



Richard Thaler on *Misbehaving*

13 June 2016

Research Report Series
Behavioural Economics in Action,

**Rotman School of Management
University of Toronto**

Correspondence and Acknowledgements

For questions and enquiries, please contact:

Professors Dilip Soman or Nina Mažar
Rotman School of Management
University of Toronto
105 St. George Street
Toronto, ON M5S 3E6

Email: dilip.soman@rotman.utoronto.ca or nina.mazar@rotman.utoronto.ca

Twitter: @UofT_BEAR
@dilipsoman
@ninamazar

Introduction

The Behavioural Economics in Action (BEAR) was honoured and delighted to host Professor Richard Thaler on 18 May 2016 as part of its speaker series. Richard Thaler is the Charles Walgreen Distinguished Service Professor of Behavioral Sciences and Economics at the Booth School of Business at the University of Chicago. Along with Amos Tversky and Danny Kahneman, Richard is widely recognized as the founder of the discipline that we now call behavioral economics. Thaler has also been the inspiration to much of the work we do here at BEAR.

Thaler is the author of “Nudge” along with Cass Sunstein, as well as “Misbehaving.” The 18 May event featured him in conversation with Amanda Lang about the **Misbehaving** book. Amanda Lang is one of the world’s top business journalists. She is currently the host of Bloomberg North with Bloomberg TV Canada. Prior to joining Bloomberg, she was CBC’s senior business correspondent.

The Honorable Minister Deb Matthews (deputy premier of Ontario, President of the Treasury Board and the minister responsible for the poverty reduction strategy) made opening remarks about some of the work that the Ontario Behavioural Insights Unit (BIU) has been doing, and thanked Professor Thaler for his work in pioneering the field.

This report presents a transcript of the event that was attended by over 550 people at the Desautels Hall in our Rotman School building.

Remarks by the Honorable Deb Matthews

I have to say, it's wonderful to see so many people here who care about this topic, and delighted to welcome Richard to Toronto. I told him I heard him on the radio on the weekend; he's done more media today. This is a man who toiled for decades in the wilderness trying to convince people that humans are not entirely rational. He has gone from one of those toilers to a superstar since the publication of "Nudge". We are just delighted that you are here, and delighted that you are inspiring us to do work that we are doing here in Ontario. I'm going to talk a little bit about that.

We are working really hard in Ontario to build a government that is modern, that incorporates insights from behavioral science into our policy-making progress. We were one of the early adopters of behavioral insights; we established our Behavioural Insights unit three years ago. It's a small but mighty team, and some of the members of the team are here. We've got a great team of people who are really dedicated to use these insights for the public good.

We have a small but mighty team, and one of the reasons we've been able to have the impact we have so far and more to come is because of our partnership with BEAR at the University of Toronto. I want to say thank you very much to Dilip [Soman] and to Nina [Mazar]. We are so grateful for the partnership we have with you, because we can do more together than we can separately. Thank you.

We have conducted a number of behavioral insights pilot projects. The results have been impressive. In fact, so successful that we are putting them into action province-wide. I want to stress that these pilots were very carefully designed, that they were executed in a way that can produce scientifically valid results. We designed different interventions based on different B.I. principles. We tested them through randomized controlled trials, we carefully analyzed the results, and then we used those findings to implement changes on a wider scale.

I have just a few examples that I'm going to share with you now. The first example is license plate sticker renewals. You know, the little stickers you have to put on your car when it's your birthday? We have been encouraging online renewals since 2013. We were the first province to actually allow you to renew your driver's license online. Then we wanted to get people getting those stickers online.

The problem was only about 10 percent of Ontarians were actually using the ability to purchase online. This is an area that would benefit both people and government, because we actually save quite a bit of money when people renew online. For people, it takes just a few minutes to do it online. If you include the time it takes to get to the Service Ontario Center and stand in line to do your work, it will take at least an hour to do that.

We made a number of changes to the sticker renewal notification, the card that you get in the mail telling you, "Happy birthday, it's time to renew your sticker." We made changes. We highlighted key information with color to draw attention to the online renewal option, emphasize the benefits of renewing online -- it's cheap, it's easy and safe.

What were the results? It was an eight-week pilot. Over 13,000 more renewals were completed online, a 42 percent increase, with those rather subtle changes. The pilot actually saved us money; we saved more than it cost us to do it. We do know that we could shift over 200,000 transactions online as we roll it out across the province, and that is what we are now doing, rolling it out across the province.

