back to the point that I think we're slowly realizing that we're getting to a point where we have to rethink what national security means. What is national security? And this is for a whole host of reasons.

But it's particularly important in the context of export controls and sanctions because these are tools like Abe just mentioned that are, you know, in essence unilateral. They can be done multilaterally, and I would argue probably should be in most cases. But we have to figure out what we are doing with them?

What do we want to achieve with export controls? What are we trying to gain? Or what

we trying to stop in using sanctions? And I think what we've learned, and I would say this is something that we were touching up to I think with some of the conversations around China during the Trump administration particularly when we're talking about Bawa.

But even now with Russia, I think we have to take a step back and think about, okay, we've used the foreign direct product world. We've used all these different tools. We can see that they, you know, have a potentially decent sized effect at the outset. But what are the kind of long-term effect that we need to think about when we deploy these?

And I think what we're seeing now with some of the issues with inflation, with some of the other issues that I'm sure we're going to talk about with the energy sector and other things. We're seeing kind of those secondary side effect elements that I think are not necessarily brought into the conversation as early as they should be when we're thinking about deploying these types of tools.

So, I'll stop there. I know we'll talk more about export controls and sanctions in a bit, but I do think all of these tools and others require us to take a step back and really think about this idea of, you know, is economic security national security? And I think in this day and age, it's hard to separate the two in some instances.

MR. MELTZER: Right. Thanks. Chris?

MR. MILLER: Thanks, Josh, for the invitation. It's hard to follow three such excellent explanations of lessons learned thus far.

I think for me the really striking feature is rewinding the clock four months. How many steps the major players would have taken had they actually conceived such a big change in the economic relations as possible. And what's really striking to me, I think is that what now looks obvious that Germany's dependence on Russian gas, which Germany had been intensifying as recently as four months ago was a horrible error.

Was something that the German political class simply couldn't believe. And Germany isn't, I think, uniquely to blame in its inability to see that economic relations might be forcibly changed by geopolitical events. I think the Russians in many ways were even more surprised than the Germans by the geo-economic responses to the war.

No one in Russia had considered the possibility that the West might freeze Russia

foreign exchange reserves or simply slash imports into Russia across a whole range of industries. So, Russia was totally unprepared for these measures. Despite that, key policymakers knew that some sort of geopolitical conflagration was coming and were ordered by President Putin we know publicly to prepare.

They didn't prepare for the right things because they assumed that economic relations we're used to would continue except in sort of small areas where there might be changes. And they were completely to the massive changes in Russia's trading relationships and Germany's energy relationships that were coming on the pipeline.

Visible, I think to anyone who would be willing to consider alternative futures in which geopolitics drove economics not the reverse. But economic policymakers, I think are because of training, because of bureaucratic interests, very hesitant and ill equipped to see around the corner when it's geopolitics driving and economics following.

MR. MELTZER: Yeah. There's a lot of doors that would just open up at the moment. And so, I'm just sort of trying to work out which ones we go through at the moment. Let me start with – it's early in the game, I think probably in terms of assessing how effective use of these choke points can be as points of leverage. And there's a live debate I think underway about the impact of sanctions and other types of restrictions on Russia and its capacity.

A number of you have raised the point about that it's hard to assess sometimes their effectiveness because the administration is not being clear about their ultimate goals. So given some sort of haziness there.

What do we know? What have we learned so far about the potential effectiveness of using networks as points of coercion? And what would we do, if anything, differently at the moment given what we have learned over the, let's say, four or so months since this began in Russia? Emily, let me bring you back on that because I think there's a direct sanctions line there.

MS. WEINSTEIN: Sure. Yeah, I'm happy to chat about that. And I think everyone at least I was surprised at how quickly we were able to see the effects of the export controls and sanctions on Russia. Particularly, the export controls as sanctions you can usually kind of see the effect more quickly than export controls.

But I think the unprecedented and kind of vast size of the export control package that we kind of deployed on Russia, if I can put it in that term, have actually led us to see – I was just reading. I think there was something. I know Emily Kilcrease from CNAS has written a lot about this.

But I think there are estimates that the export controls and sanctions are going to affect Russia's economy or push some type of decline in Russia's economy by about nine percent by the end of 2022. I think that's the estimate, like the last estimate. Which if I remember correctly is about three times the decline that they saw during the first year of COVID in 2020. So pretty significant impact felt very, very quickly.

I think one of the conversations that's come up in terms of side effects, these export controls and sanctions, has been focusing in on the areas where Russia has still been able to get access to specific things. There was a report that came out from the Washington Post a few weeks back that found that certain types of U.S. origin chips or other components were being founded by Russian equipped that was being, you know, taken over and kind of taken apart. And there was a lot of kind of outrage and concern about that.

But I think if we take a look actually at that. It's a lot of chips and a lot of components that are very widely accessible across global marketplaces. I, for fun, was checking on Alibaba marketplace recently and I saw that you can buy an NVIDIA RTX 3090 chip like just anywhere. You can buy it on Alibaba's website. You can buy it on Amazon. On things like that. Despite there being a shortage, they're really expensive so for the gamers out there, probably you might want to wait a little bit longer to buy your new NVIDIA chip.

But for the Russian military, I mean it's pretty easy to get access to that kind of thing. These are commercially available products. And so, I think we need to think about, you know, there was an initial outrage again about this. Like, oh, God. You know, there are U.S. components that are going into Russian weapons that are killing Ukraine civilians. Which to be fair like, yes. That is very concerning, and I would say it is something we need to keep an eye on.

But it's nothing that, I would say, in terms of our export controls here. I mean it is not much we can do much about because even if you were to, for instance, go after NVIDIA and say, NVIDIA, we want you to, you know, all of a sudden today GPUs are going to be now classified as ammunition.

And they're going to be more tightly controlled or we're going to tightly control them under BSI or kind of change however we view them.

Even if we were to go around and do that, not to mention we would probably piss off our friends at NVIDIA and all these other companies. Intel, all these other chip suppliers. But a lot of these chips aren't coming directly from NVIDIA and going to Russia. They are being sold or resold by third party. One of my colleagues, right, Batashia (phonetic) did a report called "Harness Lightning at Seaset" where we found that there were these intermediary companies that were being set up in China.

Almost like, I think you call some like Radio Shacks or that type of equivalent that are buying U.S. origin chips and reselling them to the PLA. So, I can see this happening very easily in Russia as well.

So that's one of the side effects that I think, I, at least don't really have a good answer to fix at the moment. But I think it's one, you know, as we're now a few months into this conflict in Ukraine and we're thinking about reforms or broader changes to our export control system. I think this is one that we need to think about and sort of require, I would say, pretty creative solutions. But I mean one of the things, and I'm happy to talk about this a little more later, but I recently proposed with Kevin Wolf (phonetic) the former Assistant Secretary of Commerce for BIS back from 2010 to 2017.

So, he's the expert. I am not. But he and I were talking a little bit about creating a new type of multilateral export controls regime to deal with all these issues that are falling through the cracks. So, I'll throw that into the conversation now. I'm happy to touch on it bit more, but I think it's one of those examples of a potential creative solution to help deal with this.

MS. SHENAI: And I want to thank you, Emily. I want to also bring Chris into this conversation because I know, Chris, you participated in the international working group on Russia sanctions, which has also had a number of proposals along the way on this front.

MR. MILLER: Yeah. Thanks, Neena. On the question of sanctions of Asian or what the Russians call parallel import. In other words, bringing in imports through third countries. And there's a big literature now in the Russian media about ways to set up what they call parallel import.

I think history suggests that sanctions in export controls don't need to be watertight to be effective. And if you look at the history of the Soviet Union and Soviet industry in the Cold War what you'll

find is that although they were under very tough export controls from the earliest days of the Cold War up until the Soviet Union's collapse, they also regularly found ways to smuggle in technology.

And this was true from the late 1950's all the way until the days of Gorbachev. There's an entire director to the KBG that was devoted to acquiring technology above all machine tools and semiconductors. And there was a huge KBG presence in Silicon Valley.

And throughout the Cold War, the U.S. military would acquire Soviet military equipment. Open it up and find complete replicas of Intel chips or Texas Instrument chips inside, which the Soviets had learned how to produce often with stolen semiconductor manufacturing equipment from the United States or equipment that was illegally diverted to the U.S.S.R. in contradiction of U.S. export control rules.

But even though the Soviets were able to get most of the chip designs they wanted and steal chips off the shelf and acquire semiconductors manufacturing tools throughout the Cold War. Because the supply chains were so uncertain across the Soviet military complex, there was a preference for using old, reliable, domestically produced technology. And in addition, because military equipment is so sensitive, the Soviets had regulations on the what you preference domestically produced technology and to ban technology acquired the most significant adversary states above the U.S.

You had to get special permission to design any U.S. technology to Soviet military equipment, which meant that even though you could get off-the-shelf Intel chips in the Soviet Union in small quantities. The Soviet military repeatedly lagged behind in its ability to actually deploy these in the military systems because of the supply chain issues and because they were never real certain. They would acquire a shipment of chips from the U.S. Had they actually succeeded in diverting it or whether it was a CIA plot to give them chips that were modified in a way that would fall apart upon use.

