

Transcript

Corona: Developing-Country and International Perspectives

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Conversation at the Online Science Days of the Lindau Nobel Laureate Meetings
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Romesh Vaitilingam

Welcome to the Lindau Nobel Laureate Meetings Online Science Days 2020, and a conversation about Corona: Developing Country and International Perspectives. My name is Romesh Vaitilingam, and I'm an economics writer based in the UK, and I'm delighted to be joined today by the three economists who are the most recent recipients of the Nobel Prize for Economic Sciences announced in October last year.

They are Abhijit Banerjee, for the Foundation International Professor of Economics at Massachusetts Institute of Technology, MIT in the United States. Esther Duflo, also at MIT, who is Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics, and Michael Kremer, who is Gates Professor of Developing Societies at Harvard University.

The citation for their Nobel Prize is for their experimental approach to alleviating global poverty. In the official announcement the members of the Prize Committee explain their decision thus.

This year's laureates have introduced a new approach to obtaining reliable answers about the best way to fight global poverty. In brief it involves dividing this issue into smaller more manageable questions, for example the most effective interventions for improving educational outcomes or child health. They have shown that these smaller more precise questions are often best answered by carefully designed experiments among the people who are most affected.

One of their colleagues, Tavneet Suri, who edits VoxDev commented, "It's truly amazing to see just how the field of development economics has been completely revolutionised by these three incredible researchers. It is hard to think of anyone else who's had such a profound impact on the field."

And Oriana Bandiera at the London School of Economics said, "The Nobel citation emphasises the practical applications of their methods, which have dramatically improved our ability to fight poverty and practise. This is a monumental change, and one that the profession should welcome for the obvious reason that making the world a better place is a desirable goal."

So welcome to our three laureates, there are many, many things we can talk about, about the coronavirus crisis and its impact on developing countries, but I want to get the ball rolling by asking a broad question about that impact of COVID-19 on developing economies.

Michael Kremer, I wonder if I could ask you to give us some opening thoughts?

Michael R. Kremer

What's interesting is that the direct health impact of coronavirus in low income countries has actually been smaller than might have been expected or smaller than the impact on Europe or the United States, there are many other impacts, indirect impacts, that have been truly devastating. Of course the direct impact is devastating for many families. Some of these impacts are due in part to the policy response to coronavirus, in particular, the lockdown policies, that has led many children not to get education, there's been big impacts on the health system as people are not getting other needed health care, not getting basic immunizations, babies not being delivered. There have been big economic impacts. And now as countries are relaxing many of those policies, the question is how can we have so-called smart policies that will have as much impact as possible in the spread of the disease, while minimising much of the other health, social and economic impact.

Romesh Vaitilingam

Thank you, Abhijit and Esther, you're working in a lot of poor countries, can you give us a sense from the colleagues you work with there who you've no doubt been talking to over the recent weeks about how they're experiencing the impact of COVID?

Abhijit Banerjee

I think that I've been involved in the policy-making side of this in India. I'm chairing the COVID Advisory Board of the government of West Bengal, and that means more data, they get lots of good bits of all that, not necessarily tell me more than what the news is saying but you get a different flavour. And I think one of the things that's really been very clear, is that at least in India the social welfare system was not designed to deal with anything like this. The entire welfare system was built on the premise that people usually have access to their domicile, and there is a well-defined domicile and people can go there if they want. Given that now there are 14 million migrants somewhere, that's not true anymore, but they have no access to welfare, they are all mostly low-income workers, and they suddenly got their entire life turned topsy-turvy, their jobs were shut down, usually the place where they stayed was on the work site, the work site was closed, and they were expected to somehow survive. All the transport was shut down, so they couldn't go home. And there was no welfare, they don't exist in the books of the local economy, so if they are living in Delhi,

Delhi doesn't actually know them. So there was no obvious way to provide them with welfare, so there was just a massive breakdown of the most basic amenities, which was a result of this rather, a structure that was built in from a time of a much slower time, and we ended up with having massive humanitarian tragedies as a result of that.

Romesh Vaitilingam

So in the advanced countries it seems to be agreed that the lockdowns were a good idea to flatten the curve, and somehow deal with the crisis that way, but people refer to in some poorer countries like India about killer lockdowns, but actually the lockdowns were not necessarily the right response for the reasons you're suggesting, the impacts it had, what's your thinking on that?

