The Ryerson Lecture: Behavioral Economics

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The first Ryerson Lecture was delivered by John Hope Franklin in 1974. The collected Ryerson Lectures represent 45 years of the University's scholarly leadership across the disciplines, and also provide an intellectual history of our broader academic society over that period. This year, we are delighted to have Richard Thaler as our speaker. Richard is the Charles R. Walgreen Distinguished Service Professor of Behavioral Science and Economics, and Director of the Center for Decision Research at the University of Chicago Booth School of Business. He is also co-director of the Behavioral Economics Project at the National Bureau of Economic Research. His paradigm-shifting work, which bridges psychology and economics, exemplifies the spirit of scholarship at the University of Chicago and has earned him a well-deserved place among the University's long list of influential economic scholars.

Richard's contributions to the field were recognized last year when he was awarded the Nobel Prize in Economic Sciences. Richard joined the University of Chicago faculty in 1995 as the Robert P. Gwinn Distinguished Service Professor of Behavioral Science and Economics at the then Graduate School of Business, now, of course, the Booth School. Before coming to Chicago, he taught at the University of Rochester and Cornell University. He earned his bachelor's degree from Case Western Reserve University and his PhD from the University of Rochester. He's a member of the American Academy of Arts and Sciences, a fellow of the American Finance Association, the Econometric Society. And in 2015, he served as President of the American Economics Association. And in recently fast-breaking news, this morning it was announced that Richard was elected as a member of the National Academy of Sciences. He's the author of several books including Nudge: Improving Decisions about Health, Wealth, and Happiness, published in 2008 with Cass Sunstein, and Misbehaving: The Making of Behavioral Economics, published in 2015. Richard's talk today is titled "Behavioral Economics: Past, Present and Future." Richard? RICHARD H. THALER: OK, so about some time last June, I think, I got a call from President Zimmer's office. His assistant called me up, said, the president wants to speak to you. And when he got on the phone, I said, no! Which is my the dean knows that's my standard operating procedure. But then he said he wanted

me to give this lecture. And I decided I couldn't say no to that. So thank you all for coming. And thanks to all the donors and Ryerson mishpucha. And here's what we'll see. So let me start by saying what behavioral economics is, and, I hope fittingly, use a quote from a distinguished University of Chicago alum, namely Herb Simon. He says, "The phrase 'behavioral economics' appears to be a pleonasm," which is a word even University of Chicago students may not know.

It means a redundant phrase. And he explains, well, what would non-behavioral economics be? If you think about it, economics is about the behavior of firms and people and consumers and employees. And they're all people. And so what would this non-behavioral economics be? And Herb answers the question. He says the answer to this puzzle of why we need that adjective is found in the assumptions of neoclassical economic theory. So the core assumption, the thing that drives everything in economics, is the assumption that agents choose by optimizing. And so if you open any economics paper, you'll see a symbol max something. And that's the way the theory starts. So it wasn't always that way. Economics started out behavioral. Let's go to the founder of economics, Adam Smith, who was the first behavioral economist. Let me just give you three quotes from Adam Smith on three topics that behavioral economists have talked about endlessly the first, "overconfidence." Here's Smith, "The overweening conceit which the greater part of men have of their own abilities." What about loss aversion, the fact that we seem to losses hurt about twice as much as gains make you feel good. Kahneman, Tversky thought they discovered that. No. 1759, "Pain is in almost all cases a more pungent sensation than the opposite and corespondent pleasure." So then last, "self-control," a subject that I've studied. "The pleasure which we are to enjoy 10 years hence interests us so little in comparison with that which we may enjoy today." Now, the language may be slightly different if you read modern papers, but the idea these are the core ideas of behavioral economics. And they get attributed to people like me and Kahneman and Tversky, but Adam Smith had them all first. Then fast forward to Keynes, who I claim is the inventor of behavioral finance. Here's a passage from the general theory day to day fluctuations in the profits of existing investments, which are obviously of an ephemeral and non-significant character, tend to have an altogether excessive and even absurd influence on the market.

So this is Keynes' writing in 1936. My friend Bob Shiller, who shared the Nobel Prize with Eugene Fama and Lars Hansen five years ago, won in large part for work documenting the fact that stock prices seem to move too much compared to the movement of fundamentals. And I would say economics was behavioral up until Keynes. I'll come back to that though in a minute. Another early behavioral economist, Pareto, he says, "The foundation of political economy, and, in general of every social science, is evidently psychology." My psychology colleagues are always telling me this. "A day may come when we shall be able to decide the laws of social science from the principles of psychology." I'm not sure we're quite there yet. But then let me give you the University of Chicago view. Now, University of Chicago is not often thought of as a hotbed of behavioral economics. In fact, there was the Journal of Political Economy recently published a 125th Anniversary issue, where they asked various Chicago economists to write short papers. They asked me to write one about behavioral economics. And I will save the page limit was not a binding constraint. But I began with this

quote from exactly 100 years ago by a professor in the economics department, John Maurice Clark. He was the son of a more famous economist, John Bates Clark, a famous award is named after. So here's what John Maurice Clark says. "The economist may attempt to ignore psychology, but it is sheer impossibility for him to ignore human nature. If the economist borrows his conception of man from the psychologist, his constructive work may have some chance of remaining purely economic in character." But if he does not, he will not thereby avoid psychology. Rather, he will force himself to make his own, and it will be bad psychology." Applause is fine.