And so, what that meant is that the export controls were effective even though they weren't watertight. And I think we should consider that when we look at export controls today. Finding a couple under NDA chips in Russia or China doesn't necessarily mean that export controls aren't working in their broader goal of bending the ability of Russia and Chinese militaries to upgrade their technologies.

MR. FARRELL: So, I think the one interesting question that sprang from this, and it sprang particularly maybe from what Emily said is how substitutable are readily available on the market chips for the most specific use of the Russian military might to sort of use them for?

And here there's a reason why the NVIDIA GTX chips that Emily has talked about were in such short supply until very recently, which is that Bitcoin miners managed derive ways to use them so that they could (inaudible) and sort of keep on trying to crack the (inaudible) that produce these and things which would then allow you to sort of resolve the next layer of the block chain and make a chunk of Bitcoin as a result.

And that suggests that, you know, it is possible with sufficient perseverance to use chips which have been designed for purpose A for very different purpose B. But figuring out which particular uses this now can kind of be put to. I think this is something that really calls for a much-detailed understanding of the technology.

And for people to be brought into the conversation who I think are not hugely brought into the conversations. And we have as a result of the fact that all of this stuff is so recent. We have a big gap in the conversation between people who are really geeky steeped into the technological questions and people who have an understanding of the broader strategic issues. And this is a big, big problem.

I should also say that the work that Emily and other people are doing is just fantastic on this. Who are trying to get in depth on the particulars of regulation and of how these systems work internally? There was a very useful thing that I think Tanner Greer said on Twitter about a week or so ago, which is that everybody has their Cannon X Telegram type plan or sort of ground strategy. What's more useful than that is actual granular knowledge about what is happening. Because, you know, if we have a lot of people who are prepared to pontificate about this stuff. We don't have nearly enough knowledge to actually fill out the pontification and figure out which pontificators are actual to the truth or not. And this is something we need to desperately, desperately develop.

MR. MELTZER: So, picking up on this notion of – so I think there's a couple of things on the table here. One is this question of dual use, which Emily raised in the context of defining national security and the distinction between that and what's trade or commercial has become increasingly blurred. I think we see that very much in spades across a whole range of areas at the moment.

And I think that might be an interesting conversation to pick apart a little bit more because picking up on Henry' point. I think there's various sort of siloed groups whether it's technology competence, policy. I think is see this also between the national security folk and sort of the trade folk.

And the groups have not communicated well. They have not shared information well. They have different frameworks to thinking about the world.

But I think there's clearly going to be a need to breach those gaps to think coherently about the sets of challenges at a sort of sit at a table and that we're discussing today. So, anything anyone might want to say about how do we move forward thinking about – from a sort of a policy framing perspective in this space now where these different groups will have important expertise which needs to sort of input the process to ensure that we're thinking about this sort of coherently and strategically.

I don't know if we're doing it well enough for the moment. I think clearly, we're aren't. I think though that there are efforts underway to do more of that. But any thoughts on how that might sort of work going forward? How do we pursue that and think about that?

And I just want to put a little agenda in there and not make this purely about the U.S. because I think the point to some extent that Abe raised about the legitimacy of the goals. So how do we use these choke points and so forth in our way which gets buy in. And I think automatically also brings in this question of partners and how they kind of either get onboard with what otherwise unilateral agendas or times there are corporations going to be absolutely essentially to make these agendas work.

But I think that's also that different communities improving while we incorporate and coordinate. So, I just wanted to put that big topic out there to start the conversation about that piece.

MS. SHENAI: Maybe I also just quickly add, Josh, to your comments that, you know, in this particular situation, we've actually seen extraordinary cooperation amongst jurisdictions with respect to, you know, these choke points.

So, I would love to, you know, have a conversation also about, you know, what has been the magic bullet here to be able to get that cooperation other than, you know, the obvious in terms of this being a (inaudible) spoke situation. But is there any other secrets sauce here in term of, you know, how that's come together in a way that we haven't seen before?

MR. NEWMAN: I might just make a few interventions here. The first is I think that there needs to be more conversation amongst kind of these siloed groups but at the strategic and at that tactical level.

And so, at the strategic level, you know, I'm thinking about when nuclear weapons came

onto the scene, you had a group of, you know, people that ran – people at different universities. It was a mix of physicists, political scientists coming up with just the framework of understanding how do we use nuclear weapons? And a set of kind of ground rules emerged or, you know, strategic ideas like no first use or the idea of mutually assured destruction.

These didn't exist. You know, nuclear weapons didn't come with a rule book. They had to be invented and you need that similar kind of conversation in this domain to say, what is an appropriate use of these tools? When are they legitimate? When aren't they? How far should they go? When should there be restraint? Should you target a great power's hub? You know, like in my own mind going after WoWA was a very provocative move that the U.S. engaged in.

I don't think there was a strategic conversation about what would that mean? You know, how would the Chinese interpret this? You know that kind of – I think there needs to be a broad policy conversation about just laying out the ground rules of this new world.

But then I think that there also has to be this more tactical like at OFAC. How are we going to think about the implications of specific when we pull this lever what happens? And there, you know, OFAC is amazing and they're doing amazing work, but they really need a much broader integration in both what's happening in industry? What's happening in other elements of the U.S. government that deal more with economic issues.

And you see kind of efforts of this institutionally to create kind of national security, economic structures. But I think it has to go much further down into the chain where you're saying, okay. Who has the industry expertise? It's often the companies. Let's say, Amazon, you know, that really understands what's happening at the network level in a Cloud system. But, you know, they're a national security resource that understanding of that knowledge.

And so, how do you get that integrated at the tactical level to make sure you don't make a miscalculation? Do something that you wouldn't have wanted to do. So, I think we should be thinking both kind of in the global but also in the specific.

And then the kind of the last question that was raised was, you know, why do we have this, you know, cooperation happening right now? And here, I really do think that it's first, just to recognize that it's really Western cooperation. You know, like the G7 is really leading this. You're not

seeing the same level of cooperation from, you know, third party. I think they're not sanction busting, but it's not that they're not part of the team in the same way.

But within the G7, you just see this, I think complete belief that this is a legitimate exercise. I think that's really important. And we can't underestimate thinking about what is the target? And is it legitimate to do this?

You just contrast it with what was happening, let's say, in Silicon Valley under the San Bernardino attacks. You know, the U.S. was attacked by – there was a terrorist attack and the U.S. government went to Apple and Google and said, you know, we want the phones, the data. And they said no. And, you know, there wasn't really any big fallout for Apple for resisting. And so, I think it really – when is resistance possible depends upon the legitimacy of the target. And in this moment, I think everybody just acknowledges that Russia – I'm sorry, the G7, you know, the kind of Western countries, they all acknowledge that this is a legitimate effort to pursue.

MR. MELTZER: Anyone else want to come in on this?

MR. MILLER: Well, I would maybe pick up on Abe's question of what are the rules of this game? And, you know, I think it's not exactly a new game because countries have been using it kind of like levers against their adversaries for a very long time. The context is obviously regularly changing.

But I think we should be skeptical that we're going to get a set of codified rules like we're used to in international trade because the reality is that the nuclear rules that emerged were mostly not codified. There are norms maybe, best case in the optimistic view. Or observed behaviors in the past among the great powers that may or may not be continued into the future.

And I think that's probably the most optimistic scenario for at least what will regulate the behavior and this fear of the U.S. and its key adversaries like Russia and China. I struggle to see a scenario where these countries would get together and agree on rules. And what that means I think for international trade is that we're moving from a regime in which we kind of expected that most issues could be resolved in a rules-based framework to one in which the key issues are the security exceptions which are so wide you can drive a truck through them.

And they're so wide you can cut off half of a countries imports via security exception. And that's a very different trade regime than we were taught to think about over the past the past couple

of decades.

MR. MELTZER: Yeah, the – at least coming from the trade side of the house, which is where I spend most my time backing into the security piece is just nerve inducing simply because it's one area where governments from various obvious reasons are increasingly unwilling to make any real types of commitments, right? So, you end up in a very different world than the rules backed system that we're kind of used to.

I just want to pick up on this point about international cooperation, which Neena sort of raised as well. So, if we take the Russian invasion as, you know, somewhat kind of has spoke in the sense that its galvanized Western opinion in a way that nothing probably has in recent memory. And so, the foundation for this is based in cooperation.

Just stepping up a little from the Russia/Ukraine bit is this question, I guess around the – and this sort of brings in a bit of the sanction's piece as well – around how effective even if you take the proposition that the U.S. remains fairly much a central player if you think about the network world from, you know, the perspective of finance or dataflows in the internet and information and so forth. I think it's also clear that to really not only exercise that power effectively but to do so in a way which recognizes, I think the second and third order effects on industry, on civil society and so forth.

