

Transcript of Development Drums Episode 45 – Mind, Society & Behaviour

Host: Owen Barder. Guest: Varun Gauri

Listen to the podcast: <http://developmentdrums.org/904>



Owen Barder

Thanks for downloading Development Drums, episode number 45. My name is Owen Barder from the Center for Global Development and today we're looking at whether and how development economics can do a better job of understanding human behavior and what we can learn from the small but growing field of behavioral economics. I have the perfect person with me to discuss these issues. Varun Gauri is World Bank's senior economist and was Co-Director of the 2015 World Development Report, which was called Mind, Society and Behavior. Dr. Gauri has a long list of publications in a varied number of top journals including in political science, development and economics. He is now researching a subject very close to our heart here at CGD which is how individuals support public goods. Varun, welcome to Development Drums.

Varun Gauri

Thanks so much, Owen. It is a pleasure to be here.

Owen Barder

So I propose to organize this discussion in three parts. In the first part, I am going to ask you to lay out for the audience some of the key insights from behavioral economics and behavioral science and perhaps explore with you how these ideas differ from conventional economics. Then, in the second part, we are going to look at what this means for development policy in particular, so what do we know about whether these cognitive issues and behavioral issues affect the poor, do they affect the poor in particular and if they do, what if anything can or should people do about that. And then in the third and final section, we will talk about the implications of all this for the work of development professionals and organizations like the World Bank and aid agencies: to what extent do these biases and mistakes affect development professionals and the way they do their work, is libertarian paternalism, as the phrase goes, an appropriate stance for aid agencies and we'll look at the big picture of whether this is an important new insight for development policy or whether it's a quirky sideshow in the bigger picture. So let's start with behavioral economics. Can you tell us a little bit about why this report is called Mind, Society and Behavior?

Varun Gauri

So the main message of the report, Owen, is the idea that development policy is due for a redesign based on a more realistic understanding of how human beings think, decide and behave. And it is useful sometimes to begin with a metaphor. Let's think about the airplane cockpit. You and I are of a certain age and might recall walking into a cockpit many years ago in which it was basically a wall of instruments. For technological reasons, there was a separate dial for different bits of information, altitude, wind speed, longitude, temperature, this kind of thing. This was very cognitively demanding for pilots.

Owen Barder

So they had to monitor all these different instruments simultaneously.

Varun Gauri

They had to visually scan everything. They had to remember what is said a few minutes ago and then integrate it when it came time to make a decision like choosing an angle of approach, when it came time to land and this was related to pilot error. So the cockpit was redesigned in more recent years partly as a result of technological innovations which allowed this information to be integrated and so now one panel will show multiple bits of information in a flight path as altitude plus speed and location, all in one thing, in one bit of information, it's easier for pilots to make decisions; pilot error goes down. So that's the basic idea, that is that directly speaking to your question whereas we traditionally think of economics as the signs of scarcity, scarce land, scarce human capital, scarce money, even scarce information. Economics hasn't to this point integrated the idea that cognition in itself is a scarce resource.

Owen Barder

Right.

Varun Gauri

It's demanding to actually think and this isn't – this is not a metaphor, in fact when you think hard, your pupils dilate, your heart rate increases, your blood pressure goes up. The same is true when you try and exert willpower. There is one pool of energy that's available for emotional, cognitive, physical activity and we deplete it and as a result of this, we need to be thinking about how to shape the choice environment to allow people to make good decisions that are in their own interest without overly depleting themselves.

Owen Barder

So this has become quite a well know idea in the last, well since Daniel Kahneman's book.

Varun Gauri

Yes.

Owen Barder

In 2011, Thinking Fast and Thinking Slow. The idea that some of the decisions we make are automatic decisions and some of them we ponder and consider and then when we make these automatic and fast decisions, we often make mistakes.

Varun Gauri

Exactly.

Owen Barder

Is that the key insight in behavioral economics and behavioral science and tell us more about that insight, tell us what that means?

Varun Gauri

Yes, Yes. No it's a crucial idea. It's called Dual Systems Theory. This idea that there are sort of two systems in the mind and this is sort of metaphoric but the idea is that you have a system one, to use the lingo that Kahneman uses, drawing from others which is very intuitive and fast. We sort of can decide whether the boss is angry at us very quickly. We can compare whether object A is longer than object B very quickly. We do this involuntarily. We use this system involuntarily and sometimes we can't help but to use it, understanding short sentences in our own language, we sort of can't help it. It doesn't use up energy. System two which is 17 times 24 it's sort of long calculation. It is comparing proportions as opposed to quantities. This is demanding and this uses up energy. So as a result, we try to avoid using this system two and rely on system one and that's

pretty good for many of our decisions, the system one sort of helps us assemble coherence in our world. It helps us with certain basic cause and effect questions but it doesn't – but it also can go astray and it goes astray in systematic predictable ways. This is really – if one were to ask why this report now, it's that now over the past 20-30 years we have a body of research that allows us to show that people are not only irrational but predictably irrational.

Owen Barder

Right.

Varun Gauri

To borrow a book title from Dan Ariely so that we know that certain phenomena like anchoring and framing, loss aversion, are going to be – most people exhibit these and as a result we should design policies to keep that in mind.

Owen Barder

So in conventional economics the kind that I was brought up with.

Varun Gauri

Yes.

Owen Barder

We were taught that people make mistakes a lot but that we could assume, this is Friedman's key point in I guess the 1950s that was that we could assume that people on average behave as if they are not making these mistakes.

Varun Gauri

Yes.

Owen Barder

Because if for example, an investor is systematically making mistakes, they'll lose their money.

Varun Gauri

Yes.

Owen Barder

If a firm is systematically making mistakes and is failing to serve its customers, they will be driven out of business by a competitor that doesn't make those mistakes.

Varun Gauri

Yes.

Owen Barder

So the conventional economics view is yes, of course, people get things wrong but we can assume that on aggregate.

Varun Gauri

Yes.

Owen Barder

They are going to converge on getting things right and one example of that I suppose in the thinking fast and thinking slow framework is that you develop heuristics that work for you so yes

you're thinking fast with rules of thumb and with habits but if those habits weren't in the long run, delivering what you really wanted and what your underlying objectives were then you would change the heuristics, you'd change the rule of thumb. So why isn't that conventional view? Why doesn't that still mean that although people are making mistakes, they are not making systematic mistakes?