The second example I want to share with you is one that is very near and dear to my heart, and that is organ donor registration. The sad reality is that today we've got about 1,500 people waiting for an organ transplant. Every three days, one of those people die waiting for a transplant. We know that the vast majority of Ontarians say that they would, they actually do want to register to be an organ donor, but only about 25 percent of people actually have taken the time to do that.

How could we use B.I. to increase organ donation registration? In partnership with Trillium Gift of Life, Service Ontario and the Ministry of Health and Long-Term Care, we ran an eight-week trial at a large GTA Service Ontario center. We made four key changes to the process. We shortened the registration form considerably.

Here is the "before." Now here is the "after." We also produced it on card stock, not just paper, which makes it feel a little bit more important. We handed out the form when people arrived rather than giving it to them when they were at the desk, so that they could actually think about it and fill out the form while they were waiting in line.

We tested a number of "nudge" statements at the top of the form that were designed to tap into people's emotions. The line that worked the best was one that we stole from the U.K. Nudge Unit and it was, "If you needed a transplant, would you have one?" Of course, most people would say yes, then the logical thing is that you register to be a donor.

What difference did it make? Registration rates during the trial at a single Service Ontario center increased by 143 percent. When we implemented these successful messages, or when we implement these successful changes province-wide, which we are doing, we would garner over half a million new registrations in Ontario in one year, more than twice the previous year.

The new shorter form took about 2 ½ minutes less to complete; over 100 more people registered to be a donor at the center. Obviously, the more people who register, the more lives we can save. In 2015 and '16, if every potential donor had been registered, we estimate we could've saved 1,200 lives. That's your work, Dr. Thaler, in action. We are taking this provincewide and lives will be saved as a result.

Another completely different example is about the underground economy. We've got a big problem when it comes to the underground economy here in Ontario. In fact, we estimate -- and we have to estimate because it's underground -- \$15 billion in lost economic activity. The residential construction sector is about 30 percent of that underground economy activity, so about \$4.5 billion in annual underground economic activity in that sector.

We also know that about 1/5 of home renovations in Ontario take place in the underground economy. As anyone will know if you have put a deck on or had any work done at your

home, you will know they give you the cash price first, and then if you tell them you actually want to pay tax they look at you funny. We know that to be true.

It also puts homeowners and workers at risk. Without a contract, homeowners expose themselves to scams, to legal liability and to poor workmanship, and workers are put at risk because these businesses tend not to provide proper training, equipment or insurance. Nonetheless, it's quite socially acceptable to pay cash for these home renovation projects.

We worked with the Ministry of Labor, we ran a pilot focusing on roofing, which is of particular concern to us because of the safety issues around roofing. The pilot focused on online advertising as a means of driving awareness about the underground economy. We tested 16 different online ads -- 8 on Kijiji, 8 on Google -- in the places where those operators reached consumers.

After testing, we discovered two ads that were the most effective. We carefully crafted the wording of each one in order to tap into potential motivations. Each ad directed the viewer to the Ministry of Labor's website. Over the course of the month-long trial, the ads increased visits to the Ministry of Labor's website, a 144 percent increase. If only 1 percent of people who visited this site decided not to participate in the underground economy, we would pay for the campaign itself with increased HST revenues, not to mention better working conditions and better safety.

We are just at the beginning of our B.I. journey. We are very eager to build on this and discover the full potential. I think that's limitless. One area where I'm watching very closely is our recent announcement in the budget about free tuition for low and moderate income families of students who live in low to moderate income families -- free tuition.

What we need to do, though, is we're making the policy changes to make that possible. Now we have to drive behavior. There's a strong sense that university or college is not affordable. That's a deeply ingrained perception, and we need to bust that myth. We will do it using behavioral insights principles.

Enough of these examples. Now the reason you're really here is to listen to Dr. Thaler. Without further ado, I will turn it over to Amanda Lang and Dr. Thaler. Thank you.

Richard Thaler in Conversation with Amanda Lang

Amanda Lang: Thank you, Minister.

[To Thaler] I must say, one of the things that struck me first, but also most about your book was in the introduction. That is when you admitted that you're fundamentally lazy.

Richard Thaler: Well...