So, if you want your sanctions around, you know, access technology be effective, you clearly may buy in from I think, you know, to Europe, probably Japan, South Korea and others depending on the technology and so forth. And so, in a sense one of the lines of cooperation seems to point to deeper cooperation at least amongst sort of like-minded countries. Maybe we are saying this as one who is being manifested in a very closed war with Russia.

But can we see sort of a trend going forward where you see deeper levels of cooperation around – particularly around where you need that cooperation to be sort of effective in your outward looking sort of strategic policy. So, do we see this in the future going forward? And what does this mean for the rest of world?

So, is this sort of a trend path towards great cooperation amongst the West or democracies? Or however we want to sort of frame that. And less amongst countries and governments we consider as rivals? Or is there a middle path? How does this look to – if you want to sort of crystal

ball out a few years?

MS. WEINSTEIN: Yeah. I could just add a few points. But I mean I personally and I know there are plenty people in Washington and elsewhere that will probably disagree with me on this. But I mean I really think that history has shown that unilateral or U.S. only controls are eventually counterproductive and ineffective with maybe a few rare exceptions.

At this point in time, you know, maybe if we look back during the Cold War era when the U.S. dominated supply chains more than they do now. Maybe these unilateral moves were more effective at that point. But now, I mean the supply chains are so globalized that if we unilaterally decide to control something, the objective is not going to be able to achieve.

Whatever we are trying to export controls or stop is eventually going to make its way there through other means, through other countries, through other markets, things like that. So especially now, I think we need to be approaching export controls. And obviously, I think even just more broadly trade controls or trade policy from a multilateral perspective because otherwise, again, we're not going to be able to achieve what we want.

Not to mention too, I think, you know, there are conversations I've seen in Washington now about, you know, the U.S. should lead and allies will follow. I also think that's a horrible mindset to have. Strong arming our allies into joining us or like join us or be punished by our export controls or by our extraterritorial export controls. I think is not a strong way to go forward.

Obviously, we did it in the context of Russia's invasion of Ukraine because we felt that there was, you know, there was an outbreak of war. And I think the allies in Europe, in particular, were much more willing to jump onboard particularly because there was an outbreak of war in their backyard.

But antidotally, I've heard examples from various parts of Europe that they were not thrilled to do it but they felt like they had to act at that point. So, I think it's a one-off success. I don't think we should keep taking that approach.

But I would say too – and this is hitting a little bit on kind of this new regime idea or even whether it's something formal or informal – we've already created some type of de facto regime. And I think as of last week, the list of countries who have signed onto partner with the U.S. on these Russia export controls, I think is at now at 37 or 38 countries including Taiwan. So, we've got a decent number

of folks that have jumped onboard.

And I think we can work within this group to have conversations with relevant stakeholders and specific supply chains. So, let's say, we're really interested, you know, chips are at the forefront of everyone's mind right now. It's worth, you know, pulling together all the different countries that are relevant in the semiconductor supply chain, for instance. And I know that's an easier one because the supply chain is so much more localized in a subset of countries.

But I think Secretary of Commerce Raimondo has also talked a little bit about forming some type of, you know, formal/informal working group or some type of regime with these countries. You know, Taiwan, Japan, South Korea, France, the Netherlands, I think the U.K. might have been part of that conversation to talk about controls on or multilateral controls on chips.

Because at this point in time based on the four multilateral regimes that we have right now none of them are really equipped to deal with the issues we're facing now particularly around semiconductors. But around just broader use of these technologies that fall outside of the context of the proliferation of WMDs or conventional weapons. Because all of them were built either during the Cold War or right at the end of the Cold War to deal with those very narrowly focused issues.

And that's not to say that they don't play an important role still. I would say, you know, for example, the Australia group is still an important voluntary regime to deal with chemical and biological weapons. And I'm not saying we need to, you know, shut that one down and create a whole new one. But I think, you know, getting these new either one big de facto or one big new formal regime or little ad hoc ones that have to do with these specific supply chains.

Or like Abe mentioned, the ones that you could bring together countries that are the home of these hubs that are connected in some way I think is a way to go about trying to fill some of those gaps. But again, it has to be done with allies.

MR. MELTZER: All right. Henry what does that work theory tells us about international cooperation? Particularly if you want networks to remain effective?

MR. FARRELL: Not nearly as much as it should. In part, because we don't have very good maps of the networks that we need to know with some exceptions.

And as Emily already said, in semiconductor we have some idea. Although, once we get

down to third, fourth and fifth tier distributors or manufacturers some of which can have crucial consequences. You don't have very good data. When it comes to cooperation, you know, sort of again there is a lot of literature and fast relations which looks at the ways in which networks of cooperation tend to not to gather with institutional folks with cooperation.

It's very hard to tell which is the chicken and which is the egg there. Whether it is that the institutions give rise to more cooperation, or the cooperation gives rise to the need for institutions. But I do think that we need to do this. And what I would say as well is that especially for the European allies, one of the things that is in the back of their heads is the possibility of what happens in 2024?

Do they find themselves locked into a relationship with a Trump 2 term or with somebody who is like Trump in his attitude to multilateral cooperation? In which case, some of the – you know, if they begin to sort of put some of their eggs in the basket of deep cooperation with the U.S., those eggs are going to get cracked and thrown around the place.

And this is an undercurrent of nervousness, which I think is very definitely when you speak to people in Europe. They talk about this. They talk about the possibility of a T2 event, you know, like Terminator 2. It's back, bigger and better and worse than ever before. And so, the question that you want to ask yourself if you're an ally is do you want to actually sort of really become dependent upon a United States which could turn around and basically use those dependencies to beat the hell out of you, you know, if the administration shifts to a different administration.

This is, I think one of the big questions that obviously there's no immediate answer to. But where we have to be aware that this is something that is certainly exercising the minds of allies and, you know, (inaudible). Okay. You know, we're cooperating in a short term. These are urgent short-term things we need to cooperate on. But do we really want to make ourselves dependent on the U.S.? Maybe? Maybe not.

MR. NEWMAN: If I could just make a broader point of what Henry is saying, which is back to that we really have to look at these things both in economic and in political terms.

So, the question is always is there a substitute? If you use this as a choke point is there a substitute for that thing? And a lot of times the conversation quickly goes to the economic. Well, can I find a market that provides this? But what I think Russian invasion shows is that it's not just about gas

being this commodity. It's also about the political entity that stands behind it.

And often when you're trying to find a substitute, the ability to create that substitute is a dependent – it's a product of domestic politics. So, I might be a little bit vague, but if you're thinking about the U.S. financial system, it plays a critical role behind most of these sanctions. And when you're thinking about can you substitute the U.S. financial system, you quickly run into, well, what are the alternatives?

And it's either China or the European Union. And for domestic reasons both China and the European Union are pretty handicapped in providing this global financial system. You know, if you think about China's currency position, it's not about weaponizing interdependence. It's trying to mediate its export led economy to prevent inflation.

And so, it doesn't want to liberalize its financial system. And at the same time, it has a domestic political situation whether it's Hong Kong protest or the COVID lockdowns. Those have nothing to do with weaponizing interdependence, but it prevents China from coming up with an alternative to the U.S. financial system.

And similarly, in the European Union. The European Union would love to have an alternative to the United States when it comes to these sanction regimes. But, you know, things like Brexit have nothing to do weaponizing interdependence but it just cut London out of the European Union's ability to come up with an alternative.

So, you know, it's a much more complex question. Can you come up with a substitute for a hub? It's not just like can you think about what it would be? Can you get the political coalition that would then support it and deliver it?

MR. MILLER: And it seems like the track record there, if I could add, David? Is pretty limited. It's China's currency is a great example. It's the number of countries that are planning alternative payment systems to avoid the dollar. Therefore, a state sanction. It's, well, the rest have tried that and that's only incrementally wise or effective right now.

And then all of the European talk about alternative financial payments to avoid Iran sanctions. You know, it generates a lot of (inaudible) but very little substance. And I think we should discount heavily the (inaudible) as relative to the investment dollars in this space.

And I do think there's a risk for U.S. policymakers of feeling overly constrained by the

likelihood that these emerge and the track record, you know, everyone knows the case of satellite launches. And export controls just isn't an important lesson. But there's a lot of other cases of predicted substitutes emerging that have failed to emerge despite many years of predictions.

MR. MELTZER: Yes. And I think that's a conversation between Emily and Chris. Where it's like there are some networks where you really have to be worried about substitutes because there is technology out there that could. There are other networks like finance, in my view. It's much more difficult to replace it.

And so, that's why I think it's not at a one-size-fits-all answer. It's like really you have to understand the network dynamic to think about is there a substitute? Is there a political coalition that could back it? Is it a threat to the existing hub? And sometimes it isn't and sometimes it is.

MR. MELTZER: Yeah. I'd like to push on that a bit because this is obviously – this is a key I think conversation on a range of fronts.

I mean it's obviously the case that when you look at, say, again what's going on with sanctions on Russia and what particularly I think the U.S. and European with respect to Russia's fund reserves where the freezing of those assets I think – I'm not sure how much that was predicted by the Russian Central Bank at the time. But that was another dimension to that which seemed to me, at least to be new.