Varun Gauri

Yes, so two thoughts. There are a lot of nonmarket transactions, right. So if a businessman, businesswoman goes out of business for using incorrect heuristics that may be fine – if we've got enough social safety nets and this and that but for a poor person going out of business is not a happy story.

Owen Barder

Right.

Varun Gauri

Right. Not going to school when you should is not a happy story, marrying the wrong person, not getting healthcare when you need it, going out of business is a threat to life and livelihood so the existence of these one shot, nonmarket interactions where there is no opportunity or limited opportunity to learn and limited arbitrage opportunities are scenarios in which we really need to pay attention to this.

Owen Barder

Right.

Varun Gauri

Right. And the other thing is that these in fact do survive in large markets. They are interesting. There are a variety of – a number of studies on this now but if you look at the used car market in U.S., the price of a car that is – whose odometer reading is 80,100 miles is systematically higher and much higher than a car that's 79,900 miles. People have left digit bias and despite the fact that there is an arbitrage opportunity here, the cars are still priced at \$100 to \$200 higher for not an obvious reason. And so these do survive in markets because people are all affected in consistent ways so that if I am affected by a certain set of biases, you in fact are also subject to the same biases, you might not take advantage of the arbitrage opportunity that's there.

Owen Barder

So what's a good example of this thinking automatically versus thinking slowly issue that affects people in poor countries, and then we will move onto the other aspects of this like thinking socially but let's give an example of thinking automatically?

Varun Gauri

Yes. So one of the challenges that we often face is that governments provide programs, conditional cash transfers, health, education programs, sometimes people don't take them up – particularly in poor environments, why not? The path might be quite large but they simply don't necessarily do it and it's partly because it takes effort, it takes time even though in the long run, it may make sense to take advantage of this. In the short run, people don't necessarily. So there was a study in Tangier in Morocco in which the government was providing a credit subsidy for a water hookup, right. Water hookup is a big problem out there and people spend I think 7 to 9 hours a week collecting water often women but people weren't signing up. Why is that? Well, there is the hassle factor, you've got to sign up for the darn program and so when some researchers came in and went to the homes of people and actually photographed necessary

documentation and brought it to the municipality, the sign up rate went up to 69% from a baseline of 10%. So the implication there is that there is a large agenda related to simplification.

Owen Barder

Right but that's not necessarily an irrational judgment on their part. If people believe that it is going to be time consuming and expensive for them to queue up and sign up.

Varun Gauri

Yes.

Owen Barder

And if they think there is some risk that even having signed up is they are not going to get the service that they're expecting.

Varun Gauri

Yes.

Owen Barder

Then, they could easily be making a rational cost benefit calculation that it is just not worth their well to do this thing?

Varun Gauri

Well, it is not.

Owen Barder

I mean who are you to say that they have made an irrational decision there.

Varun Gauri

Well, the fact that when you help them, they actually do follow through on it suggests that many of them in fact would prefer the water hookup if it weren't so demanding on time and cognitive resources. So it is – it maybe rational in the sense that they don't want to expend the cognitive resources to sign up for this but it is not rational in the sense that the cognitive resources are not – are renewable.

Owen Barder

Right, right.

Varun Gauri

They don't quite. It's just – we sometimes miss that.

Owen Barder

But they are temporarily finite, right, I mean there is a flow of cognitive resources.

Varun Gauri

Yes.

Owen Barder

So am I okay to say well this is conventional economics but with the addition of this important insight that cognitive resource is scarce and so people are making decisions about how to deploy those cognitive resources and so that's a rational decision not to exert cognitive resources on a particular problem, is that...?

Varun Gauri

Yes.

Owen Barder

Am I – is that okay? Or is there some other insight that tells us that the conventional economic way of thinking about this isn't right?

Varun Gauri

That's in the report we talk about the principle that people think automatically, the principle that people think socially and the principle that people think with mental models. We are talking about the first idea now and I think that's more or less right. I mean I think it is important to point out it applies not just to cognitive overload information but to willpower.

Owen Barder

Right.

Varun Gauri

And that people often have a hard time following through on their commitments. We might want to save more, lose weight or stop smoking and we just can't follow through because we overvalue the present if we are going to model the situation or because the willpower exertion is too large. So I am not so sure whether it is worthwhile getting into a debate about whether this is a rational choice or not.

Owen Barder

Right.

Varun Gauri

To the part of individuals to overvalue the present or to not exert cognitive energy. The fact is that in the development business, we want to reduce poverty and that we can take steps to help people achieve what is in their own hands. Whether it irrational or not or whether it can be incorporated into an economic model, that sort of insight as they say in the U.S. inside baseball, but the larger point is that people do behave this way whether or not it is rational.

Owen Barder

So let's move onto the second insight about thinking socially what is that about and give us an example?

Varun Gauri

So just to return to the cockpit metaphor again, there is research that suggest that social hierarchy in a cockpit affects is also related to pilot error and this is because in a relationship between captains and first officers you want information to flow. If a plane is going down then the first officer shouldn't be reluctant to say, please lower the wheels now – we are coming close to landing. They should be able to just talk and if there's a social hierarchy, they won't necessarily speak up. So that social relationship is related to pilot error. In 2013, the American Heart Association came out with a study that found that social hierarchy in the operating room among cardiac surgeons is related to surgical error and so in those high stake situations, we know that this is important. The point we want to make is that poverty is also a high stake situation. We don't often think of this because of the cognitive error of salience. We don't think of poverty deaths as being less salient but an airplane disaster that really gets our attention but your listeners know that poverty is high stakes – 7.6 million avoidable deaths among kids every year. So if we

think about thinking socially right, the comparison with standard economics is that in standard economics, the idea is that people think by themselves and for themselves right, they sort of don't...

Owen Barder

They're optimizing their own wellbeing.

Varun Gauri

Right. Their own wellbeing – with...

Owen Barder

Right.

Varun Gauri

Basically using their own knowledge.

Owen Barder

Right.

Varun Gauri

Right. In fact, social preferences are quite large. The standard assumption is that everyone is a free rider right.

Owen Barder

Right.

Varun Gauri

Given the opportunity you want to stick it to someone else.

Owen Barder

Right.

Varun Gauri

There are now behavioral economics experimental games that show the percent of free riders is between 5 and 40% at most, usually much less than 40%. Most people are conditional cooperators – that is they're willing to contribute to public goods if the other person is too. They don't want to be suckers.

Owen Barder

Right.