Abhijit Banerjee

I think overall the mortality rates in India fell dramatically during COVID times, and the reason is that people stop travelling and travelling is extremely dangerous I think, and so I think that the lockdown, and I think people somehow managed and many kind people who brought some food, so there was misery but I don't think a lot of people died from it.

I think what was more interesting and maybe more worrisome, is the lockdown when it was done, it was done at a time when there were very few infections, and lifted when infections are actually beginning to look really frightening, in India now, Delhi yesterday added more people the one city of Delhi, than any other state I think in the country. So that is getting to be an unmanageable problem in some of the cities, and they are considering new lockdowns, and the whole thing is a bit odd to have a lockdown if the idea is to flatten the curve, the curve has to exist to flatten. You flatten it, you decide you're going to do it for six weeks, and you pick your six weeks, they picked a very early six weeks, and very early six weeks means if the disease keeps spreading, then you just get nothing for it essentially. I also want to say that the virologists have been so far wrong, the disease has not spread anything like at the rate they predicted, so maybe this was, but that's been true after the lifting, before the lifting, there was no point when it was spreading incredibly fast, it's still not exponential, it's still pretty linear and maybe even a little concave, it doesn't look exponential, the curve.

So I think part of this points to the fact that we don't actually understand what the transmission models are, I think we are really extremely, we are just shooting in the dark a bit when we set down these models and said three billion people will die or whatever people have been saying, these models seem to be a little, brave let's say. I think that,

A, I would say the lockdown probably was not ideally timed,

B, I think that the curve seems to be more or less going up the way it was going up before and after. I think people, it did do something useful, which is got people's attention, and some people are attentive, people do know about masks.

In West Bengal we did a survey and 98% know about masks. So they try to wear a mask.

70% know about washing their hands whenever they come home, so it's not hopeless when people do have information. On the other hand it's a bit hard to parse exactly how these pieces, what the right policy would have been. But it seems like at least they could have waited a little bit, if you're going to have a painful lockdown they could have done it later.

Romesh Vaitilingam

Esther, if I could turn to you, you presumably had research projects out in the field when COVID started, I know you've got things going on around the world all the time. What's been the impact on those projects so far?

Esther Duflo

So that of course is not just me but the entire movement, what we call the movement when we got the prize. When the work of this movement, which really involves thousands of projects, all over the world involves working directly with poor people, not only collecting data but also carrying out interventions that usually involves meeting them. That is of course you have to turn your big, big ship on a dime, so this was a change for the whole J-PAL Organisation, and I must say that I have been really amazed, as I never cease to be amazed by how nimble and flexible, actually our staff, our partners on the ground, all the professors working on the project have been, and therefore the leadership with our Executive Director Iqbal Dhaliwal.

So what needed to happen in the first place was to stop surveying people in person, but fortunately we had a lot of infrastructure in place in many countries to be able to survey people on the phone, and one of the things that happened very quickly, and you mentioned- she ran maybe on March 16 or 17, when all of the lockdown started worldwide, a webinar on how to do phone surveys that was attended by thousands of people who were looking to shift. And so that happened very quickly, and it allowed many projects to go on.

The second thing that happened, and there again I am really impressed by the commitment and the flexibility of the researchers who worked in this world, is a lot of research got switched to become COVID relevant, so as people had infrastructure on the ground they could just have left it there and kind of waited for better days. But instead what people did in many countries all around the world including India, several

countries in Africa, et cetera, is pivot their operation to start doing research that was relevant to COVID.

And of course we did that as individuals, we started running projects, for example on the impact of COVID on the people that we were serving anyway. For example we have a group of elderly people in Tamil Nadu, who are otherwise very unreached by any network, and we were able to immediately go talk to them and transmit information to the government. And also to set up projects on how to convey information to people, how to make sure that they change their behaviour, how to do that the most effectively that I can talk about more later.

But the more general point is that this is not just us, like all of our people if you look at the set of projects there is all sorts of things that people have started to do, there is all these new questions that have now emerged about how to best respond to this situation,

and we can't go on business as usual, we have to put our energy and our drive and our talent to these new topics.

Romesh Vaitilingam

Yes, it very much feels like that, that within three months the whole new discipline of COVID economics was created, not just within development, but across the whole profession. There's a journal, it's got 30 issues out already. Michael, perhaps you have some reflections on how the profession has pivoted, it feels almost like stung by the bad press the profession got after the global financial crisis, they have reacted so positively to this crisis by shifting to thinking about the impact of this crisis.