But the flipside is the U.S. has revealed its hand, right, to some extent on the various ways that interdependence creates exposure to other forms of coercion. And then you create these incentives, of course, to do workarounds. And so, to everyone's point here. There's been incentives to a lot of troubling work around. It's swift and it hasn't been successful so far.

Restrictions is another area where obviously China is furiously trying to develop a domestic capacity as a workaround. I mean to some extent the (inaudible) acting in the U.S. is a little bit of a tend to overcome the fed kind of constraints, you know, about not having that domestically. And what that might mean for U.S. exposure. So, this could work both ways.

But I guess, you know, this probably does breakdown around specific technologies and specific networks. And there's no single answer to any of this. But I guess my question is, you know, on one hand these networks have come about somewhat in a somewhat organic bottom/up unplanned way,

right? Through the activities of market access combined with certain regulation that created a network affects or, you know, various forms of consolidation in these high-tech areas over time.

And, you know, market by a system, it's very hard to replace Facebook, for instance, as a social network side and we understand why that's hard. When you have a government pushing hard on replicating or planning workarounds for particular nodes. How much of that change I'm thinking? I mean I know you might say that Russia has been trying to work around SWIFT for a while and so they haven't been so capable.

But let's bring China into the picture with Soviets circling China in the conversation so far. China is clearly furiously looking at what's been going on in Russia and thinking about its exposures in terms of its network effects and looking at alternatives.

What's your sense of the capacity of a – not only a country, but a government such as exists in China to build alternatives and the costs ultimately that it maybe will to bear in order to create those alternatives? And does that require us to sort of have the way of thinking about how alternatives might be created that history or recent history may not prepare us for all that well?

MR. FARRELL: Well, I think that's a good base that we can have about this. And so, Abe and I have tended to be somewhat skeptical about the SWIFT. You know, whether or not it's possible to build an alternative to SWIFT.

There is a very interesting recent piece by Barry Eichengreen who is, of course, a very well-known American economist, which seems more call it optimistic on the alternatives can be built aside. So, I think again a lot of this is going to depend upon the specifics. But we don't nearly know enough about many of the specifics to really be able to give a very, very strong answers.

But one thing I think that our work and the work of other people who look at this from a political economy perspective might provide is to say that there are two things which make it more difficult to create alternative competing large-scale systems at the moment.

The first is simply a demonstration effect. You know, we now know that there are risks. And these risks are salient in a way that they were not 20 or 25 years ago. So, if we want to think about, you know, creating a newer SWIFT type system today, you're likely to have the same kinds of dynamics that happened around those satellite systems and GPS. So, you know, that was, you know, back then

because I came from a military framework. People thought about it from the beginning in the military and security terms and they did not want it to be dependent on GPS even if this meant that they have to spend billions on Galileo or whatever the Chinese and Indian systems are that I can't remember because this isn't my area. So first is that becomes a lot more difficult.

Second is that I think that there is a particular authoritarian penalty here which is that you do not necessarily (inaudible) a third party. And if you're at least somewhat sane, you do not want to give your crown jewels over. You do not want to become dependent upon a power where you have no means of recourse.

But when you're an authoritarian country which has no real strongly developed rule of law at least when it comes to constraining what the state can or cannot do then you sort of – then if you're trying to sort of welcome other countries into your gently smiling jaws, they might sort of appreciably have very, very good reasons to be nervous. That's not to say that they may not do this.

You know, some people are not necessarily always rational. They don't necessarily always think in terms of long-term interests to their country but short-term benefits of one sort or another. But definitely, you're facing a big penalty if you want to regrade your network effects.

And the third thing that I think flows from this is that it's very, very important for the U.S. when it thinks about its own policies not to weaken its own commitments to the rule of law when it comes to these kinds of questions. Because that is, I think one of the ways in which you could see this beginning to degrade if the U.S. sort of becomes willing to in a very unconstrained and unpredictable way to grab assets or to impose penalties upon countries which have entrusted key parts of their economic security to U.S. controlled or U.S. influence networks.

The more that the U.S. does to undermine that kind of trust, the more rapidly you could see this decay and degeneration happening. Not necessarily because of a super attractive alternative network. But more because of, you know, sort of the country ex-diggers. Well, if I'm going to be manipulated and controlled by one country rather than another country maybe it makes better sense for me to be manipulated by China given my particular interests. And that is not the kind of bargaining game that the U.S. wants the world to develop into.

But if the U.S. isn't careful about thinking about this bridge of consequences of what it's

doing, it could well stumble into that world.

MS. WEINSTEIN: I would just add too, Josh. When you were asking that question, it seemed like you were hinting at the idea of decoupling without actually specifically mentioning it.

And I think it's an interesting concept to think about too. Is China developing or is any country developing or has a strategy to develop these types of alternatives in the instance of – I don't know – a wartime scenario or an instance where they decide that it's time to cut themselves off?

And I would say this is something China has been doing for a very long time. This is not a new thing that came out during the Trump administration or even during the Obama administration.

China has always been, I would say even since their ascension to the WTO and since the reform in opening up period. They have had the idea of self-sufficiency in the back of their heads. And we've seen, you know, with policies like maybe China 2025, which came out in 2015 as well as the medium to long-term plan for science and technology development which came out during the Hu Jintao era back in 2006, the (inaudible) era.

There have been hints at specific strategies to localize specific sectors, specific supply chains, you name it. So again, this is something that China has been thinking about for a very long time. But I think what we're learning, and I think one of the lessons that we can learn from China is that there are specific things that I would say – specific types of technologies or specific sectors that are much more anti-decouplable if I can coin that term than others.

And for a whole host of reasons and we have a piece coming out hopefully in the next few weeks that I coauthored with by my CSEC colleague, Tim Fang, that actually tries to take these commercial satellite case study. Take some lessons learned from that in terms of decoupling and apply it to artificial intelligence.

And we were able to see that there are certain technologies under the kind of broader umbrella of artificial intelligence that you just really can't decouple in. And one of those is – well, two of them actually are algorithms and data. These are things that are so globalized both I would say – well, in the abstract and kind of in real terms. That there's no point even if China wanted to localize all of their data, which clearly, they do with some of their data security laws and some of the things that we've seen come out recently.

They can try to do that, but there are still going to be ways for data to get in and come out of China. I would say even in like the strongest, you know, scenario. Let's say, the great firewall is turned onto its max setting. I think we'd still be able to see things getting in and out. I won't tee up too much else from that report because again it's coming out soon.

But I think – I mean the commercial satellite case study is such an important one, I think. Both in terms of the understanding that you need to approach these things more multilaterally but also in terms of thinking about those secondary and tertiary effects that might come both, I would say, in the short term as well as in the long term after you've deployed these responses.

MR. MELTZER: Yeah. So, I mean I think teeing up on this question of international cooperation again. Just bracketing Henry's, I think, point that we need to know more about the choke points and the technology where this is going to really matter. And I guess the parties that need to be onboard for specific exercises of power around the network and so forth.

To the extent that we can talk about this more kind of broadly. If you look at the Technology Council, obviously in particular at this stage, there's a huge technology agenda there which sort of the assumption underlined there I think is that EU cooperation is going to be central across and around these areas if there's going to be an effective policy towards controlling access to technology as a critical choke point when one thinks about competition with China, for instance. It's probably also true with, I think a bunch of countries in Asia as well. I think the quad which has Japan, Australia, EU as well as U.S. involved sort of heading in a similar direction there.

And so, I guess there's a couple of things for me that come out of this. One is I do want to get back to Abe's point about how the U.S. legitimately exercises its power and sustains this type of buy in. And we have a new administration and a willingness to cooperate. We don't know what comes next.

Is there anything we can think about from a political economy perspective that would give allies greater confidence than they may possess at the moment about the trajectory of how the U.S. might exercise power as sort of a noted network? Or is it going to inherently going to be national security is national security? And what can we do at any given point?

So, is there an institutional response? Is there various other forms of cooperation which

we could effectively sort of codify or institutionalize that might be effective at all here? Or is it sort of not a pathway worth walking down? It's not going to be that effective? So let me just stop there and open that up. And there's a couple of other questions which come from that but –

MR. MILLER: I guess there's an open question, Josh, as to whether the key challenges getting allies reassured which suggested there's a real risk of defection from existing networks or getting allies mobilized which would suggest that allies are free riding on American security guarantees.

And I think if you look at U.S. and Europe over the past decade, it's free riding that has been the real issue. There hasn't been much defection at all, but instead you've had a whole lot of free riding where allies ought to have been doing more to enforce their existing allegations. Look at European France and Germany primarily defense exports to Russia in 2014 to present. They're substantial.

So that to me doesn't suggest that the primary policy challenge is reassuring allies. I think there's, you know, per age. I think there is a bit of a challenge in reassuring neutral states who have more reason to defect from existing networks. And that I think is somewhere where you might put some thought. But I guess I don't see the evidence that reassuring allies is a pressing challenge given the very few pieces of evidence that they're actually defecting the networks.