Varun Gauri

But if the other person is likely to, they will too right so most of us are not the jerks that standard economics may assume and this seems to be hard wired. There is a fun little experiment that is described in the report in which at a tea bar or a coffee bar, employees were asked to contribute a little bit of money whenever they took the tea on our system and each week the experimenters vary the picture right in front of the tea. So one week, it was picture of flowers then eyes and flowers and eyes and flowers and eyes and every week their contributions were higher when it was eyes than when it was flowers because people felt like they were being observed and so we are social animals and we are very responsive to this idea that others are around us and others are acting.

Owen Barder

But interestingly that suggests that people are not contributing because they're hard wired to contribute to the social good but because they fear being observed that they – that suggests the opposite doesn't it?

Varun Gauri

It depends how you interpret what happens when you're observed. Is it fear or is it like I want to be with this person, there is a variety.

Owen Barder

But if people don't feel they are being observed and then just take the coffee anyway without – contributing...

Varun Gauri

People still – people still contribute.

Owen Barder

That suggests that people are instinctively free riders if they think they can get away with it.

Varun Gauri

It's not the case that contributions were zero when there were flowers, there still were contributions – it is just that they were higher when they were eyes and so.

Owen Barder

Right, right. And there is a rationale isn't there for this kind of behavior which is in repeated games and we'll – and I think we're in repeated interactions with our fellow human beings. Societies work well if people are rewarded for cooperating and mildly punished when they don't – there is some retribution if people free ride or don't cooperate and we will do better in a society if that kind of discipline is enforced and you see this with these ultimatum games in behavioral science that people do tend to want to resist people who don't cooperate and they do that presumably because it's in the long run best interest of their community to continue that kind of social pressure.

Varun Gauri

That may be but in these ultimatum games even when they are one shot games, people do not offer...

Owen Barder

Do you want to explain the ultimatum games – sorry I introduced it and then failed to explain it, explain an ultimatum game?

Varun Gauri

Yeah, so there are games that in behavioral economics in which people try and measure social preferences. Let me start with the dictator game. The dictator game I give you Owen \$10, 10 pounds and I say give Varun some money then you decide whatever you want to give and the finding there is that people typically do give something. The standard assumption is that people give zero but that's not what we observe. In the ultimatum game, you give me some money. I am told that you had 10 and you gave me some and I have a choice of either accepting your offer. Let's say you gave me 3 and I keep 3 and you keep 7 or saying forget it and none of us gets

anything. And if typically on average if you offer me less than say 3 or 4 I am going to say forget it, I don't want anything.

Owen Barder

Right, even though you are better off with 3 or 4 or 2 say.

Varun Gauri

That's right.

Owen Barder

Than end up with 0.

Varun Gauri

That's right.

Owen Barder

You want to punish me for failing to share properly with you.

Varun Gauri

That's right. And I will do that in a one shot game.

Owen Barder

Right.

Varun Gauri

Right even if I am never going to see you again, even if I don't really know who you are, if you're anonymous behind some computer screen somewhere.

Owen Barder

I still feel it is wrong, you still feel it is wrong.

Varun Gauri

That's right.

Owen Barder

To only get 2 off the 10.

Varun Gauri

Exactly, that's right. And that's what we observe. And so there seems to be something about fairness independent of repeated games that we care about and that is an important part of...

Owen Barder

Right.

Varun Gauri

Social relationships and then we also make the point okay so now we know that we are social beings and so what does this mean right. It means we have social preferences and we can use for lack of a better word social incentives to motivate people, recognition, status that matters a lot and this can motivate doctors, healthcare providers, all of us.

Owen Barder

Right.

Varun Gauri

We also care about social norms and this is a social norm, although it's sometimes used kind of loosely now. Basically, it consists of two parts. One is the idea that you ought to be doing something. The other is that many people in fact do do it and we can leverage this idea to change behavior. An important area say sanitation behavior sort of if we want to change that we can leverage the idea that maybe this is what we ought to do and that more and more people are doing it and there are other examples in the report and then there is the idea of social networks which is the idea that I might pay more attention to information if it comes from my friend or my neighbor to people I directly interact with than from the government and that's an important – that gives rise to an important set of policy levers as well.

Owen Barder

So this again I am sorry to harp on about this but it still feels like it is completely consistent with conventional economics. We are just saying that people have preferences that include being social animals, that people are not in fact purely – their preferences are not purely selfish to maximize their own income or food consumption or their well-being includes the well-being of others and that's obvious that people very obviously care about their family for example but they also care about people around them and there are all kinds of reasons for that but even if they weren't I don't think anybody in economics has ever said that human preferences don't include the welfare of other people in their own preference so this is just a re-statement of that important principle isn't it. This isn't a departure from what we all knew in microeconomics 101 is it?

Varun Gauri

Well I mean I think if you look at utility functions if you looked a lot of them, I would hazard to say that most of them are about individual utility and not group utility maybe family, people are willing to allow but the idea that there is altruism is not commonly modeled even though it is sort of allowable in the field, it is not commonly modeled and in addition I would say that there is something about social norms which is I think relatively new and perhaps inconsistent which is that people – we sometimes in economics we'll talk about norms as a constraint right sort of I will maximize this subject to a set of constraints, a budget constraint and then some sort of choice set that's finite but norms can be internalized so that they really sort of change what I want to do.

Owen Barder

Right.

Varun Gauri

And they maybe internalized in a way that's not necessarily about fulfilling, making Owen happy, it is not – my preferences may not be altruistic in a sense, it maybe just I want to conform.

Owen Barder

Right.

Varun Gauri

I want to do what other people are doing and in economics, we often think about this as a coordination problem because my paths are higher that may or may not – that maybe true often it is but there maybe situations where I just want to conform because that's what social beings do. So I think that's relatively new.

Owen Barder

And then let's move to the third part of the story which is thinking with mental models.

Varun Gauri

Yes.

Owen Barder

What's that about and what's an example of that?