Michael R. Kremer

Yeah, there's a lot of work on COVID, I think there's a lot of different areas of economics that intersect with COVID-19, macro economics. And I think that Abhijit mentioned modelling earlier, I think I've done a little bit of work on areas related to epidemiology, and I think it's an area for fruitful interchange between epidemiologists and economists, so there's some work that's tried to get at that, which I think is an interesting area.

Romesh Vaitilingam

Good, Abhijit, if I can come back to you, you talked about the challenges for the system of social protection, all the non-system of social protection if you like in India.

Tell us a little bit about your thinking on that and the kind of responses that you have been arguing for in reaction to this crisis?

Abhijit Banerjee

Well, I think there is actually a reasonable system of social protection if you happen to live in your domicile, I think the combination of the public distribution system, which now covers 75% of the population, and the rural employment guarantee, which is still, it's sometimes patchy, but still a very large source of income transfer to people, and there's lots of research showing that it has raised wages substantially, et cetera. So there is social protection and it does work moderately well when people are doing what they are conventionally assumed to be doing. So this scheme was designed almost at the cusp, especially the rural guarantee scheme, when India was moving from a low migration country to a much higher migration country.

So I think that's one very good reason to start thinking about a welfare scheme that's much more, much more portable which you can take with you wherever you go. And this is not a new idea, this was discussed when Aadhaar, the National ID was first mooted in 2011, there was a discussion, we were actually part of that discussion on making it portable, using this, once you have a national ID why not use it to deliver welfare. For example food, you could deliver using the national ID and that hasn't happened.

Secondly, this idea that all the poor people are going to be, all the vulnerable population is going to be rural is going to be less and less true as this more migration is an urbanisation of poverty, and I think the idea that we should therefore have comparable schemes in urban areas where when needed welfare is available to people, and we'll virtually be arguing that we can do a version of what SRI call in our book, Universal Ultra Basic Income, UUBI, where we've been arguing that it would be great to have something which just anybody can access for a little bit of trouble. They have to pay some cost, stand in a line et cetera, but you can get some money every week. That would have been a big help for many people, it would have just prevented a crisis. I think a sense of a crisis that absolutely did, people were panicking and I think as a result a lot more people got infected because they were jumping onto crowded trucks to go to be hired or whatever, all of that would have been much less true if we had this UUBI in place.

Romesh Vaitilingam

So it's on the agenda now, what do you see is the likelihood of such a universal ultra basic income being implemented?

Abhijit Banerjee

You know I think it's an interesting question. Right now I think the government of India has not decided to be very generous with the poor, it has decided that it will do most of the intervening in the economics through the credit side. The credit side might

actually still work for the poor, it might do something useful, maybe they might actually be able to get some loans which they wouldn't have got otherwise, but not the poorest of the poor for sure, and certainly not people who don't have businesses. So it seems like the government has not taken the call on whether they are going to expand welfare on a systematic basis for the poor. And it's been pointed out much in the press that in the end the small part of the government, the government has made claims about making an expansionary policy, but very little of that is money directly in the hands of the poor, that's something that has been pointed out, many people have written about that. It's not a secret, but I think that till there is a real willingness to, whatever, loosen the fiscal constraints. I don't think that's about to happen.

Esther Duflo

Worldwide there was a window of opportunity and it might not be closed for many countries to adopt something like UUBI, in particular in Africa, Africa was actually in some sense more ready for something like that than was India, in the sense that in many countries

there is a high prevalence of mobile money to people's telephone, and that's an ideal set of pipes to send a universal cash transfer, and this is something that can be done with very little administrative cost, and therefore can be put in place very quickly. So for example, Togo, which is a small poor country has managed to get their cash transfer organised, first to the city of Lome, then to the second largest city, and now expanding to rural areas. Literally it was in the days of the lockdown.

So the IMF endorsed the idea, the World Bank endorsed the idea, many African countries were very much in favour of doing it. But the money wasn't available, and the way that the aid to poorer countries was structured was more in the form of cancelling debt payment, which is something good and should have been done, but not too much beyond that. So given the financial situation in which these countries are given their inability to borrow and don't really have the money to put in place UUBI that would be something that would last into the future, but at least the interest is there, people have piloted with it. If the rich countries managed to pay attention to the situation in poor countries for some time, this is something that could be launched. And then after that of course in normal times poor countries would be able to manage on their own budget.