MR. FARRELL: Okay. Let me disagree with that because I think that – and this is really building on what something Emily said at the beginning, which is that, you know, we've got to think about how economic questions are becoming sort of intertwined with national security.

I think that on the one hand, Chris is absolutely right to point to the ways in which Germany and other countries have not behaved in ways that are in their long-term interests or in the long-term interests of democracy. On the other hand, if you really want to tackle these problems at the international level, you're going to have to ask for a much greater level of commitment on behalf of all actors.

And entering into relationships which make them much more vulnerable to each other. I don't think that anybody expects even at the moment and, you know, the craziest instance of German and the anti-Trump people are not going to expect that Trump is going to invade in 2024. They may expect that if Germany and very plausibly expect that if Germany enters into economic relations such that crucial parts of its core there of production are shared with the United States. That a Trump type of

administration might take advantages of that in ways that might be deeply problematic going forward.

And, of course, you know, to respond to Josh's question. There are in principle ways in which you can create long-term reassurance. They are called on sort of a making treaties but getting those treaties through the U.S. Senate given the current political conservation is obviously not going to happen. So, we're in a world where we're trying to observe – we're going to continue trying to put all of the load bearing weight on executive agreements and similar type arrangements, which of course aren't capable or nearly capable of carrying sort of what they are expected to carry.

MS. SHENAI: Let's pressure test this a little bit because, you know, what we've heard through this conversation, right, is that U.S. in order to legitimately exert its power in the most successful way needs to work with allies. Needs to, you know, undertake more multilateral, you know, as Emily noted and others have noted.

But at the same time when you look at some of these multilateral fora, they include a lot of these. Same actors where we are having to think about, you know, what are the restrictions? What are the – you know, what are the foreign policy goals vis-à-vis those actors? You know, think China. Think Russia. I'm thinking multilateral export control fora. I'm thinking WTO, right?

So how do you resolve this without creating a system of just ad hoc type of arrangements? Noting, Henry, what you just said that something more than that politically speaking is very complicated, right? So how do you square this up?

MR. NEWMAN: I don't want to – I'm a middle child so I'm going to go between the Henry and Chris and, you know, I think it's just not either or. It really is about what is the threat of defection to the substitute, you know, in that point in the network?

And in some places, it's really – you could push that pretty far. I think that's what we've seen. I would say with the U.S. dollar it's really hard for anybody to defect. And, you know, even the people that really hate it, it's still like what are the alternatives? They have not shown that they have a good case.

In other places, I think where Emily is suggesting in some supply chains, it's easier to defect. And so, then the U.S. government it needs a much more nuanced approach to when is the point of defection more risky? And what do they do in response to undermine that potential defection

response?

And one of the examples that I learned recently which Emily can correct me, but I think this is true. Is in one of the latest rounds of export controls against Russia, the United States exempted European countries from the direct foreign product rule. And basically said, Europe, you're going to have your own direct foreign product rule.

And so, it was basically in tandem. The U.S. said, you know, if that material has U.S. IP, you can't send it to Russia. And the Europeans said, if it has European IP, you can't send it to Russia. But the U.S. didn't put those product rules on European companies. And so, at least the Europeans that I have talked to said, that was what we want. We want this. We're both using unilateral tools. We're both using them on this target, but we're going to understand that we're allies and we're doing it in concert.

And so, that's kind of, you know, to Henry's point is like we're trying to reassure our allies. And I think to Chris' point that, you know, we don't need to risk this in some other areas like finance.

But the finally thing I just want to say is that in addition to the -- what's the substitute? There's also the short-term and the long-term. In many of these domains there's really no short-term risk to the hub. You know, it's like the U.S. has pushed a lot of buttons and there have not been -- there have been experiments that have been put out like in specs in Europe or Chinese's efforts to, you know, grow their domestic semiconductor industry.

In the short term, they've mostly not proved successful. But then the question is in the long term and that's where I would just return to what I was saying earlier. It's about those third countries. You know, it's like in the long term, how are those third countries going to play? And does that set of third countries get bigger?

If it's just Iran, North Korea and Russia, I'm not too worried. But if you start to get Brazil and India and South Korea and they're all saying, yes, we want this too that's what -- so I think what the United States has to think is, you know, what are the substitutes to my hub? Think about, you know, what are the different political dynamics around them? And then the short term and the long-term kind of evolutions.

MS. WEINSTEIN: No, I just think, Abe, that was a perfect way of putting it. Yeah, so I think the way that the United States went about foreign product rule in this context, in the context of the

Ukraine invasion into Ukraine was again, so on the other hand, it did kind of strong-arm allies into doing something.

But I think at least it gave allies some time. So, it was a bit of a carrot and stick thing. So, it was okay. If you come onboard with us, we will relieve the pressure of any kind of U.S. extra territorial export controls on you, but in return you have to apply your own export controls. You have to modernize the stuff you have. In some instances, some of these countries just don't have the same level.

I mean the U.S. has one if not the most robust export controls system in the world. I would put maybe South Korea and maybe TSMC. I know that's obviously not a country, but they've got a very robust export control regime in place that I think more broadly fits with Taiwan. But most countries – most of their export controls are purely aligned with the multilateral regime. So, it's again very strictly scoped to again weapons of mass destruction and conventional weapons.

So, in that case, the U.S. is kind of been going this. Okay, we will relieve the pain of these extra territorial controls, but you in turn have to modernize things. You have to share information. So, let's say, Germany, you don't have a system that can track all this stuff, but let's say we can now share information from your customs and border folks if they start to see something coming through that has U.S. origin items that is potentially going to Russia. They can share that information with the United States or with this broader group and we can have a better idea of these hubs, these supply chains and kind of where things are going.

So, I think it was super important in that context. But I'm taking a second now to quickly plug the new multilateral export control regime idea because I do think it's really important not only because of the fact that we have all these countries that have signed on. But to a point that Neena brought up too.

We also have – so we have formal de-lateral export control regimes right now. And there's plenty of literature out there on them. So, it's the Wassenaar arrangement, the Nuclear Suppliers Group, the Australia Group and the Missile Technology Control Regime. Those are the four that we have right now. And Russia has a number of three of those. And is actually this year's chair of the Missile Technology Control Regime.

So, because of that we're already actually seeing evidence of Russia's partnership being

disruptive in these forums. So, and again, I would like to also point out that these are consensus-based regimes so everyone has to agree on changes. So obviously having Russia in there, and China is privy to some of these as well, is making things really difficult. So, for those two reasons and among others, I think it's really important that we create some type of – and actually formalize some type of new regime.

But one of the points and I think Josh was hitting on this with his question before. Is okay, so we've gotten everyone onboard, but, you know, we're not going to be able to have the same response internationally that we did to Russia if we now turned around and say, okay. We want a new export control regime to deal with China. Everyone, you know, all the 37 countries come jump onboard, we'll do this. We will not have the same rapid response if we ever try to apply this to China.

So, one of the things that I've been working on too is workshopping this idea of a new regime that is designed to control beyond nonproliferation objectives. This is not a regime that is designed to combat China. This is not a regime that is going after, you know, just Russia. This is about updating the regulations – the multilateral regimes that we have to get to a point where we can kind of fill those gaps that we're talking about. And some of the gaps, I mean I could name 20 of them. But just to name a few, there's currently no international or multilateral body that deals with commercial satellites being – I'm sorry. Commercial technologies being misused for civil rights abuses.

So, any of the facial recognition technology, any of the components of that. The U.S. has tried to control them unilaterally, but again there are still many ways for these companies to make money and share their technology.

There are also issues related to, for instance, with China responding to strategic technological dominance objectives that really rely on things like the government subsidies, creating kind of an unfair balance in competition to gain a foothold in strategic sectors that China thinks are important for national security reasons.

And again, because export controls were never designed with economic considerations in mind. They were very much attached to we are controlling the export of commodities, goods, software technology, you name it, for the purposes of preventing them from being misused for WMD and conventional weapons purposes like point blank.

So, we actually saw through the Trump administration with some of the moves with

Bawa. That was actually the first time. And I would say in a very long time that we saw export controls being used for more strategic economic reasons. And so, I think moving forward there – and I mean again I could go on. There's so many different reasons why I mean supply chains are lengthy objectives is another one that we can talk about. Biden made this new regime for whole different reasons.

The point is going to be getting everyone onboard. And I think we need to think about framing this when we're talking to our allies. We can't frame this with the near-term challenge in mind. The near-term challenge being Russia. The near-term challenge being China. But thinking about it more long term that we are -- just it is again, like I said, controlling beyond traditional nonproliferation objectives. The scope of national security has changed and we need to therefore stay with the times.

MR. MELTZER: Yeah, I think looking forward to reading that paper. There is clearly a gap in the architecture for these type of joint use, commercial security types. We're going to increasingly see more of.