Amanda: That possibly you've really just pursued, and this book may just include the things you find interesting.

Professor Thaler: My so-called friend, Danny Kahneman, accuses me of being lazy. I tell the story in the book, there was a journalist who wrote an article about me. He interviewed Daniel Kahneman, my mentor and dear friend. It turns out, I was visiting Danny and he said, "Oh, this is embarrassing. This journalist is supposed to call and interview me about you, and you're sitting here. What shall we do?" He says, "Actually, why don't you stay? Just be quiet."

I open a magazine and start reading. Then I hear Danny saying to this journalist, "The best thing about Thaler, what really makes him special is that he is lazy." I'm going like this, "You know, Danny -- you know, maybe admit I'm lazy, but is it the best thing about me? Can't you think of anything else?" If Danny Kahneman says I'm lazy, I must be.

It is true I struggled. This isn't the book I set out to write. I had a contract to write a book with a different title and a different structure. This is the book I could write. Basically my rule was if it didn't amuse me, I didn't put it in. That made it easier for me to write it, and I hope that makes it more fun to read.

Amanda: It feels relevant to me. You said to me earlier today that you weren't very good at standard economics as it was being taught to you when you were a youngster, and that is maybe why your brain strayed to these, which is a very self-deprecating way to say, "I invented a new category." There is something in that: You didn't like it. There was something about the Chicago School, there was something about that kind of model you were being given that didn't sit well with you. Why was that?

Professor Thaler: It wasn't totally self-deprecating. My thesis advisor, Sherwin Rosen, was quoted in the New York Times. I think maybe in that same article, the same pesky journalist interviewed my advisor who said, "Yeah, in graduate school we didn't expect much of him." I think I wasn't that good at doing that kind of economics, but maybe partly because I just didn't believe it.

The standard economic models that we study in school, they might as well be about unicorns. They're about people who are as smart as the smartest economists, or possibly even as smart as the smartest economists thinks he is -- and yes, I have someone in mind for that category. These people have no problems with willpower. They eat exactly the right amount, they save just the right amount, and they're complete jerks. If I see you drop your wallet, I'll just stay quiet hoping you won't notice and pick it up and go have fun.

That's *homo economicus*. I call them econs, and I don't know anybody like that. Most of us have given up on balancing our checkbooks because it's either too much of a pain, or we don't remember how to do it. People have trouble saving for retirement. Too many of our population are obese; they're humans. My goal for the last 40 years or so has been to introduce humans into economics.

Amanda: You mentioned – you call him Danny, but I think of him as Daniel Kahneman. Your collaboration, it was epic for both of you. How did you inform – he was a psychologist, you were an economist, you kind of crashed into each other and made the Reese's peanut butter cup.

Professor Thaler: Well, I stalked him. He and Amos Tversky were a team. They were both living in Israel. I claim to have discovered them; it's probably my greatest scientific discovery. I read a couple of their papers and found out they were going to be coming to the United States for one year. This was 1977 or '78. We're coming up on our 40th anniversary. I decided I needed to get to Stanford somehow.

I went up there and begged and pleaded, and finally got somebody to put me on a grant. When they arrived, I was there ready to pester them. Kahneman was just up the hill from where I was working. I would wander up the hill and talk to him and talk to Amos. The good thing was that they knew psychology, about which I knew almost nothing. I did know some economics, and they knew really nothing, so there were gains to be made. We also got along very well, so it turned into a 40-year friendship with one, and sadly 20 for the other.

Amanda: As you develop these theories, and I think most people are now – it's so popularized, some of the different theories around behavioral economics and our internal quirks. It's easy to forget what you went through as you were developing them. You were saying to the people who were really – the way I put it to you earlier, it's like that old story of the drunk looking for his car keys under the lamplight even though he lost them in the bushes, but the light is here.

We like our models. The rational school made sense, it made people comfortable, it gave us answers. We like answers. You were there saying, "No, we're not rational. You can't actually make predictions based on our..." What did it feel like in your community of economists?

Professor Thaler: The first stage was to get them engaged in a conversation at all, which was hard. The first paper I wrote, I think was rejected at seven journals.

Amanda: What was that about, that first paper? Do you remember?