Romesh Vaitilingam

Excellent, Michael, perhaps we can come back to you on this topic, what's your perspective?

Michael R. Kremer

On this particular topic, I think thinking about social protection in these situations is critically important, I very much agree with Esther and Abhijit on this, that we have spent just enormous sums in rich countries on social protection structured in various ways, and the needs in other countries are critical, some of the surveys that you referred to earlier, phone surveys suggest really dramatic falls into poverty for many people, and we need systems to deal with that. And I think that Abhijit is exactly right, and Esther, that there's a lot of systems that were designed for the past, and we actually have a lot of new opportunities now due to mobile phones, due to in some countries, I guess I'll here argue that India is further ahead than at least some parts of the rest of the world, with Aadhaar for example.

I would add to this that we're dealing with a particular crisis right now, COVID-19, and that's obviously the appropriate focus for now, but we're going to keep having shocks, with climate change, there's going to be weather shocks, locusts, other fall armyworm, other shocks come in. And it's often we have technology in some of these cases to observe some of these things, if we have satellite data on where crops are failing, if we have phone registration data we can know exactly where transfers need to go and we can really have a system set up globally so that when crisis like these came people will be protected from the very worst consequences. So I agree very much with that, if there's time I would also love to chat more and pick up on some earlier points about epidemiology and the lockdowns.

Romesh Vaitilingam

Sure, sure, sure, why don't we stick with that?
Esther, go ahead?

Esther Duflo

Just one last point on this topic is that in general I think the politics of social protection is very complicated, because a lot of the voters are not that highly concerned, because they don't have a shock right now, and there is a perception that other people are going to take advantage, and so the politics of social protection is not to the advantage of doing social protection in a very rational way. So in a sense there is a bit of unusual opportunity, because this is such a generalised shock, and it's such a shock that is obviously not the fault of anybody involved who is on the receiving end of it, that you could have I think are you wouldn't be able to master of course in developing countries than in rich countries, the political willingness to redesign the system of social protection to make it more, shock ready, and more generous.

Romesh Vaitilingam

Thanks, Michael, let's come back to you on that issue that you wanted to talk a little bit more about lockdowns and the relationship with epidemiology?

Michael R. Kremer

Yes, you were asking earlier were the lockdowns a mistake. And look, it's very hard to, policymakers were in a very difficult situation, they had to make judgements with very little information. And I think the question right now is not so much were they a mistake or not, but what should we do now?

I think there's often a sense that we either have a lockdown or we do nothing, and there's a lot in between, and we have some sense of what types of things we have learned something from the epidemiology about what types of events are particularly likely to spread the disease. For example, nightclubs or large indoor gatherings or religious gatherings of certain sorts. Their policies could be directed towards trying to either eliminate or reduce the risk where the risk is highest while preserving certain types of interaction that are critical to people's livelihoods. And I think there's a lot more opportunity to do that.

And then just to come back to Abhijit's point about we see very different paths of the epidemic in low income countries and higher income countries. I think there's a natural, a very easy statistical error to make, which is you look at what happened in Wuhan or Lombardy, and then you say we're going to extrapolate based on, we're going to build our models with parameters fit to those epidemics, and then to assume that those fall everywhere. Now that might have been a reasonable decision to make, but if there's heterogeneity in the underlying epidemiological parameters, then you're going to be selecting the places where the epidemics are strongest, and rejecting based on that could lead you astray.

And I guess one other thing I would notice, if you assume homogeneity across places, you would see very rapid growth at the beginning, you estimate that R_0 is 2.5, and you think we're going to go to 60 or 70% prevalence before we get to herd immunity. But if there's heterogeneity, so imagine there's sub-sub-communities like people who are members of a certain church or people who work in meatpacking plants who have very high, whatever feature of their environment they have particularly high transmissibility in those sub-communities, then you'll observe that rapid growth at the beginning, but the long run prevalence may be much much lower than would be a simple homemade model with homogeneous populations would suggest. So I think that's just something that's important to bear in mind. At the same time I don't want to claim we know that's the right model either, there's just huge inherent uncertainty on this, what I think we really need to get in place, or many things we need to get in place, but one of them is systematic data collection through ideally nationally representative surveys that go over time so we can start to understand where's the

epidemic really taking off, where is it not, and then if we can start to learn from that, maybe we learn for example that urban slums and certain temperature zones have the epidemics taking off, but maybe in certain rural areas it's not taking off. If that in turn could be used to inform policy, we could design policies that actually are more effective against the epidemic while imposing much smaller economic and social and actually health and education costs.