So let me pick up on that and give you this question of, you know, out of aligned or middle powers or how we want to describe it. And particularly ask the question about India, you know, which is a crucial country, kind of the quad, a democracy. A country that the U.S. sees as, you know, an essential player in the developing corporation and amongst democracies and so forth. Yet, India, obviously has not participated in the sanctions against Russia.

And, Emily, to your point I think he said 36, 37, 38 countries onboard. That's a lot of countries obviously that aren't onboard. So, there's a big link issue when we get to effectiveness again of how effective are sanctions? And, you know, Russia is, you know, at the end of the day an economy only so integrated into global networks and relatively small for that matter as well.

So, when one thinks about China particularly, obviously, but there are border challenges. What should the U.S. and other countries be doing to get – I mean do we need India and things out of large sort of countries that are not participating in the export controls regime onboard? You know, in a different way than is anticipated? What needs to be done? Or do we just deal with this on an ad hoc basis as issues arise going forward?

MS. WEINSTEIN: My personal view is to avoid the ad hoc as much as possible. I try to, you know, do kind of broader approaches to these that will last for the long term.

I do know in at least the quad forum they are talking about investment screening. I think there have been a few conversations about export controls. So, getting the quad countries to kind of align on something like that I think would be really beneficial. But again, I think you've hit on the point that there will always be leakage in these regimes.

I think it would be nearly impossible to get what? All 192 countries in the world, you know, minus a few that we don't like. So maybe 150 or so to join together in some type of regime. So there has to be, I would say, built into one of these regimes a – first off, an understanding that these are not the end all, be all. But there will be leakage because I do think there is a bit of a misunderstanding that export controls can be like that very strong blockade that you've added to Bawa to the entity list and now Bawa cannot get any U.S. origin items ever.

Like just going into these things understanding that export controls are not designed for that. They are designed to kind of achieve that strategic delay. To keep, you know, a country or a company or an entity behind. But I think one of the most important things that we can see from getting countries like India and others onboard is – and this is something, I think to either Henry or Abe mentioned something like this earlier, but we have a lot of questions on supply chains, and we don't have a lot of data.

And I think getting countries together and having a place or a forum where you can share information either on a regular basis. You know, bringing together folks like the export control people from the Indian government, the export control people from the Japanese government. Bring them all together and kind of foster those relationships so that they can have those long-term connections and share information. I think would be hugely valuable to begin to – I don't know – help to map out where those different choke points might be in various supply chains.

Because again I know, you know, companies have some of that information. I know you can pay lots of money to have access to different types of supply chain data, but I think it shouldn't be the U.S.'s job alone to have to map out those supply chains. I think it's in the broader interest of other countries to figure that out as well. To figure out not only their weaknesses but also their strengths.

So, I think trying to bring folks together like India, like all these other countries that have a huge role, I would say, not only in, you know, just in terms of large companies that they have from there,

but, you know, countries like Indonesia or countries like Vietnam that play a huge part of in, for instance, Samsung's manufacturing process or production process.

Having those countries involved to really help begin to mark all the supply chains could be very beneficial and give us some of the data to help us, you know, us folks who are trying to analyze the data get some more stronger.

MR. MELTZER: Okay. Thanks. That's a great point. Chris, did you want to come in on that? No? Okay.

MS. SHENAI: Maybe, Josh, maybe I can just pick up on something that, you know, that actually Henry and Abe focused a lot on in their work and Emily also touched on which is the role of private actors in this whole conversation.

You know, Henry, Abe, you've written on how governments have really built on those networks created by private actors. And then, you know, the points, Emily, that you're making and have made about the relevance of export controls and sanctions and also their effectiveness really does depend on private actors having good compliance programs. You know, having – and actually taking their liabilities seriously because they do have strict liability in a lot of these circumstances.

So, any thoughts on this piece? You know, again we've been focusing on a lot on governments. Anything we can think through here to incentivize that private behavior to reinforce these policies we've been talking about?

MR. FARRELL: So, I think that, you know, one of the things. I think that in some ways, the account that Abe and I provided of private actors it's a very limited and one-dimensional one, which is more or less that we assume that private actors are like ventriloquist dummies.

When a big powerful state like the United States says, jump. They jump. And of course, we know that in real life that isn't really true. And so, I think one useful way in which we could begin to build this out would be to start thinking about these circumstances under which private actors have showed a high degree of compliance which also has some problems associated with it. And the circumstances under which they have been pretty (inaudible) and pretty willing to resist as best as they can.

And one area where we have seen an incredible degree of compliance is, of course, in

the financial sector when it comes to controls on anti-money laundering, whatever. So, we've seen a more or less the spread of a set of community standards. You know, through sort of a combination of on the one hand, quaffing fines like hand out to companies which did not on sort of comply with the U.S. interpretation, but law as it evolved.

And on the other hand, the spread of compliance officers through these businesses. You know, some really if you want to see how this works, it's through compliance officers who create this internal culture where, you know, where effectively it becomes more and more difficult for you to not comply with these kinds of rules without at the same time, you know, sort of threatening and jeopardizing your own career within the company.

That has had a bunch of bad consequences too. Over compliance is a real problem and it also limits you as flexibility. So, like for example, when we saw the JCPOA rolled out, businesses still didn't want to have anything to do with Iran because they feared and plausibly as it turned out that they would then find that the U.S. would change its mind about these relationships a couple of years later. And that that becomes something that then becomes very, very hard for the U.S. to provide credible commitments that it will, in fact, roll back sanctions or measures if other actors change their behavior.

But equally, we could think about, you know, to what extent do you or do you not see similar possibilities for companies, for example, within technology, within production. And here, of course, the problem is not just that we don't have enough knowledge of what is happening at the level of policy, but these companies themselves very often simply don't care once it goes beyond relationships with their immediate first and second tier suppliers. After that they just shrug their shoulders and abate themselves. Don't necessarily know.

And so, in a sense the problem of how you create a world in which this kind of detailed granular information is available that's not just a problem of reengineering government. It's a problem of reengineering the ways in which supply chains actually work these days. And that's going to be a very, very difficult and interesting challenge.

MR. NEWMAN: If I just to pick up on what Henry just said. You know, what's really fascinating is that we often think about these choke points as like a company or it's about a product, but, you know, when it comes to compliance officers, it's often the labor market.

You know, these are American citizens embedded in companies all over the world and they become a vector for sanction regimes to bite at companies who, you know, maybe don't even think that they have any kind of nexus to the United States. In addition, just business services in general, whether it's accounting firms, legal, you know, advisors, all of these companies.

We've seen this in the Russia, you know, situation. The people that are pulling out are often these types of business services which then put pressure on the other companies. The insurance threat. You know, it's all of these things are the secondary markets which are network based. There's only a few companies that provide them at global scale. And if you can't get them to cover you as an international company then it's not just about the sanctions. It's about a much bigger risk to your company but you don't have an accounting firm that will, you know, support you.

So, I think sometimes it comes down to labor as well as the, you know, the technology input or some, you know, market product.

MR. MELTZER: Yeah. So just staying on the supply chain piece for a minute. One of the questions – so I just actually want to say upfront. We've got actually a lot of questions which are coming from the audience. And we are doing our best to actually channel your questions through our questions. So, we're not going to call out your questions individually, but I hope that you feel that your questions are being somewhat addressed as these conversations continue. So, thank you for these questions. And if you have questions, there is still time to channel them through to us.

Back on the supply chain point. One of the, you know, so it's clear that supply chains provide both an opportunity for coercion and for, you know, dependency and risk. And let me just sort of pair this a little bit with the ongoing discussion that goes on. I'm very skeptical that this is going to be a meaningful policy at the end of the day at least, you know, in that sort of maximalist terms.

But for U.S. foreign policy, for U.S. power specifically. The U.S. obviously gains a lot from its situation in the network thing. Probably the most networked economy and information economy in the globe. Yet, we obviously have political and other pressures looking to unwind some of that, right, for different purposes. And it seems that these things can push in different directions, right?

You might make the argument that, in fact, the U.S. power gets enhanced and extended as we can further expand reliance on the network, particularly amongst the allies but also amongst

(inaudible) certainly. Yet we have various pressures looking to sort of disentangle that network not only to reduce risk. I think that makes sense but for other sort of nonpower based reasons around, you know, jobs and views of manufacturing and being closer to (inaudible) and so forth.

How do you think about this, right? Like because on the one hand, you could make a coaching case for actually expanding networks, expanding global to supply chains, bringing in participation maybe with a lens of security and resiliency which we haven't had before. Yet, there also seems to be pretty strong counter forces looking to do quite the opposite. How should one be thinking about this from the position of U.S. and U.S. foreign policy and economic policy at the moment? Go ahead, Chris.

MR. MILLER: I think you've got to start by figuring out what your concerned about like on supply chains. And I just when I look at the current debate about supply chains, I see a really muddled debate that has to do with COVID or has to do with jobs and all those other metrics you suggested.

But it seems to me if you're looking at risks to the U.S. from trade, it's twofold. One is if there are components or if there's things that we trade that we are cut off from because of some sort of crisis. Or two, it's a form of a situation of dependence on someone else where they can threaten to cut us off and coheres us in some sort of way. And to me those are the two things that clearly at least from a foreign policy perspective we ought to be focused on. Everything else I sort of put to the side and bracket as other issues or even as nonissues.