Varun Gauri

So thinking with mental models is basically the idea that information needs to be interpreted. When information comes to someone about let's say the behavior of a different ethnic group or different religious group, I am likely to filter out information in systematic ways related to my views of the world. We have mental models for health, mental models of other people, we have mental models of ourselves. A nice example which is in the report on the chapter on climate change is the idea – is the historical fact that when settlers came to Jamestown, Virginia, they thought they could grow pomegranates, olives, figs, tangerines that are, that can be grown in Southern Spain or Italy. On the idea that temperature and climate is constant at any latitude, it turns out not to be the case but settlers persisted for 13 years similarly in trying to grow these products, these crops. Similarly, people went to Newfoundland and thought it would be relatively warm but it wasn't and they persisted, they kept on thinking, this is a bit anomalously cold year – it's an anomalously cold year and they didn't really update their views. It took a long time because they had a view of how temperature is related to latitude and climate is related to latitude. There is a nice example in the same chapter about how this really complicates our work, our understanding on climate change. Why do our views change so slowly? There is a nice paper which makes a reasonable assumption that to really think that the climate has systematically changed if you think that requires say three straight years where the average high is one standard deviation above the historical high. If you calibrate that on historical data, it will take 86 years.

Owen Barder

Right.

Varun Gauri

To sort of update your views and so we sort of have this idea and we fixate on it. In the case of climate change, it's not only about sort of scientific view but it becomes a tribal allegiance right. It becomes a marker of belonging and I get my views from people I hang out with – they affect how I think about this model.

Owen Barder

But that's also how scientific views get updated right? It is also tribal allegiance I mean wasn't that the great idea of the paradigm shift.

Varun Gauri

Yes.

Owen Barder

That people had a model and they persisted with it.

Varun Gauri

Yes.

Owen Barder

Until you had an awful lot of evidence that there was something wrong with the model and then the model undergoes a paradigm shift and the tribe moves to some other model.

Varun Gauri

Yes.

Owen Barder

And that persists until enough evidence it accumulates that it needs to be updated. So it is not...

Varun Gauri

Yes.

Owen Barder

Science is guilty of this I mean scientists are not all updating their Bayesian priors every minute.

Varun Gauri

Yes.

Owen Barder

They are also undergoing these periods of stability and change aren't they?

Varun Gauri

Fair enough – fair enough right. This is Thomas Kuhn's story.

Owen Barder

Right.

Varun Gauri

And I think that the key difference may be that scientists seem anyway to be using a fair amount of system two, sort of analytic deliberative thinking and arguing about this and developing standards for what constitutes enough evidence for a change in a fundamental view whereas the rest of us are reading the newspapers. We are sort of talking to our neighbours, the process by which we update our views is much more system one oriented, quick thinking heuristics and so – and also the politics is a different kind of politics.

Owen Barder

So does that make it more or less likely that we'd be fluid about it – I mean for example there is a story that with social media and 24/7 news that people update their view of the world very quickly now.

Varun Gauri

Yes.

Owen Barder

And if people are thinking with system one, they are interacting, they are much more networked than they used to be, does that suggest that our collective tribal view is now more fluid and moves around more quickly than it used to?

Varun Gauri

Yes, I think probably not and that's precisely the heart of – the thrust of this point about mental models.

Owen Barder

Right.

Varun Gauri

I mean even though the information that external environment is changing, what is more the durable dispositions sort of Bourdieu writes about this kind of thing, sort of internalized mental models don't take it in even if there is some new view that's constantly changing, you have to interpret the information and those are relatively stable among people over long periods of time, not the behavior doesn't change but mental models are not easy to change.

Owen Barder

And yet again in conventional economics, our assumption has always been that people realize when their models are not delivering for them the results they want to deliver even if they don't know exactly why and that they will, people won't be away from their optimum for long that they will collectively shift, you're saying actually that it takes a lot longer than that.

Varun Gauri

Yes.

Owen Barder

That you can be away from what you – we don't update our models very quickly.

Varun Gauri

Yes.

Owen Barder

But that feels like an opportunity for arbitrage or it feels like there is something that needs to be explained there – why don't people, why haven't we learned if it's costly to us not to update our mental models quickly, why haven't we learnt to update them more quickly or what could we do to learn to update them more quickly?

Varun Gauri

Yes, so I guess two thoughts. One, it's very costly to update them along the lines we discussed earlier. Two, it's often in someone's interest that we not update them.

Owen Barder

Right.

Varun Gauri

There are some studies, Daron Acemoglu, James Robinson and others who have looked at – villages in India in which villagers who are not doing well tend to be very favorably disposed to the dominant landlords even though they are personally not doing well and so the story there is that legitimacy follows power and it's in the interest of certain actors to sort of maintain a mental model and when there is a variety of techniques, hegemony all these kinds of things in which this is done so that's one thing and the third point is that it's just hard to shake these habits of mind. We have stereotypes about different races, about other genders, about different religious groups that are really hard to shake and they sort of captivate the mind and there is evidence that it sort of starts very early on so I think that the standard economic story needs some refinement here.

Owen Barder

You're listening to Development Drums with me, Owen Barder, and my guest today is the Co-Director of this year's World Development Report, Varun Gauri. If you enjoyed this podcast, you might also like to listen to the CGD podcast hosted by my colleague, Rajesh Mirchandani which you can find in iTunes or on the CGD website or wherever you find good podcasts.

In the next section, we are going to explore the relevance of all this to development economics and then in the final section, we will look at the implications for development professionals and development organizations. Varun, the World Development Report, congratulations on what people say is the most widely read WDR in years so congratulations on doing that. This is an important flagship publication for the World Bank. It reflects thinking that's going on in the economics profession and development economics but it also shapes it so this is an important – it's important that there is a report on this topic this year. Why did you want to do something on behavioral science and behavioral economics for development specifically? What's the connection between the things we've talked about and poverty and poor people and the World Bank's mission of eliminating absolute poverty?

Varun Gauri

Yes. So two thoughts on this. One is that there is really – I think one of the reasons people have been interested in this report is that we are sort of riding the crest of a wave. There has been a lot of interest in this topic for several years. There are behavioral economics units in a number of governments now. Richard Thaler has been President of the American Economic Association. So behavioral economics is really mainstream now – it's not some out there marginal sub-discipline and so there is general understanding that this can be useful for policy making right and development policy is policy making and so we should bring this in to development economics in the way that it's been brought into the other parts of the discipline. The second part is that – the second thought is that there maybe – we have been talking about cognitive resources being scarce. This may be even a more important constraint for poor individuals.

Owen Barder

In what sense?

Varun Gauri

Well, there are a lot of decisions that you and I make that are easy right. If we want to save money, we can have a standard transfer from our checking account to our savings account or to our brokerage account. I have three kids but I haven't thought about college education for a little while because I have an automatic transfer that sort of thinks about this for me. Poor individuals don't have this – modern financial products often. There are also a number of challenges related to just getting by, organized childcare is not available, basic things if like you're in the informal sector, where to sell your wears, worrying about someone that might come and harass you, getting home, transportation and these deplete cognitive resources, this cognitive and willpower resources.