Romesh Vaitilingam

Thank you for that, that brings us on to what I want to talk about next. Esther you mentioned your work on changing people's behaviour. And of course, one of the important things that economists have brought to the epidemiology is to make people realise that the behaviour changes in responses to news about an epidemic or to policy. Can you tell us a little bit about your work?

Esther Duflo

Did you want to add something? All of this is true, but one of the things that it really crucially rely on is to have a good measure of prevalence. What is the state of the disease at a given time. And given the difficulty in testing that might be harder in developing countries. It's even harder in developed countries. One way to get to that though, is to encourage people to report their symptoms. And of course, one way to limit the epidemic is to encourage people to change their behaviour. So we have done an experiment on that in West Bengal and it's fitting that I should talk about it because Abhijit was the main instigator on the main character in a way in this particular experiment. And the Nobel Prize plays a part. So very early in the epidemic, based on previous research that Ben Olken and Arun Chandrasekhar had done in Indonesia, we knew that messages from celebrities are very important when conveying messages. And we wanted to be able to convey two type of messages. One is, how people could protect themselves by respecting the lockdown and washing their hands in particular. And the other is to report symptoms to the local health worker, which is at the moment still the main way that there is any information going on, on the epidemics.

In West Bengal it turns out that we had a stower immediately available with us because since receiving the Nobel Prize, Abhijit has become like somewhere between a household name and a demigod. So what we did is that, We recorded messages, on these issues, we had different versions of the messages to see what is more effective. Some of them emphasised the individual effect of the epidemic. Some of them emphasised the importance for the community of protecting yourselves. All of them emphasised one behaviour. So either, wash your hand or don't travel outside of your village. And all of them asked them to report any symptoms to their local health worker or the usher. We were able to send those messages via video to 25 million cell phone subscribers of one big network. And then some days later, a few days later, we

contacted the local health worker to know whether their symptoms were reported to them. And also we recontacted the people to ask them whether or not the, about their behaviour. And what we found, number one, is in places that got the video, you would impact on reporting. Basically there was a doubling of the reporting rate of symptoms. Suggesting that this is something that was not like on the forefront of people's minds and receiving this message asking them to do that made a difference. We also found, and that's very, very important because that has to be the anchor of a system of surveillance such as the one that Michael was describing. The second thing we found is that, even though people already are completely inundated with messages, behaviour also, they were also large effects on behaviour of receiving those videos. Including behaviour such as mask wearing, for example, that was not covered. So just getting these videos with Abhijit telling them to take this seriously, even in the context, where everybody talks about it. Thus insufficient as in that, to get people to do more. And what's interesting is that it's not just the people who received the video, but the effect is just as large on the behaviour of other people in their community who didn't directly receive it. Which implies that this kind of very light touch intervention that can be done on large scale has direct effects that are important, indirect effect that are just as large and can be used especially in a kind of fastly moving world like the one where we have in COVID where even information we have to convey is changing can be used repeatedly without getting people sick and tired of what is going on.

Abhijit Banerjee

Can I say one thing I was going to say before, I think one very important reason why reporting to the usher is important, goes back to something Michael said, but I wanted to elaborate slightly, which is that I find reasonably credible evidence, that there is enormous variation, very locally on whether or not the infections are going to be spreading very fast or not.