And there, I think the number of examples that follow those categories are quite low. You know, like in our trade with Brazil, I don't find that much I'm particularly worried about so I would set trade to Brazil to the side. I think most issues that we're concerned about are trade with adversaries, which is a small number of countries. And our trade with North Korea is limited. So, it used to be Russia and now, I think is largely about China. And then it's things that China might disrupt if it wanted to. And that would be trade with regions (inaudible).

And so, that's where I think most of our intellectual energy and our policy energy should go is securing ourselves in case these supply chains are being disrupted. And the trick is, of course, that we're deeply integrated with China. We can't discount the economic relations as nor as you said not that we want to because of course it's a leverage over China as well.

But I think rather than a supply chain question debate which I find too broad to be useful. I think we need a China supply chain debate because that's ultimately where I think 95 percent of the risks actually lie.

MR. MELTZER: And, Chris, let me put a two finger on that before I come to Abe. Just to be clear, I mean your sense of where the risk lies it seems to be maximal onto where U.S. sort of adversaries are and that desegregate a supply chain amongst sort of trusted friends and partners is not one which the U.S. should be concerned about and maybe should be strengthening. Would that be a fair characterization?

MR. MILLER: Well, I think you need to think if there was a crisis geographically what would be disrupted? So, I was never worried about Ukraine cutting off supplies of neon gas in the United States, but I think it would have been wise for us to have perhaps thought a bit more about what happens if Russia attacked one of the key facilities of producing neon gas variable.

And obviously in the case of China, we're looking at Taiwan. We're looking at South Korea. We're looking at all the trade in the transits through the coast of China which would be the site of tons of conflict.

MR. MELTZER: Okay. Thanks. Abe?

MR. NEWMAN: Yeah. I want to make kind of make two points that are related. One of them is that there's different forms of economic coercive and the one that Henry and I have been focusing on is when network hubs, you know, when access gets denied to those or when they are used as a panopticon. But often what other countries that don't control global networks, what they do is they try to restrict access to their market. And that's China's typically strategy is to say, hey, we don't like what Norway is doing. We're not going to buy your salmon. You know, so it's not about a global network. It's just a very simple market access, you know, pressure point that they're using.

And what I think when we think about preparing, you know, whether you're China or the United States or anything. You have to prepare for these network coercive strategies, but you also have to prepare for these market access strategies. And what China, I think is very effective at doing is I don't think that they can really dominate those network-based choke points because they rely on private actors that build these networks over time. You know, it's the whole story.

But with these market access ones, it's very easy for them to use the state directed market to, you know, corner a market or to consolidate a position. So, we see this in cobalt, for example. You know, where they say, this is a strategic resource. We're going to tie up the supply chain for that strategic resource because we can connect our kind of financing regime with our strategy.

And that's where I think the United States has to be more concerned because it's our weakness. We're allowing market actors who are short termists to make these decisions about these types of resources which can then say, oh, well, who cares? Who owns that, you know, cobalt supply? And so, I think on the one hand, we just need to think about that there are different types of economic coercive. Where do we have strengths and where do we have weaknesses? Our strength is more on these market-based, network-based forms of coercive because they rely on private actors. But when it becomes to these market access ones, we can actually have a weakness.

The second point I just wanted to make was – well, actually, I forgot my second one. I'll just leave it there.

MS. SHENAI: Well, I wanted to throw something else in. What about economic competitiveness? You know, we spent a lot of time talking about the national security dimensions of the, you know, this friend shoring as well as when we're thinking about economic cooperation.

But isn't this a factor also when we're thinking through, you know, to Josh's question about kind of the long-term effects of either creating smaller networks of likeminded countries versus the effects of and actually having those choke points and panopticons in the large networks? You know, how does the economic competitiveness angle play out here too?

MS. WEINSTEIN: I would just argue that the economic competitiveness angle is intimately attached to the national security side of things at this point in time.

I mean I know I mentioned that there are gaps in our current export control regimes that I have been thinking about it is China's use of or how China has weaponized their use of subsidies of national champions. Of all of these types of resources to go out and dominate these key strategic sectors or these key parts of supply chains.

And so, from a purely economic competitiveness standpoint, there are a whole host of issues that, you know, people have tried to deal with through the WGR or through the combining –

through the WGPO and the USTR section 301 report that happened or section 301 investigation that happened in 2018. But imagine if all of a sudden, we're in a wartime scenario and China is able to now turn these on or turn them off because China has now, for instance, the one that's going to mind it is rolling stock.

China railway rolling stocks CRRC is a state-owned Chinese company that I think at this point is the largest global rolling stock company in the world. So, let's say, China now – and they've gone out and bought up pieces of things including in the U.S. They have a plant actually in Springfield, Massachusetts. But let's say, all of a sudden, they are able to, let's say, turn off access to that and now all these countries all over the world have a hard time getting access to rolling stock. Obviously, they're still (inaudible). There's still other competitors, but if China has gotten to the point where they dominate that supply chain, I would say that that is a huge national security risk.

So long story short, I would say that we can't think about one without the other.

MR. MELTZER: Can I – I'd like to pick up on this link between what we've just been talking about in the private sector piece and maybe if Henry and Abe could, you know, this distinction between traditional sort of the added market access collision. What China has been doing with Australia, for instance, and Lithuania in one considered limited kind of adverse effects and the distinction between like the network piece, which gets filled bottom up through the private actors and so forth.

So, I guess two questions here. One is when thinking about control over strategic – whether strategic resources or conglomeration effects and sort of control over particular supply chains how do you differentiate in terms of what matters from a policy response between what that means in terms of the market access coercive element you might have and later on that is actually part of the network, and how that changes things?

And the other piece I just want to add in is the role of private actors in this place. The U.S. and other sort of market democracies are constrained for various sort of institutional legal reasons. The extent that the government can coerce private actors to behave in particular ways when they are particularly – assuming they're running and having built these. You know, whether it's monopolist position or network position these are the charter. I don't want to overstate the extent of the state can coerce their private actors but it's clearly different than exist in the U.S. and other democracies. How does that

change the way one thinks about the control and the implications of these? Whether it's network or market access for sort of risk and exposure and so forth.

MR. FARRELL: So, I think one way to think about it is in terms of substitution. And I should also hasten to add that as Abe said, we want to distinguish, recognize interdependence from other things just because we're in a moment now where it's very easy to see everything as being weaponized. And so, we want to try and say, you know, this is not a concept that completely gobbles up all other concepts in in an amorphous way. We're referring to something specific.

But I think the key question here is whether or not the thing that is being weaponized is, A, substitutable and is, B, intrinsically crucial to other actor's participation in the global economy. So here, I guess the question for the rolling stock question is, you know, what degree is substitution relatively is there? And to what extent does this really constrain your abilities to function as an advanced economy if you do not have access to this particular thing?

And I certainly, you know, didn't know about the rolling stock example until it was just brought up a minute ago. But you could ask, you know, I think one interesting and important question for the U.S. at the moment, of course, has to do with various things connected with (inaudible) and other technologies that might be crucial to a green transition. You know, so does the fact that the United States is very, very behind in some of these technologies. Does this represent a crucial strategic threat to the United States enough?

And again, I think this is one of those places where the devil is in the details. And also, where we simply don't know what are the trajectories of technology? It could be that new substitutes emerge pretty quickly. It could be that once you have established a need in this race, it is very, very hard to displace you from that lead.

So, I think that's really the way that we want to start to try and analyze this is not just to think about it in terms of, you know, is this sort of increased – is there increased coercion in the economic global economy? Yes, of course there is. And this coercion is very important sometimes for very different reasons. But if you're looking at the stuff that Abe and I are trying to look at. The specific thing the questions I think are is this substitutable? And is this crucial?

And if the answer to both of those questions – you know, to the first question is, no, it is

not substitutable, but, yes, it is crucial then you are in a world of weaponized interdependence. If the answer is different in some way, then it is a much, much bigger leap to make.

MR. MELTZER: And then just pushing you, Henry, on this point. Do we – the type of governance arrangement that exists where those points of non-substitutability and cruciality exist. So, let's call that the nodes. Does that change how we think about it? Or is it a second order or not that significant?

So, when these are sort of critical nodes that have been built up by private actors and are essentially controlled by private actors. You talk about institution capacity as one element, I think of the ability to exercise control over those nodes. And we're talking about different systems with different institutional capacities and one of them being the capacity of the government to exert control over the private sector actors.

How does that change one's lens of thinking about the importance of these nodes and how they get used?

MR. FARRELL: Well, I think one key question, you know, there are a couple of interesting key questions here.

One is a question I think you raised initially which has to do with China. And to what extent does the fact that Chinese companies do not have the same kinds of protections against the government when the government decides that it wants something. Does that mean that these companies are more dangerous if some factor as a result? I think that the answer is that it obviously makes them more dangerous if you're looking at it from the perspective of an outside observer.