Professor Thaler: It's called "Toward a Positive Theory of Consumer Choice." It really has the essence of all of behavioral economics in that paper, but it had no data. It had thought experiments. I thought they were so convincing that you didn't really need any data, and that was naïve. Eventually there was a new journal starting, and I was desperate enough to get this out and work on a second paper that I submitted to this new journal. They were desperate to have something in their new journal, so I started there.

Then there were excuses. There is a section of "Misbehaving" that I refer to as the gauntlet, which was the series of one-line putdowns that were good reasons to ignore everything I was saying. Actually, my friend Matthew Rabin, who is a behavioral economist at Harvard, has come up with a cute annoying term for these that he calls "explainawaytions." I've stolen this term.

One of the "explainawaytions" was a two-word phrase, "as if." When I was starting this in the early 80s, if you were an economist you could just say "as if." It was like a Jedi mind trick. You say "as if," and then the conversation changes.

What is this magic phrase, "as if"? It goes back to Milton Friedman, who wrote an essay saying, "Look, it doesn't matter that the assumptions of economics are unrealistic. What matters is the predictions that the theory makes." Then he gives this metaphor. He says, "Suppose there's an expert billiard player who shoots as if he knew physics, and geometry, and differential equations, and can calculate and will play as if he were optimizing." That was the excuse, that was the "explainawaytion."

I realized later, Friedman was famous for being a brilliant communicator and debater, and this story is a verbal sleight-of-hand that worked for 30 years. What's the sleight-of-hand? Part of it is that he slips in this is an expert. Well, economic theory is not a theory of expert behavior. The behavioral insight team is not interested in motivating experts. You want everybody to renew their license online and to donate organs, not just surgeons.

Yes, expert billiard players play billiards as if they were optimizing. If you go to a bar and watch somebody play, they don't behave anything like they were optimizing. This idea, "Well, we should judge the theory based on the predictions." Fine, I say, let's judge it by that. Anybody

see the movie in which I made my debut? Do you want to think that the theory is really working perfectly?

Amanda: I like the implication that that's the first of many movies for you.

Professor Thaler: Yeah, I'm available. I do demand Selena as my costar.

Amanda: I can see why. That takes you to an important place, because efficient market theory -- a lot of our modeling around financial markets and how people would behavior around financial markets really did collapse around...we really, a lot of people involved were very surprised by what happened. Was that kind of one of the final nails in the coffin the said, "Look, there's something else going on here. People aren't rational"?

Professor Thaler: Yeah, a final nail -- well, there's no final nail, but it certainly continued the process that started, I would say, with the '87 crash. There was a day, October 19, 1987, where stock prices all around the world fell 20 to 25 percent, and it's a day with no news. The only news was that stock prices all around the world were falling. That was the news story. Business journalists like you were desperately calling people like me saying, "Why is this happening?" Nobody had any kind of satisfactory answer.

Then we had the technology bubble of the late 1990s, and then the housing bubble that led to the great recession. These are things that, maybe if they happened every hundred years we can dismiss, but they start happening once a decade. You start to say, "Maybe it's not as if the market was efficient."

Amanda: We've seen governments, early adopters. I loved your book "Nudge" being called a manual for manipulation, but useful tools to get people to do what they would do anyway if only they were seeing it differently. Why can't we reframe our behavior around finances in the markets? Could we get market participants, can we get Goldman Sachs -- can we nudge Goldman Sachs to behave better?

Professor Thaler: I'm not sure about nudging Goldman Sachs, but one thing I think we can do is use transparency. In the financial crisis, those mortgage-backed securities that they were trading in my movie debut, those securities were completely opaque. There were tranches, there were slices of securities that were mortgages, but nobody quite new what mortgages they were.

A proposal I've been trying to push unsuccessfully so far -- maybe we can do it in Canada -- is what we're calling smart disclosure. I would like every detail about every mortgage to be in a file that is accessible to anyone. What does that do? It makes any geek with a computer into a rating agency. You had to pay hundreds of thousands of dollars

to get access to those data. I think that's one thing we can do is better transparency.

I would like it on the other side of that market too. I don't know how it is here in Canada. If you get a mortgage in the United States, there's about 80 pages of forms that you have to sign that I claim no one in history has ever read. I don't think there's a single person that has read that pile of forms. What would I do about that? Same solution. I think instead of giving you all those forms, give you a memory stick or a link to a gigantic file that would have the details, every detail of that mortgage.