There is a terrifically engaging book by Sendhil Mullainathan and Eldar Shafir which looks at the problem of scarcity. One of the papers – one of the studies they cite in that paper – in that book is one of their own which looked at sugar cane farmers in India. They found that in the sample of sugar cane farmers, there was a real difference in behavior and cognitive process pre and post-harvest. Post-harvest is when there is cash, pre-harvest is when there is not. Pre-harvest more than 90% of them had taken out loans, post-harvest I think I believe it was 4% or relatively small. Similarly, they are much more likely to have pawned goods pre-harvest than post-harvest and the interesting thing is that this has an impact on cognitive functioning as well. The same sugar cane farmer had a lower IQ test score during a resource scarce time pre-harvest than post-harvest, 10

points actually, the same farmer – 10 points is a lot. If I were to keep you up all night and ask you to take a test, your IQ would drop about 12 or 13 points. So that's almost as much as a full night's sleep and this is the result of all these demands which are depleting cognitive resources. So for poor individuals whom the World Bank and other development agencies are trying to help realizing that cognitive constraints are a problem is really important.

Owen Barder

So it could be important in one of two ways. One way is people are poor. Their cognitive resources are constrained and that has bad effects for them in a sense that it means that poor people also suffer from making bad choices because they're poor and their cognitive resources are constrained. The alternative version of this is that it's actually contributing to their poverty because in a sense there is a poverty trap. They're poor so they make bad choices, which means they stay poor. Is it the bad effects of poor choices on the poor that's worrying you or is it the thought that this is actually a cause of their poverty and that if you could – we've finally identified the constraints that if we could relax it, it would enable people to lift themselves out of poverty that the problem is cognitive scarcity and we can relax that constraint and then that gets them on the virtuous path but which of these two views or is it both that you'll...

Varun Gauri

Certainly, I would say it's a bit of both. I mean I am not sure we have the evidence to suggest there is a real trap but we do think that when you provide resources to support decision making, people are more likely to make decisions in their best interest. There are a number of studies like this.

Owen Barder

So that would increase their welfare but not necessarily lift them permanently out of poverty?

Varun Gauri

Yes that's sort of an empirical question. We are not quite there yet but we do think that they are more likely to enroll in school, to take health medication they themselves have asked for and have at home if they're reminded to do so for instance. And so the general implication is that it would be useful to move decisions out of periods when people are short on cognitive resources or if you can't do that to support those decisions through I gave the example of the Tangier documentation but there are a variety of things that can be done along those lines. For instance in the area – in the case of conditional cash transfers, we don't think enough about timing.

Owen Barder

Right.

Varun Gauri

The timing may matter. There is a nice study in Bogotá in which a conditional cash transfer was partly deferred and paid in arrears to individuals right before the decision to matriculate into universities. That had I think I believe a 49%, it led to 49% increase in matriculation rates, sort of holding some money back to sort of signal to people that oh now is an important time, you have some money, you can afford this because they weren't necessarily saving that money by themselves.

Owen Barder

Do we have a sense of the size of these effects I mean if it is welfare increasing to assist people by reducing the effects of their constrained cognitive resources in some way or another? A, that sounds like a relatively cheap thing to do.

Varun Gauri

Yes.

Owen Barder

But B – it doesn't sound, I mean I am not sure that if I had a 10% reduction in my measured IQ, I am not sure I believe in IQ tests, but whatever that's measuring.

Varun Gauri

Yes.

Owen Barder

I am not sure how big an affect that would have on my welfare so I make worse choices about how I manage my day but is fixing that presumably only in part fixing that, actually going to increase my welfare by enough to make this a sensible intervention for us to worry about or is this quite a marginal affect?

Varun Gauri

Well the effects are substantial but they're even more substantial when you think about the relatively low cost of the interventions, changing the timing of a transfer costs very little.

Owen Barder

Right.

Varun Gauri

Some of these little text messages that remind people to take their medication that costs very little.

Owen Barder

Right.

Varun Gauri

Changing – when government communicates, it could sort of change a little letter and that some of these examples show that including a sentence about how many other people are paying their taxes increases the likelihood in the individuals will pay their taxes by a few percent. Well it is not a huge effect but it costs nothing to add a sentence to a letter.

Owen Barder

So listeners, who are interested in this, should read Nudge by Thaler and Sunstein, which is full of examples.

Varun Gauri

Yes, yes.

Owen Barder

Of these kind of low cost but apparently quite effective...?

Varun Gauri

Well they should also read the WDR.

Owen Barder

And they should read the WDR as well.

Varun Gauri

Which has development examples.

Owen Barder

Right, okay. So these are relatively low cost but you're not claiming that the effects on welfare are as large as say a vaccination program would be – or you are?

Varun Gauri

Well. Okay so let me throw out some numbers at you. Okay so. In one study in Kenya, changing the timing of delivery of fertilizers was equivalent to a 50% subsidy if you deliver so that made an impact. In one experiment in Mysore in India, data entry clerks were observed to be, who are paid a piece rate for typing things correctly would sort of increase their piece rate right before holidays when they needed money. They were asked to – if they wanted to sign up for a commitment contract where they would receive slightly lower wages if they failed to meet their own targets. This increased productivity by 6% which was the equivalent of an 18% increase in wages right. So compared to paying people to work harder or paying people to take up a program or to use technological input like fertilizer, it's pretty effective and those magnitudes are relatively large.

Owen Barder

So in the forward to the WDR, Jim Kim seems to suggest that the main relevance for development policy of all this is A, improving service delivery and B, climate change and how we think about global norms and global agreements. Now obviously he's your boss so he is by definition right. Are those the two areas in which you see this having important implications, this is service delivery and getting to global agreements such as on climate change, is that where we should look for progress from this?

Varun Gauri

Yes. So one could think about sort of where we are now and where we might be.

Owen Barder

Right.

Varun Gauri

Sometime in the future. Service delivery is a clear area where this is relevant because people as we have been discussing don't take advantage of opportunities available to them because they forget, they don't – paying attention. Conditional cooperation is an important lever to use in getting to agreements of various sorts. Climate change is one. There is research about conflict between say people who are different sides of a war and that's sort of – it could potentially be useful there. Those are areas where we have good evidence this is important.