Equally, you still want to ask the question of whether or not the product that the company is offering is, you know, substitutable and is crucial to the global economy. So, I think that here you could give an answer with respect to Bawa which in terms of if Bawa had succeeded in the 5G, 6G types of things than maybe sort of I think you could give very plausible answer that, yes, this was a serious weaponized interdependence type of threat.

If it is say 10 (inaudible) of somebody, you know, you can argue that toss either way in ways that I am simply am not capable of, you know, of answering. You know, so Abe and I as you said at the beginning, we've offered a broad concept and a broad way of beginning to parse the problems. But

how you actually resolve those problems it depends a lot on a lot of specific information and understanding.

And I think then the other interesting question for the U.S. is to what extent does this change the way that the U.S. thinks about information policy? The U.S., for example, has been very, very slow until very recently even to talk about regulating platform companies for obvious reasons. That raises a bunch of questions. Should the U.S. in terms of regulate or not regulate? What should the U.S. attitude to antitrust be?

And here you see, for example, you know, the standard of sort of Mark Zuckerberg argument being, well, you know, sort of okay. We are – and I paraphrase here – okay, we're kind of evil bastards. But wouldn't you prefer that we are the evil bastards that are in charge of this rather than the Chinese people who are going to be just as evil and are going to be responsible to people who are even eviler than we are?

And I don't think personally that is a plausible long-term argument for U.S. economic health, but disentangling the reasons why it is not is complicated and requires a lot more intellectual work. So sorry, that's an academic non-answer in a sense, but I think it at least points to some of the things that you would want to consider and think about.

MR. NEWMAN: Can I just also pick up, Josh, on what I see as another part of this question, which is just to acknowledge the different powerful actors that they will use these tools in different ways based on what are the domestic institutions and norms that are available to them?

And so, in the European Union, for example, because of the weird construction of the Union, you know, they don't have oversight now over the London market, you know, because of Brexit. And, you know, that was a domestic decision in the U.K. that then took this hub out of their control, out of their purvey to use.

But if you do the flipside. When you think about climate change, the European Union is really moving, I think pretty quickly to start using these types of tools in that space to think about how do they embed a kind of weaponized interdependence framework to motivate people to change their carbon emission patterns? And use the European market to kind of supercharge that.

And I think in the United States, you know, you can just see like we're not in the position

right now at least. Or we have not really – we're not pushing that agenda forward in the same way of taking these tools and using them to combat climate. And I think that is because of the domestic norms and institutions in the United States that have limited – you know, it's not because we couldn't. It's just that we are not – we don't have the consensus politically to do it.

In the piece that Henry and I wrote, we make the same argument about the internet. You know, for the internet, we used it as a panopticon to monitor terrorists in Iran and, you know, Russia. You know, all those different people. But we're not willing to disconnect countries from the internet. And you could imagine a different country if they controlled kind of the root of the system that internet, you know, disconnection would be totally fine because it's something that they've done domestically.

So anyway, I just want to make the point that, you know, the same great power over such a – you know, one of these hubs, they might not use it in the same way. And so, you need to kind of also look inside of them and say, what institutions do they have to do it? And what are their norms that are going to, you know, they're going to follow?

MR. MELTZER: We have got – we're coming up on two hours. And Neena and I have got a few kind of quick – that may or may not be lightning questions, but I want to throw them out to the group and see what sticks and what does. So, the first question is what are the implications from multi-intellectual corporations in the WTO? We'll start with you, Chris who does not write about the WTO.

MR. MILLER: I don't know. Are there implications? I struggle to find any experts to the WTO who have much optimism about the future of the WTO in resolving these issues.

MR. MELTZER: Okay. Henry, do you similar agree?

MR. FARRELL: Chris is absolutely right here. I think that it used to be that we used to talk about the national security exception and the exception is to some extent gobbling the rule.

MR. MELTZER: Right. So, this leads me into the flipside of this. What does the tops of networking we've been talking about mainstream international corporation security issues going forward? What does that look like that is different from today? I'm asking on a crystal ball out for say the next five, 10 years. Emily, let's start with you on that front.

MS. WEINSTEIN: I was just going to say, I know I'm beating a dead horse here with this, but I think the future of national security is more and more going to be a globalized one where I think if the

U.S. wants to stick in our own kind of, you know, let's say, God forbid we go down an isolationist route. And we decide that our national security is all we care about.

I don't think we're actually going to be able to achieve the objectives that we set out to achieve without talking to allies and partners. And even some of the people who are at some of the countries that are maybe not allies and partners but like kind of that next level that they're not friends, they're not foes but they're kind of in that in between. We have to do these in multilateral conversations otherwise we're, I would say, we're going to be stuck.

So, I think as far as what has changed – well, what has changed since the end of the Cold War, I think we've seen again that everything is so much more globalized. And I think if we – you know, looking 10, 20 years down the road, I don't necessarily see there being one actor or one entity that is potentially problematic. Obviously, again China is at the forefront of everyone's mind right now. But I think it moves us to work together to come up with a strategy or come up with a fora or come up with some type of treaty.

God forbid we can actually put something like that together that – I don't want to say country agnostic, but that can I would say stand the test of time. And is set to deal with broader issues if we can. And I know I'm kind of in like the dream idealist route here. But I think coming up with the specific strategies for specific problems can only get us so far.

And I'm not saying we need to do away with that. I think obviously there is a very important – there is a specific need to come up, you know, in the context of China some China specific policies. Because what China does is unique from what Russia does, which is unique from what Iran does, and so on and so forth. But I would say behind that we need to have a kind of broader strategy or broader objective, and I would say a more defined idea of what we view as national security.

MR. MELTZER: Thanks. That's great. Henry, what your comments on what the future means for cooperation and security might look like?

MR. FARRELL: Complicated.

MR. NEWMAN: I just want to also say that this is kind of a little bit to the WTO question too which is that a lot of where the real action is, it's not really in the places where we have the most developed institutions.

And so, this isn't about tariffs, the stuff. And that's where we really have the most developed institutions. And when you think about the internet, you know, information. The information economy and also finance, those are both places where for various reasons, we did not create formal institutions to govern them or to be created.

You know, like the Basel Committee, which is kind of, you know, an informal set of negotiations between central banks. Or we have private actors like ICAM that are regulating the internet. And so, these bodies are really uniquely not designed to deal with national security issues. And so, I think it's, you know, what's the future of global governance? We assuming a world where we have very detailed and institutionalized and formal bodies, but we really don't in these areas.

MR. FARRELL: Just too. I think that's a real good point that Abe has just made. Well, he's my coauthor so I would say that wouldn't I?

But there is we have a real – for about 20 years, the emphasis, you know, during the globalization era was to some extent on expanding and gatherance of the WTO, but also on so-called stakeholder initiatives of one sort or another. Everything was supposed to be run by business because they had a much more flexible entrepreneurial understanding of the issues then that anybody else.

And now, we're coming into a world where the kinds of issues which are dominating the agenda are not issues that necessarily businesses particularly are well equipped to deal with or to understand. And so, these institutions – it's going to be really, really hard to retrofit them so that they can appropriately, you know, even begin to think about, let alone, deal with the questions that we're confronting right now.

MR. MILLER: I guess the highest to highlight, I think the way I would frame where we're heading to is a world in which it's very clear that the globalization infrastructure, the WTO, the institutions that we're really used to thinking about when we talk about global issues were largely forged over the past couple of decades in a period in which there was unipolarity. And there weren't major geopolitical challengers to the U.S.

And either it was U.S. allies or members or countries who were aware of their second-rate status and weren't seriously trying to challenge the U.S. geopolitically. And now that's no longer the case and the institutional archistructure is trying to keep up. But the reality is getting clear that it's hard to

have infrastructure focused on sole economic issues or solely social issues or environment issues when you've got this increasing geopolitical competition that is driving perpendicular through what the other organizations are trying to accomplish.

MR. MELTZER: Yeah. So, I could go on. I think this has just been an incredibly fascinating conversation. And so, firstly, on behalf of Neena and I, I would just like to thank our panelists for their expertise, their time and for what's been a frank and deep discussion across the waterfront.

I think I'm not going to begin to try to summarize the conversation. I think we have an agenda. A very deep and complicated agenda. As a think tanker, it's all thrilling and great that there's additional work that needs to be done, but it's a cross trade and security. Clearly, it's in the information space. It's across supply chains and the work that Henry and Abe have done on networking dependence, I think will continue to be an absolute central way of thinking about this and building on how we understand these interconnectivities and what they mean in terms of both opportunities and risks.

And we're in a congenial political space which is new and dangerous, but also hopefully one where there's opportunity and a pathway through it to a more peaceful and prosperous world. So, with that, Neena, do you want to say anything final words?

MS. SHENAI: No, Josh. Thank you. Thanks for ending on an optimistic note. I think that that's – there are a lot of things that we've talked about today, but I think we're all hoping for the best here.

MR. MELTZER: Great. Thanks. Thanks, everyone.

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