What would you do with that? You wouldn't look at it. Click on it, upload it to a website -- I call them choice engines -- upload them to a website, we'll call it MortgageHelper.com that will look at that mortgage and say, "No, you don't want that one. On page 92 of form seven, it says blah, blah, blah. You don't want that. If you want a mortgage like this, here are three other ones that don't have these hidden features and actually are cheaper." I think there has been a little progress in some domains in the Obama administration on this front, but there's a lot more we can do.

OSHA, the Occupational Health & Safety Administration has just posted all the injury data online. I'll stop on this rant in just one second, but will I give you my favorite example of this, which is government releasing data they already have and miracles occur, and that's GPS. Where does GPS come from? It comes from U.S. Defense Department that put up satellites. Then in the Clinton administration, they decided to make that data available to anyone. Now everybody has something way better than a map on their phone. It cost the government zero to make that data available. They didn't write any of the software; they wouldn't be any good at it, but I was really good at it and we don't get lost.

The other thing, the reason I bring up GPS is it belies a common false criticism of nudging. That title was a great title, but there's a slight misconnotation, which is that it suggests that we're trying to push people to do something that they don't want to do. Notice on GPS, you plug-in where you want to go, and actually you don't have to follow the advice of the app. You see that traffic has stopped, you can go a different way. That's the world we want to create is one that's easier, make it easy.

The behavioral insight team in the UK, every meeting I had with the minister I always kept saying the same two things. One, if we want to help people do something, make it easy. Two, we can't do evidence-based policy without evidence. These became the team mantras. Make it easy -- sing it to the Eagles song and then you'll remember it. That's the trick. Signing up to get your sticker online is easier. We're not

making anybody do anything that's bad for them, we're just reminding them that there's an easier way to do it.

Amanda: Let's talk about sludge.

Professor Thaler: Sludge, yeah, this is my new favorite word. Sludge is my term for the gunk we're getting out of the way to make things easier. Consider the change in the organ donation signup form -- that was excellent sludge removal, right? If we can have a short form versus a long form, let's do it.

Here's a policy that a colleague of mine has pushed in the U.S. -- I don't know whether you could do it in Canada. It would be for everybody with a simple tax return, just send them a first draft already filled out. It would be anybody with no outside income or claim deductions. You would get the form, and there are some Scandinavian countries, you can file your tax return by text message. You just say, "Okay."

That was proposed in 2009. Why didn't it go through? Two people, H&R Block. They blocked it. TurboTax helped. There's a lot of people making a lot of money helping people fill out a form that they shouldn't have to fill out, because the government has all the data. I'm sorry to use U.S. examples, but I'm guessing there are comparable ones everywhere.

The student loan application forms in the U.S. are notoriously difficult. One of my assistants told me it was the hardest thing about getting admitted to college was filling out the application. The loans come from the government. What's the information they need? It's the income of the parents. Who knows that information? The government. Okay, guys, you know, you could fill the form out and done.

We're trying slowly to remove the sludge, and that's really what a lot of this is all about is just making stuff easier.

Amanda: All of this is about our weaknesses, human weakness, a whole series of them that this school has identified over time. Is it your experience that once people are aware of their weaknesses -- and you can speak in the first person if you like.

Professor Thaler: As a lazy man.

Amanda: As they are able to overcome them?

Professor Thaler: No. It helps. Look, no. Obviously, no. Everybody who is fat knows they're fat, and most of them would like to be thinner. It's not a big news event when the doctor tells you that you're 30 pounds overweight. so that's not enough. It can help.

Amanda: Sorry, I'm going to just stop. That's a bad example. Forgive me, I think that's a bad example because weight is so – there's a whole bunch of different stuff that may factor in.

Professor Thaler: Easy for you to say.

Amanda: It's emotional. Anyway, the example that behavioral economists use is you wouldn't pay somebody \$10 to mow your lawn because you want to save the \$10, but if your neighbor offered you \$20 to mow his you'd tell him to get lost. We're not rational. When we're aware of those moments of irrationality, we can put names on them. I know there's a whole bunch of people trying to make this -- can we get better at this? Can we actually sort of flag it and say, "Oh, I'm being..." That's the endowment.