I think the models that seem to have like somebody like a super spreader of some kind, people who maybe are just well, "have a high viral load", or they are at the wrong time, just before they get really sick and a lot of people interact with them. You get suddenly a large spread of infections. So this is very local variation. What that implies is that you can't really rely on sample-based surveillance systems. Sample-based surveillance systems are going to miss clusters, where you really want to implement lockdowns, very locally. So it's that you may want to do it at the village level or whatever level, it's cluster level. So for that we need a very different kind of information base. We can't get that by randomly testing the population. We really need to be, first, trying to model where people from that area go. So, think about, if everybody from area A travels to area B, maybe we should think of area B as a place where we do the next set of testing. And the second is relying on these reporting systems, which are imperfect. People say that, a lot of people have coughs. A lot of people are losing their sense of taste. But I think those are at a population level, at the village population level, they're actually

reasonably predictive. So you could actually find both clusters and close them off. And I think that will lead to what Michael said, which is critical, which is much less economic cost because you will, at any one point of time, maybe only 2% of the locations need to be closed off to manage the disease and slow down the spread. And I think that would be, so I think we need to, thinking about how to design good surveillance systems is one of the places where I think the economics field could be very useful along with the epidemiologists.

Romesh Vaitilingam

Fascinating and how interesting to hear that you were part of the experiment there, Abhijit.

Can I turn to Michael and then hear a little bit Michael, about what you've been thinking about during the crisis. For many years, so thinking about incentives for innovation, particularly medical innovation. You and I talked about it years ago on a Voxer conversation. But you've been thinking about it now in the context of COVID and then the incentives for the creation of a vaccine.

Can you tell us a little bit about that work?

Michael R. Kremer

Sure, so I had earlier done work on an idea called Advanced Market Commitment which was trying to incentivize pharmaceutical firms to work on vaccines for diseases that primarily affected the developing world. We initially thought about malaria, and then this was actually applied. There was a \$1.5 billion commitment by the group of donors to help finance the purchase of pneumococcus vaccine that would be effective against the strains of the disease that are common in developing countries. And since that programme was put in place, three such vaccines have been developed and they've now reached hundreds of millions of people. So perhaps, because of that earlier work, I was contacted by a number of people asking about the problem of COVID-19 vaccines and how to accelerate the development and distribution of vaccines for COVID. I think that's actually quite different economic context. I've been working with a group of other economists some of whom were involved in the pneumococcus Advanced Market Commitment, trying to think through some of the economics of this.

So I guess I would note a few points. First, the IMF estimates that the world's economy will lose \$9 trillion over two years for this. That's \$375 billion per month. So every month that goes by, this is a crude approximation, world economy loses \$375 billion. And the first and very simple conclusion from that is that it's worth investing a huge amount in trying to accelerate the development of vaccines.

Even though when I've certainly agreed, this is the case we're not sure that the vaccine will work. It's worth investing nonetheless. So in particular, the standard way that the

vaccine industry works, there's a lot of risks with a candidate vaccine because vaccines are tested in human trials. And sometimes even if they've worked in animals, they don't work in humans or turns out there are safety concerns. Normally firms wait till after the testing is completed before they build the factories. It's very expensive to build factories for vaccines. In this particular case, the economics is very clear that it's worth building the factories in parallel with the testing process just because if you accelerate the vaccine, even a slight amount, it's worth the money. But I don't think the private firms currently have incentives to make those investments at risk. And so I think there's a strong case for governments to pre-contract with the firms to install the capacity. In fact, a number of governments have done this. So US is doing this through Operation Warp Speed. Gates Foundation has supported efforts through CEPI and GAVI to do this. There's now European efforts, to do this as well. The UK is doing this. The team that I'm working with, which includes Susan Athey and Chris Snyder and Alex Tabarrok. We actually estimate that it's worth investing in 15 to 20 candidates and to build out unprecedented amounts of capacity so that we could serve the whole world within a year. That's something that would require an investment that's very large scale compared to the amounts that typically go in this sector, but very small relative to the cost of the epidemic or to the other investments that governments in developed countries are making.

So, I'm excited about what's happened so far. But I think there's a lot of room to do more. I could go into this more, but I think that because of the different economics here, rather than go with an approach that is exclusively based on creating incentives for firms to purchase, it also makes sense to just directly cover a lot of the upfront cost of building the capacity.

Happy to explain more about that, even if it's a bit.

Romesh Vaitilingam

No, I would certainly be interested in a little bit more on that. I mean, the issue seems to be, you've mentioned different initiatives in different countries. It's a global challenge here, isn't it? You're not just working on the developing country per se, this is an illness that's affecting every country.

How does it work in terms of the international cooperation with something like the AMC, the Advanced Market Commitments you were talking about?

Michael R. Kremer

We've done two types of analysis.