There is also emerging areas, say in the area of aspirations which we haven't really talked about so much. We think about this in terms of a mental model of yourself, you might think if you're a low caste, this is my only place in life but there are now interventions which suggest that interventions can be changed through messaging – emotional messaging, through entertainment education, through media. People attribute the fertility decline in Brazil to soap operas in part. There is research in India that shows that exposure to modern cable TV was related to increasing women's autonomy and lower rates of gender based violence.

There is an extremely intriguing example from California in which young African American students in seventh grade were asked to perform some self-affirmation exercises and this resulted for about I think half hour early in seventh grade and this resulted in higher grades a year and a half later. The thought being that most kids' grades decline in eighth grade but if you're African American, you may have a self-stereotype which we think of course this would happen to me but this insulated in people against this kind of stereotype. So that's another area.

Another area which we haven't talked about yet is in early childhood development right because some of these orientations and cognitive skills emerge at a very young age and so there is an agenda related to helping parents who don't engage in cognitive stimulation providing support. There is good evidence from Jamaica that this really makes the difference to outcomes a good while later. Then there is a sort of very long term agenda in which we know that – say trust in government is very important for a variety of outcomes and we have been aware of this for sometime. We don't quite know yet whether that's amenable to behavioral interventions but maybe, law-abidingness, trust, corruption. These all sort of have a social norms element and a cognitive element to them and so we may down the road have a set of interventions in that area too. So while my President is certainly right, there is a longer term – there's a medium term and longer term agenda here as well.

Owen Barder

Right. Excellent. You're listening to Development Drums with me, Owen Barder, from the Center for Global Development and my guest today is Varun Gauri and we are talking about this year's World Development Report, Mind, Society and Behavior of which Varun was the Co-Director. So, we are coming now to the third and final section which is looking at the relevance of this that we were just beginning now to get into – the relevance of this to development professionals and development organizations. Now, the forward – Jim Kim's forward to the WDR suggests that one reason why we should be careful about – we should be thinking about this research is because it reminds us of the biases and harmful effects of heuristics that we ourselves apply as development professionals. Can you say something about that?

Varun Gauri

Yes, that's a particularly fun part of the report to work on. All of us are subject to biases right. All of us are subject to these cognitive limitations. All of us are subject to social norms and we all carry around mental models of the world and that by no means are development professions are excluded from this universal fact of human nature. To illustrate this, we did a survey of World Bank staff. We were interested in a couple of particular biases. The one which was perhaps most striking was one called confirmation bias. This is the tendency to discount information that is contrary to our priors and overvalue information that confirms to those priors. Dan Kahn of Yale Law School with Don Braman and others have done some work on what they call cultural cognition which is a version of confirmation bias. I mean we tweaked to their experiment and implied it to World Bank staff. We sent around in this online survey information in a two by two table about skin cream and minimum wages. The table was identical in the two different framings. In one case, it was about whether a skin cream A or skin cream B is more likely to eliminate a rash and in another framing it was about whether the minimum wage is likely to raise or lower poverty rates which is a contested issue in economics of course. World Bank staff were more likely, about 20% more likely to get the answer right in the skin cream framing than in the minimum wage framing and you might say well that's surprising because they are experts in this area but it didn't happen despite the fact that they are experts, it happened because they are experts right.

Owen Barder

Right.

Varun Gauri

They thought they knew the answer. They didn't really do the math. We also asked World Bank staff about their views on wage equality and found that the errors that people made were systematically related to their political priors. So there is evidence of confirmation bias in among World Bank staff. We replicated this survey with a sample in DFID, almost identical results there. So bank staff have this tendency to bring their mental models to information that they collect.

Owen Barder

As does everybody, I mean we're not having a go at bank and DFID staff.

Varun Gauri

Development professionals more generally, like all experts themselves, are subject to biases.

Owen Barder

So well-run organizations need to deal with that right? They need to acknowledge that that's happening and adjust their behavior in some way to cope with that. What is it that organizations like the bank or DFID should do given your finding of these – in this case confirmation bias?

Varun Gauri

Yes. So one thought or a couple of thoughts. One is that if experts themselves use system one and quickly come to or jump to a conclusion, we need to slow them down and get them to think more analytically and deliberately which means allowing space for it which means more rigorous testing evaluation of projects so that's one thought and one of our.

Owen Barder

Just on that you had this wonderful example of the bat and the ball that together costs \$1.10.

Varun Gauri

Yes.

Owen Barder

And the question – our listeners can work this out in their heads if the bat costs 10 cents more than the ball?

Varun Gauri

\$1 more.

Owen Barder

\$1 more, what did I say, 10 cents; the bat costs \$1 more than the ball, what does the ball cost and what does the bat cost?

Varun Gauri

That's right.

Owen Barder

And your instinct is to say well obviously the bat cost a dollar and the ball costs 10 cents and?

Varun Gauri

Yes. That's right.

Owen Barder

And that's the incorrect answer?

Varun Gauri

That's the incorrect answer. Obviously, it's a \$1.05 and 5 cents because that adds up to \$1.10 but most people get this wrong in studies.

Owen Barder

No, I did, as I read it.

Varun Gauri

Statistics students at top universities get this wrong. There is a lot of examples of things like this.

Owen Barder

Right. So you need to slow people down by doing what?

Varun Gauri

By requiring careful review of evidence in a variety of ways in the context of whether projects are working or not, more evidence, more evaluation including randomized evaluation is useful, more multi-armed treatments are useful to sort of help people figure out what works, so if you want to figure out if the minimum wage lowers or raises poverty rates actually test it, don't have these assumptions. That's one general recommendation sort of rely more on analytic thinking and evidence. The second is to harness our natural tendency to be advocates. There is a view that we are natural born lawyers, not natural born scientists. So we want to sort of prove something and that's not the same thing as getting out the truth and so in a lot of organizations you have something called red teaming.

Owen Barder

Right.

Varun Gauri

Right like the military does this in war games and this sort of harnesses the fact that people really want to advocate from one point of view and you have two teams, sort of taking a point of view and the decision maker hears the best arguments. Development organizations could also do a better job with peer review. I think we try and get at this problem of slower thinking with peer review but it tends not to be anonymous. It tends to be we find our friends, our colleagues who we have worked within the past to sort of review our work so that's a set of things that could be done and another bias that development professionals are subject to and experts generally are subject to is that we may have different and incorrect models of how poor individuals think and behave. So we asked World Bank staff to predict how poor individuals in Nairobi and Lima and Jakarta would answer a set of questions. One of them was about whether they feel in control of their own lives or whether they feel helpless, another was whether vaccines are risky because they can cause sterilization. World Bank staff estimated that about 42% of poor individuals in Nairobi would agree with the statement that vaccines are risky because they can cause sterilization and in fact they are just 11%.