Professor Thaler: Yes, we can get better. I would like to think so. I've been teaching a course in managerial decision-making for 30 years, people like Dilip [Soman] have taken it and made it better. We would like to think that at the end of that course, people are a little better. Knowing about overconfidence helps, but it doesn't solve the problem.

Let me say something kind of depressing. One solution people have is we should improve financial literacy. It would be hard to make it worse. Financial literacy, the general population gets an F even with grade inflation. The sad truth is that courses don't help; they have small effects that vanish. Why is that? Think back, how many of you remember 10 percent of your high school chemistry class? You can't raise your hand if you're a chemist or a doctor. I don't want to see Redelmeyer raising his hand.

Most of us don't remember what we learned in high school. The evidence is what we need is just-in-time education. When somebody is applying for a mortgage, that's a good time to teach them. Yes, we should -- I mean, I think we ought to add net present value to high school curricula. I'd be happy to get rid of trigonometry. I think that would be a good trade-off, but we shouldn't fool ourselves into thinking that they're going to remember how to do it later.

Amanda: What are you most proud of? You're not allowed to say the increase in online sticker renewal in Ontario.

Professor Thaler: That's my second most. Look, I think the practical domain in which we've had the biggest impact is the redesign of retirement plans. In the U.S. -- well, worldwide we've switched from the old-fashioned defined-benefit pension plans that our parents had to defined contribution plans. We have put humans in charge of figuring out how much to save and how to invest it, and they're not very good at it. We had only half the people joining plans. Even if they joined, they

weren't saving enough.

Three behavioral interventions have helped a lot. One is automatic enrollment, you just change the default. That raises the sign-up rate to 90 percent. The U.K. is in the process of rolling out a nationwide defined contribution retirement plan that uses automatic enrollment. It was very controversial when it was announced five or six years ago. The opt-out rate is less than 10 percent. so this really works.

The second is "save more tomorrow" is my name for it, which is allowing people now to increase their contributions later, because we will all have more self-control later. Then the third was the creation of good default investment plans like target-date funds, because people aren't very good portfolio managers.

Now in the U.S., half the big companies use these three things, and that's helping a lot. If I had to point to one thing, it would be that.

Amanda: Not pioneering a whole school of thought?

Professor Thaler: Well...

Amanda: Sorry. We're going to open it up to your questions now. Have we got any in the room? There are microphones, they will come to you when you put your hand up. I asked you earlier where you see all of this going.

Professor Thaler: The answer I gave is that I hope 50 years from now, the field of behavioral economics doesn't exist, because economics will be as behavioral as it needs to be. There's some hope of that, that some of the very best young economists in the world are doing behavioral economics when that's required. I see that happening, whether it will be 50 years or not. I won't be around, but some of you will.

Amanda: Question over here?

Male Questioner 1: Thank you, sir, for both your publications and your contributions to a very important movie.

Professor Thaler: Thank you. It was my proudest accomplishment. I left that one out.

Male Questioner 1: My question is regarding the examples that you gave of problems with government. In defense of government -- and there are too few people that seem to wish to do that these days -- I'm wondering if you would comment on the impact of privacy legislation on government's ability to share, within departments, information about individuals and the whole movement that exists in Canada, as particularly in the United States, that fear government information and sharing information. Even the judicial branch making great restrictions on

government to share information, and how this may impact our ability to, as you described for the student loan application, for example, to share information about individuals to assist individuals.

Professor Thaler: It's a great point, and there is a tension.

Amanda: I would be freaked out if the government sent me my tax form filled in.

Professor Thaler: Why?

Amanda: I'm irrational.

Professor Thaler: I rest my case. Here's one of the foremost financial journalists in the country. Look, they know what you made, right? If you send it in wrong, they're going to correct it. You get a letter saying, "You forgot that speaking appearance. Here's what you should've paid."

Amanda: Innocent example.

Professor Thaler: You know, the 50 grand you're getting paid today, you just forgot to report that. The thing I'm talking about wouldn't start with people who have a pile of this, it would start with people with one job and no deductions. All the information is on a single form that the government has, and they're going to make those calculations. Why not do it before?

The gentleman's question is absolutely right, and the inability to share information makes things really complicated. One of the reasons that the Affordable Care Act, so-called Obamacare, is so convoluted is that -- I won't get into the deep weeds here, but the eligibility depends on the income that you earn this year, which isn't known. You can see, the government is getting data because your employer is sending Social Security payments and withholding every few weeks, or I don't know how often they pay.