One type of analysis is looking at this from the standpoint of a global effort. And if we did have a global initiative, and if that global initiative was going to allocate vaccine, based on health needs so that it would go first to health workers and to the vulnerable and the elderly people with certain comorbidities, what would be the appropriate scale of a programme globally. Obviously this relies on a lot of assumptions, but we try to do that analysis. But we also try to do an analysis for individual countries. If they just looked at it from a very narrowly self-interested point of view, not even taking into account any benefits they might get from other countries having reduced levels of the epidemic.

And it turns out that for individual countries, these investments are also worthwhile. Now most of the investments have taken place so far have been at the level of individual countries. So the US Operation Warp Speed, for example. I think part of that many analysts have argued that's due to vaccine nationalism and I'm sure nationalism plays some role in this.

I also think that when we do the analysis, we see somewhat different patterns of investment are optimal for different countries. And that may also help explain why it's been difficult to organise something like this. I also think that—

Romesh Vaitilingam

Go on.

Michael R. Kremer

Look, I wish we lived in a world where all countries would contribute to a common pot and then have everything distributed purely based on health needs without regard to national income. But I think while countries are willing to spend a few billion dollars that way, they're probably not going to be willing to spend some sort of sums that they spend on their domestic health needs that way. So I think I'd love to see more international cooperation and there is some encouraging signs of that. But I also think that it's worth it for countries to move on their own. And I'm not just talking about high-income countries. When we do this analysis for middle-income countries, Latin-American countries, it turns out they would want to pre-order a substantial amount of vaccine. And even low income countries would as well. I would love to see more international cooperation, but I think that it also makes sense for countries to move individually. Obviously multilateral development banks, the World Bank, the Inter-American Development Bank can facilitate that by making loans to developing countries that would like to purchase vaccine. And for low income countries, this could be IDA loans so that the one could imagine, as I say, there is risk with this. One can

imagine the rich countries saying, if no vaccine is ever developed, or if a vaccine isn't developed in time, they would cover the cost of repaying the IDA loans. That wouldn't be that expensive or at all difficult for higher income countries to do.

So I think we could have, it's worth thinking about how to set up something that countries will be willing to pay to join, but that does mean you have to get the incentive structure right for countries as well as for firms.

Romesh Vaitilingam

And just to be clear on the mechanism. There is no issue that the firms might not necessarily be confident that the government promises will be delivered.

Michael R. Kremer

So I would suggest, for that reason among other reasons, I think that there should be a substantial upfront payment, by the governments. Or a payment that's simultaneous with building the capacity. So the Advanced Market Commitment, for pneumococcus, that was a payment that was made once the vaccine was available. In this case, I think that some type of incentive like that makes sense. And it does make sense for firms to have some skin in the game. I would argue that the bulk of the costs, very differently than the pneumococcus Advanced Market Commitment should actually be paid upfront by the governments that want to pre-purchase the vaccine. And that's the type of deal that we're seeing.

Briefly, the reason for that is, you want to incentivize the development of let's say, 15 to 20 candidate vaccines. Some of those candidate vaccines, we have a model with certain assumptions. Some of them are more likely to succeed than others. So you don't just want to bring in the firm with the best candidate, you want to bring in the firm with the 15th best candidate, or the 20th best candidate simply because the need for a vaccine is so huge. But if you're going to incentivize the firm with the 15th best candidate, if you do this all through, payments that they get if they develop the vaccine, because their chance of success and of winning the prize isn't that big, you need a very big price for that 15th best candidate. That means you're effectively giving away some rents to the firms with the best candidates. And so the program's actually cheaper if they finance it through upfront financing, or if they finance a substantial portion through upfront financing. That's not something that was, maybe a little side flight for economics here. That wasn't how we worked on the design of the previous problem, by working with such great colleagues, as we thought through this problem. We realised it was very different. And I think that's because we use the tools of economics to look at this specific problem. And in this case, tools of incentive design and industrial organisation, with me being an amateur development economist in the discussions.

You earlier asked about the field of COVID economics. And I think, so many different fields in economics have something to contribute to this discussion.

Romesh Vaitilingam

Thank you very much. We're drawing to the last few minutes of our conversation. I wanted to focus on something that's a key part of the Lindau events, which is bringing together laureates with young researchers from around the world. Not able to do it in person this year. I wonder if I could start by asking Abhijit and Esther, if you have any thoughts to convey specifically to young researchers, perhaps PhDs, postdocs, thinking about research opportunities, how they're going to develop their career in the shadow of this crisis and thinking about the next few years.