Owen Barder

Right.

Varun Gauri

So we don't necessarily – we have good measures of poverty but not necessarily of mindsets.

Owen Barder

Right.

Varun Gauri

And that – if we believe mindsets are important then we should actually measure them in our work and begin to become aware of how people think and choose.

Owen Barder

So an interesting part of the report to me because I am very interested in the notion of adaptation and evolution of project management was the idea that part of the answer to this might be more adaptive project management, less planning at the beginning less of the kind of log frame or theory of change approach and more trying stuff seeing what works and letting the project evolve.

Varun Gauri

Yes.

Owen Barder

Is that a more promising avenue than trying to have the individuals in the World Bank or in DFID or in other organizations overcome their cognitive biases, is it better to try and take their cognitive biases out of the equation as best we can, tell me how that's going in the World Bank and what can be done there?

Varun Gauri

Yes. I can't say which is more promising. I think you'll find cognitive scientists who say to you that it's very hard to de-bias people on an individual level.

Owen Barder

Right.

Varun Gauri

And maybe we need to sort of harness groups just to reinforce when it becomes part of a group standard routine you sort of reinforce the contrary action for individuals. So we are interested and we do make the case in the report that we need more adaptive interventions and more adaptive design, we need to sort of think about mindsets and cognitive limitations in designing projects and sort of really carefully diagnose what our problem is and think about the behavior in that stake so it is not just, people don't go to school but they are scared to go to school because of the threat of violence, sort of really get at what's underneath it.

Owen Barder

But I wondered whether we just by doing, by going for the adaptive version, we don't just shift the problem to our biases when we make the adaptations so if something isn't working and we are trying to figure out why it's not working to adapt the intervention to make it work better and if we are bringing all our biases to the table in understanding what's working and what isn't working and making choices about how the program adapts and evolves then it seems to me we're still constrained by our biases.

Varun Gauri

It could be but evidence helps. To give you an example, there is a nice set of experiments on water that the Poverty Action Lab conducted and there were three different treatments and three

versions of intervention which were used to get at – getting people to consume cleaner water. In one, ground springs were protected with concrete and pipes. In another, chlorine was delivered to their home, so that individuals would de-chlorinate at home. In the third, a chlorine dispenser was located right next to the well itself. You don't really know which of those is going to be better. You probably – given you may have a strong prior.

Owen Barder

Right.

Varun Gauri

It turned out that what worked was the dispenser right next to the source. Some of the problems with the improved well is that individuals would then collect the clean water in a container which was itself contaminated or would mix it contaminated water at home. Problem with home delivery of chlorine is that people would forget to then keep asking for the deliveries whereas when the dispenser was right near the source, it was a reminder to people to de-chlorinate right when they got there. So, one of the challenges of this area is that we don't have a simple theory..

Owen Barder

Right.

Varun Gauri

In standard economics, you raise prices, people want less and they supply more. It's mostly true and mostly powerful. We don't know if we make things more salient what's going to happen. What does it even mean to make something 10% more salient, how do you measure that and so we need to be relentlessly empirical as a result.

Owen Barder

Right but if we are ourselves subject to these biases and we get data that doesn't fit our mental model as we've just spent the first part of the podcast talking about, we don't in fact adjust our mental model, we stick with our mental model long after it's useful time so as you say evidence helps but it doesn't actually overwhelm our biases very often.

Varun Gauri

Well, there is a set of political economy considerations about evaluation. I mean confronted with this very clear data I think most experts, development professionals would agree that okay we should use the one that's most cost effective and so we should in this instance, you know put the chlorine dispenser next to the source for people in this situation anyway, in this time in place but often we don't have the time or the resources to conduct these evaluations or to then assimilate what they mean and people have written about the fact the political, economic reasons why organizations don't devote enough time to evaluation, sometimes people don't want to know the truth. Other times, there is sort of a lending imperative or there is a sort of publicity imperative of showing success and these things can get in the way.

Owen Barder

So listeners who want to know more about that should read CGD's report on the evaluation gap which both looks at tries to explain why there is not enough rigorous, impact evaluation.

Varun Gauri

Absolutely.

Owen Barder

I want to move onto this question of the role of external actors, development professionals, external aid agencies in nudging, and there has been a lot of controversy, some controversy within our own countries about the role of government in what Cass Sunstein calls libertarian paternalism, there is kind of this notion of benign paternalism that changing the order – putting the salads at the front of the lunch queue rather than at the end of the lunch queue is still giving people a choice, is still libertarian but it is nudging people to do things that are good for them and it seems to me there isn't a consensus about the extent to which we want governments to do that for us.

Varun Gauri

Yes.

Owen Barder

Still less I imagine is there a consensus about the extent of which World Bank staff and DFID staffs should be nudging people in the developing world to do what we consider to be good for them.

Varun Gauri

Yes.

Owen Barder

So can you say something about whether – to what extent do you think it's clear that there is a role for external actors in this – benign paternalism?

Varun Gauri

Yes. You're right to say that there isn't a consensus yet, right and whatever we think of this on philosophical grounds or welfare grounds, we need to be aware that people disagree on the value and validity of external actors nudging, shaping the choice architecture to guide decisions in a certain way. Given that there is disagreement, I think we need to be very clear about disclosing what we are doing and having a public discussion about what's going on and we also need to base these decisions on good evidence so that's sort of the process that I think we would be supportive of, not hiding it, having public discussion and recognizing that there's disagreement and trying to base decisions on solid evidence.

Owen Barder

The hard thing about this is that you're going beyond people's revealed preference and postulating that their revealed preference is not a good indicator of in some sense their underlying preference that what they would choose if their cognitive resources weren't so constrained or if they had more information or they were to step outside their mental models for a while and that's hard to have good evidence. It always sounds dangerous to me when we get into the business of false consciousness of thinking that what people actually choose given a free choice is in some – is in our view not what they would really choose if in a different situation and we are going to nudge them to something else that's quite a hard thing for us to have evidence about isn't it?

Varun Gauri

Well, I guess I would disagree with that a little bit in a sense that a good chunk of what we are talking about here are helping people obtain their already expressed goals. If you send someone a text reminder to take their HIV AIDS medication weekly, it may bump up compliance with the treatment regimen from 40% to 53% right. That person has already got the medicine they're just forgetting to take it.