There is a branch of the government that has that data, but they're not allowed to share it with the part that's administering the health care plan. People that go in and out of the labor market, it's a complete nightmare to deal with them. I don't know how we do this trade-off, but it's a big source of sludge.

Let me just say one other thing, which is there's plenty of private sector sludge out there too. I'll give one quick example. The first review of "Misbehaving" came out in a London newspaper. My editor sent me a link and said, "Your first review is out. Here it is." I click on the link, I'm very excited. I read the first paragraph and then I get to a pay wall. "Oh, damn." They say, "You can get a one-month trial subscription for 1 pound."

I'm impatient. I can afford a pound, but I wrote that other book so I read the fine print. The one month to cancel, you have to give 15 days' notice. This is a funny month, right? To cancel, you can't do it online, you have to call London. Not on a toll-free line, during London business hours, and there's probably one person there answering the phone. I told my editor he should sign up.

There's sludge everywhere. The airline that I fly most often tries to sell you trip insurance every time you fly. You can't buy the ticket until you tick one of these boxes, yes or no. Yes is recommended. I wrote a column about all of this in the New York Times recently. I checked, suppose you buy a completely refundable ticket. Trip insurance is useless, right? It's still recommended and the price is higher. The government is not the only source of sludge. There's plenty of private sector sludge out there, and we want to clear as much of it as we can out.

Amanda: We have a question up here.

Male Questioner 2: Yes, hello. I would be interested in your views on behavior and depth. As you may know, in Canada at the moment, we have very high levels of debt both in the private sector and in the public sector. The province of Ontario apparently has the highest level of debt of any Western jurisdiction on the planet. Our new government in Ottawa campaigned on the notion that increasing debt is a good idea. In the private sector, we have highest levels of mortgage debt that we've had in our history -- auto debt, credit card debt and the like. As I understand it...

Professor Thaler: Let's get to the question.

Male Questioner 2: The question, therefore, is, what does your theory of behavior tell us about how a population, large pools of people, fall into these trends of debt is okay, even though we know the history is that it ends up in financial crises, bursting of bubbles and it's ultimately bad for us?

Professor Thaler: Let me say -- I'll try to answer that quickly. One is to say, yes, leverage was a big problem in causing the financial crisis. However, I think the single dumbest thing governments have done in the last eight years is not commence a massive infrastructure building campaign with debt. We have negative interest rates in real terms. In some countries, they're nominal negative interest rates. If you can borrow at negative interest rates and you have 10 percent unemployment, and 20 percent unemployment in the construction industry, and you have thousands of bridges that are going to be falling into rivers, why aren't we fixing them six years ago?

Audience Member: Here, here.

[applause][57:31]

Professor Thaler: That would have required taking on even more debt, but you know what? It's going to cost twice as much to build those bridges when they start falling into the rivers. We have to be sensible, but when we're in a crisis people get afraid of debt, and especially a crisis that was caused by excessive debt in some sectors, but we have to be forward-looking. I'm no expert on the balance sheet of the Ontario government.

Amanda: But I don't have to tell you, it's not the worst in the Western world. I don't have to correct that. Do I, anybody?

Professor Thaler: I suspected as much on. Illinois may...

Professor Thaler: There's off-balance-sheet stuff, so if we included the unfunded pension liabilities in Illinois, I can give you a run for your money.

Amanda: We're definitely not Greece here, that's for sure.

Male Questioner 3: Talking of predictable...

Professor Thaler: Actually, if questioners could stand up.

Male Questioner 3: Sure. Talking of predictable events. If the Greenland ice sheet melts, we know the sea level will rise by seven meters. What behavioral nudge would you recommend to get people to sort of do something before that happens?

Professor Thaler: That's a great question.

Amanda: Feel free to say "as if."

Professor Thaler: Look, my first answer is going to be the one I would give as a traditional economist, which is we should have a carbon tax, plain and simple. Let's get the prices right. It's true that ideally we would do that globally. Many of these problems would be easier to do if we could have global solutions. The recent treaty, which sounds useless because it's not binding, I think is not useless because research on cooperation shows that humans can be characterized as conditional cooperators. That is, I will cooperate with you if I think you're going to cooperate with me.