Any thoughts on that from either of you?

Abhijit Banerjee

I must say that I still, maybe I'm too optimistic, but I feel that, if I were building a research career, I would be thinking of this as being an opportunity to do something interesting. But in the end, I think that, research careers are built for durability. And there'll be other crises. I think this is an opportunity for somebody. It's an important question, even enormously important question, but it's not one that necessarily should frame your career because I think that economics is a place where, as Michael was emphasising, mastering a range of tools is critical. You don't want to be the COVID economist. You want to be, an economist who has understanding of macro, micro, industrial organisation. Somebody like Michael, that's who you want to be. And I think that you won't become that by being a COVID economist. I absolutely think that the first order message is still use this as an opportunity to build more skills. And in the end, breadth and depth of skills, which are still the same skills, will be the critical ingredients in success.

Romesh Vaitilingam

And a lot of the work that you guys are doing, working with the movement as you called, Esther, in many countries around the world, is about providing training to young people in those countries and giving them the sort of idea of what a research career can look like.

Esther, give us some thoughts on your experiences there.

Esther Duflo

We are trying to do that. I think we don't do enough of it, but I think this is also where there is an opportunity in the making. So we have a programme that we developed with J-PAL, that's a MicroMasters which is online, to move platform edX in development economics and data analysis for development policy. Actually, it's not only a MicroMasters, but also a hybrid master's. The first cohort of students who completed their first semester online, now have completed their second semester at MIT.

Unfortunately for them, after a few short weeks at MIT, they were sent back to the online world and finished it online. These people were the most diverse you could think of in terms of where they came from, very few from the US, all over the world, Africa, Asia, Europe, Latin America-- many types of different experiences. People who would not have been admitted to MIT otherwise, but we were able to select based on their outstanding performance on those online classes.

And the reason I bring it up is that once they came to MIT, they blew away everyone who taught them as well as the PhD students in the programme and the undergraduates by how good and committed and fantastic they were. And at the end of this period, they emerged at the top of their class in every class that they took in large numbers. And that means that we definitely are missing out, when I say we as MIT or in general, elite institutions, are missing out on such an important part of the world by the way in which we select students.

There is a very important discussion going on in the US and in Europe as well around race these days as well. And this is the same thing here that, there are so few African American or Latinx students in the elite institutions and in economics in general, which is a huge loss, not just for them, but for the field, because without the diversity in this perspective, you cannot get a social sense that has the richness that it needs to have.

And what this experience shows is that this can be done actually, by making sure that you're bringing to people all over the world, and also all over the different social groups in the richer countries, the opportunity to try it out. And with COVID where everybody was sent home and was watching lectures online, I think there is a huge opportunity to do this on a much more systematic, wider scale, and therefore to really shake up the way in which higher institutions recruit and perpetuate a certain form of social elitism.

You were generous in saying we are doing a lot. I think we are not nearly doing enough, but this has really energised us to try and do much better.

Romesh Vaitilingam

Michael I need last reflections from you down the road from Esther and Abhijit at Harvard on these opportunities.

Michael R. Kremer

I very much agree with everything that Esther has been saying. I think the MIT MicroMasters is a wonderful example of something that was developed ahead of COVID-19, but is both a great opportunity during COVID-19, but also something that will be very useful beyond it.

And I think, we have a fund. There's a fund called the Weiss Fund, which has supported graduate students in junior faculty at a number of US universities. And thanks to a very generous donation from the Weiss family, which Esther, Abhijit and I are making a small contribution to through our Nobel Prize funds. We're going to be working to expand that programme internationally, very much hoping to correct some of the problems that Esther was talking about, in particular regarding the lack of representation of many, or the underrepresentation of many developing countries in the profession of economics. We hope to be able to do at least a little bit, collectively the three of us together with the Weiss Programme to try to improve things by making funds available to junior faculty and graduate students who are doing work in development economics. Not to support their graduate studies or their salaries, but to support our research projects in the field.

Romesh Vaitilingam

Excellent, that's a fantastic positive way to end our conversation. Thank you very much to the 2019 Nobel Laureates in economic science for joining me for this conversation, Abhijit Banerjee, Esther Duflo and Michael Kremer.

Thank you all.

Esther Duflo

Thank you.

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