Owen Barder

Right.

Varun Gauri

If someone tells you they want to save money and they just sort of don't necessarily save – a reminder, is sort of helping them along in something they have already decided they want to do. Similarly, commitment mechanisms in which people sign up to suffer a penalty if they don't save or don't eat healthy are optional. People don't have to sign up for them but they do and when they do, they then are helping themselves achieve their goal so a good chunk of what we are talking about is in fact consistent with revealed preference. Another point is that there maybe situations where things are somewhat more ambiguous but there is no as Sunstein and Thaler write, there is no neutral here sometimes right. There is no, if you're setting up, if you're communicating with people, or if you're setting up a program in which you're signing up for a water hookup or a health program, you can make it complicated or easy, right. Why not make it easy to sign up. If you're setting up a default option, default options for savings are well known. You have to either say you automatically enroll in retirement savings or you don't or you automatically have 10% of your paycheck saved or 2% of your paycheck saved. Someone has to set that and so given that there is no way of not nudging, you might as well do things in ways that are consistent with people's own interests, the libertarian paternalist would say but then also allow people to then opt out if they in fact want to save 11% towards savings so that's another chunk of things we are talking about.

Owen Barder

There's something uncomfortably unaccountable about technocrats from the World Bank and I am not having a go at the World Bank or DFID or USAID or anybody else from the outside being influential in setting the defaults right. I mean isn't setting the defaults part of what a community should do for itself.

Varun Gauri

Yes.

Owen Barder

Whether it's pension opt-outs or all the things we are talking about. There is something uncomfortable about the idea of unaccountable outsiders doing this, isn't there?

Varun Gauri

Well it is sort of a loaded question I think. I mean we have to be careful not to reify community, right. I mean it is not as if there are no conflicts of interest within a community and if someone is setting the defaults in a community, it is not obvious they are going to choose the one that's welfare maximizing, they might do it to benefit certain parties and not others and of course it is important to work with governments, with civil society organizations and with communities also to work out what makes sense. You can't come at this without evidence and one of the crucial pieces of evidence is what people themselves say they want and then just the final point...

Owen Barder

We come to – as you said yourself we come to this with our biases too but the danger is that we are setting the nudges and setting the defaults according to our, you're absolutely right and within a community there are constraints and biases and interests.

Varun Gauri

Right.

Owen Barder

As there are in our communities?

Varun Gauri

Yes. So here's what where we come down in the report which is that it is sort of Amartya Sen capabilities, view of freedom and human rights which is that we should be using this to support basic widely agreed upon human capabilities and we want people to be healthier. We want people to go to school. We want people not to be poor right. In some sense, the World Bank's mission to end poverty is a paternalistic mission right, you can't get around that, development is a paternalistic project. If you disagree with it, well then let's have a different conversation but if you buy into it then on some of these core questions, I think we can say there is wide agreement and we shouldn't feel shy about doing it. It's also the case that it's not as if choices are unconstrained absent outsider or government coming in. There is a nice example in the report about in Tanzania, people decided to get people to sign up for community health insurance at the time they had money rather than when do you sense to have a campaign to get people to sign up. Why not do it when they have some cash after harvest and you might think well that's sort of taking advantage of them but if you hadn't been asking them to sign up for community health insurance, other vendors would have been selling their wares to these people with advertising, with influencing, taking advantage of it so it is not as if the World Bank and governments and DFID and everyone else steps back, there is going to be free sovereign individuals making totally uninfluenced choices, there is the private sector. There is lots of other people involved and why not, do it for the public good.

Owen Barder

So, and coming to the final question which is about the place of this in broader development policy.

Varun Gauri

Yes.

Owen Barder

There was a blog I think by Jeffrey Hammer on one of the World Bank blogs. Incidentally, the World Bank blogs if people are not reading them are just a terrific model of how organizations should communicate and think publicly and so he said – I imagine that you thought it a fairly disobliging blog post which said that he had been at an IGC, an International Growth Center Conference where the Chief Minister of Punjab had criticized an economist for offering these small scale tweaks of the kind that we are talking about, although you have made the case that they're bigger than that makes them sound. When what he really needs is help with making big decisions and the big financial resources, how much should I be spending on education? Should we be investing in a dam or infrastructure and these are – do you feel as if through this report, the World Bank is drifting away from addressing what Lant Pritchett here at the center would call the big development questions – the things that we ought to be engaged in, in favor of, I hesitate to call them second order things but things that look less – that are more to do with improving people's welfare in whatever situation they are in and less to do with driving big social economic change in developing countries. I mean is there a sense in which this is a sideshow?

Varun Gauri

Yes, that we certainly often get a question like that and a couple of points. First, many of these interventions are relatively low cost. We've discussed this – tweaking a letter, sending a reminder, setting up a commitment device, showing a movie, self-affirmation exercises, so why

not do this as well as everything else right. They are not necessarily rivals. We could sort of say well, we need to figure out a successful growth strategy for a country. We need to figure out how to make governance work which I believe in but good luck with that. While we are working on all that, why don't we go ahead and make our current projects and programs more effective for relatively low cost, all right that strikes me as relatively uncontroversial. It is not displacing the Chief Minister of Punjab's question but saying look, let's work on that but also do this.

The second point is that as I said earlier, it may be the case that this agenda provides important insights for the chief minister's question. We are not quite there yet but we know we may and this was posed to us, and Ravi Kanbur when we presented the report once said well, look tell me why China is China? Right that's the big question. It is not really about this kind of stuff and it is a fair point. At the same time, when China moved towards parts of private property, it didn't do so radically, it sort of was cognizant of social realities and privatized and kin groups and in small collectives and was – some of the moves there were, obviously the report wasn't written and behavioral economics wasn't around, but the idea of social relationships has been around for a long time and so it maybe the case that large scale growth strategies themselves might be informed by this. Things like law abidingness and trust in government may be informed by this as well so I think that the large questions also may eventually benefit from this research agenda.

Owen Barder

You've been listening to Development Drums with me, Owen Barder, from the Center for Global Development and my guest today has been Varun Gauri, the Co-Director of this year's World Development Report, Mind, Society and Behavior; and if it isn't obvious from the conversation, please do go and read this. It's available online and at a small number of good book shops. Varun, thank you very much for coming on Development Drums.

Varun Gauri

Thanks, Owen. I enjoyed it.