Even agreeing in principle that we're going to take this seriously, and countries like China said things that they have never been willing to say before, that's a step in the right direction. There are also many things we can do on the nudge front. Look, we can replace the

thermostats in most homes that were invented by the people who invented VCRs, meaning they're unprogrammable. I live in a two-PhD family, and we can't do it. Right? There are thermostats that just figure it out. There have been some experiments that just giving those away reduces energy consumption.

Technology is going to be the answer to many of these things. In health, it's going to be huge. We're not very far away from embedding a chip that will monitor your vital functions and adjust your glucose automatically. There's lots of things we can do with technology that will help us, not just in nudging, but in just making life better.

Amanda: You made the point about H&R Block, the lobby, the corporate systemic embedded interests. Because human beings, based on your own field of research, are kind of sort of driven by these weird irrational impulses. We're not thoughtful and we're not logical. Those groups, organizations, can really take advantage of us and they do. How do we collectively – I don't know if nudge is the right word for it, but how do we overcome the embedded interests when we're trying to do something like combat climate change?

Professor Thaler: Again, this term "smart disclosure." I think disclosure can help a lot. There's a company, I'm sure that you have them in Canada. In your utility bills, do some of you get a statement that says you're using 3 percent more than your neighbors?

Amanda: Yes.

Professor Thaler: That's run by a company called Opower, it's a behavioral inspired company. That helps about 2 percent and it costs nothing, so those are good things. We can make public how much companies are polluting, and people will react to that. We can use emotional campaigns.

Let me mention something, because I wanted to remember. You should look at this when you get home, Google "immortal fans." What you'll see is the way to double the signup for your organ donations. It's an extremely powerful video produced by a Brazilian soccer team that – I'll just let you watch it. I showed this at number 10 and people were tearing up. Get the Raptors – you used to have a hockey team here, right?

Amanda: I'm cutting you off.

Dilip: Last question. Canvas somebody with the last question.

Professor Thaler: I knew that was going to -- the Blackhawks are good, you know?

Amanda: Talk about irrational behavior, right? Leafs fans.

Female Questioner: Hi, Richard. Hi, Amanda. I'm over here. Thanks. I just wanted to build on a previous question that was asked about helping government manage infrastructure spend by just maybe having you talk a little bit about the importance of experimentation, and helping governments to manage dollars in the first place. Also, even help governments maybe make nonpartisan decisions.

Professor Thaler: That's a great question. Notice the three examples the minister presented were all based on experiments. We don't know the best way of doing things until we try. I would say the biggest legacy of the U.K. Behavioral Insight Team was the legacy that we're going to test every intervention and see what works, because not everything works. What was the second? I lost my train of thought.

Female Questioner: Experimentation, and also use of funds.

Professor Thaler: It's a very fair point. What people on the right will say when I make my speech about how we should have been doing more infrastructure building is saying, "Well, we would have built a lot of bridges to nowhere." Fair point, but it's the legislature that passes these bills, so clean up your own mess. I agree that it would be better if we're starting to build bridges, if we build bridges to somewhere rather than to nowhere.

We'll never get agreement on what the right priority is, but you could have some process. I can tell you, there's ways to save money that are just there for the taking. One is I know in the U.S., I'm sure it's true in Canada, the government owns vast pieces of land that they're not using, that they can't sell.

In the U.S., one prime area is military bases. If you've ever driven on the coast of Southern California from San Diego to L.A., there's a 25-mile stretch that's called Camp Pendleton. That has beachfront property in the nicest climate in the country, and it goes about 30 miles east. What do they do? They practice tank maneuvers there.

I've noticed, most of the wars we fight are not in 70-degree weather with ocean views. They've got other bases in deserts that are less desirable. That land is worth tens of billions of dollars, but for reasons we don't have time to get into, there's no way for the military to offer that up and say, "We'll give up that base if we could spend it on something else." That's not possible.

I'm sure you've got lots of government buildings on land that could be department stores, and the function that's being done in that building could be done in a less expensive place, but it's holy hell to get

anybody to move.

Amanda: They're very strict about staying on time here, so we have to wrap here. I just want to ask you briefly, to finish with, you really did go from wilderness inventing concepts to president of the American Association of Economists.

Professor Thaler: American Economic Association.

Amanda: Thank you. Back to the University of Chicago, the School of Rational Economic Thought. How does all that feel?

Professor Thaler: Good!