You know, I So I've been saying for years my former student, Werner De Bondt is here today. And it's thanks to him that I have that quote. I owe him many other things, but especially that quote. Werner reads these kinds of old papers. I don't know where the hell he found it. But it's a wonderful passage. And so since Werner showed me that, I've been saying that behavioral economics is simply borrowing good psychology rather than inventing bad psychology. So let's go back to those assumptions that Simon was talking about. And there are really four. So optimization I mentioned. People are assumed to choose the best option of those they can afford. Second, consumer sovereignty. What that means is that people know what's best for themselves. And in particular, they know better than anyone else could know. And especially, they know better than the government would know. And what that means you never will read in an economics paper, "I assume there are no self-control problems." That sentence has never been written. But it's implicit in every paper. Because the idea of consumer sovereignty, that we choose what's best for us, means that we never choose what's wrong for us, like eating that dessert i having that extra drink or what have you. Unbiased beliefs. There's a large literature in economics called rational expectations literature, that just formalizes something that was always assumed informally in economics, which is that people's expectations about the future are unbiased. Meaning that you couldn't improve on them even if you were as good an econometrician as Lars Hansen. And then finally, self-interest. Economists assume that people are pretty much jerks and only care for themselves. Possibly their family, depending if the family has reciprocated. So this set of assumptions defines homo economicus. And I'd like to eliminate the Latin, and I just call these people well, these fictional characters "econs." So how do econs differ from humans? The people we deal with.

And how big are the disparities? That is really what the field of behavioral economics is about. It's about that. So this is as close to an econ as we have in the literature. He was half human. And the people I study are more like that. Homer has none of those four character well, selfish. OK, so let me pose an obnoxious question. Is the idea of optimization even plausible? I mean, is it a starter, as a model of human behavior? And I would argue no. That Adam Smith had it right, and for the 30 years or so following World War II when economists got busy making their field rigorous, led by people like Paul Samuelson and Ken Arrow and Robert Solow, that whole generation who redid all of economics, but right. Was that a plausible model? And I'd say no for two reasons. One is some things are harder than others. And some people are smarter than others. And economics assumes that we're all equally good at everything. So let me give you an example. Here are some tasks that are of increasing difficulty. Now, the life-cycle theory of saving, if you don't know, is a theory that

says that we figure out at birth, I guess, but let's say upon graduation, how much we're going to make over our lifetime, how we want to allocate that across the lifetime. Then what investments we need to make to do that. And then smooth optimally updating presumably daily, or, if you're really sophisticated, in continuous time. So anyway so let's take somebody really smart, and I figured I would take a local. So Fermi, who is, I am told, a pretty smart guy, he was probably capable of solving the lifecycle model. Unlike me. Now, let's take somebody not as smart as Fermi. OK, so now, what about self-control problems? Again, we have an array of self-control problems. I must say that one of my former students thinks that my PowerPoint skills are inadequate. And she's responsible for these. And you'll see some of her editorial comments in the following. So let's take somebody who had mastered self-control.

And again, the economic model would work perfectly. He would find resisting golf and sharing a '45 Mouton equally easy. Here's her view of So the model was a nonstarter. It couldn't possibly be right. But in 1976 or '75 or whenever I started having these deviant thoughts, me getting up and saying, look, this model is ridiculous, was not a winning strategy. And the attempts I made were met with resistance. In my book, Misbehaving, I refer to it as the gauntlet. And my friend Matthew Rabin has come up with a nice phrase for the one line put-downs that were used for three decades to just say, we don't need to bother with you. So what are they? One, as a university actually both, both of these I'm going to mention have University of Chicago origins. And in particular, Milton Friedman. And the first one has just two words "as if." And I would hear this in workshops. In the early years, I hardly ever gave a workshop without somebody just raising their hand and saying, "as if," and, like, I should stop talking at that point. So there is a passage in a paper that Friedman actually wrote with Savage, where he describes an expert billiards player. And he says that the billiards player behaves as if he knew math and physics. And that model, assuming all of that, would predict very well how he plays. So what do I say to that? Well, first of all, economics is not supposed to be a theory about experts. It's a theory about everybody. The life-cycle theory of saving is a theory about how everybody saves for retirement, not just Frank Modigliani who invented the theory. Well, the problem economists have is that they assume all agents are as smart as they are. When they've spent the last year solving some problem, then they say, uh, now assume right? So I don't play chess like a world champion. I don't play billiards like a world champion. And neither do most of you, I assume. And the second key thing, and my biggest discovery, my biggest scientific discovery, was discovering two Israeli psychologists named Kahneman and Tversky.

Now, you may think they existed before I discovered them sometime in the '70s. But economists didn't know about them, so my discovery counted as a just kind of like Columbus, you know? So the big insight from Kahneman and Tversky is that people make errors, and that those errors are predictable, or systematic. So if errors are predictable, "as if" goes out the window. Because people are not behaving "as if." They're optimizing. They're deviating from that in a predictable way. So the "as if" line was a verbal sleight of hand. Friedman was almost certainly the most brilliant debater in the history of economics. And the two words worked for a long time. Now, another argument that I would often hear,

especially in the early years when the data we had was mostly from laboratory experiments, people would say, well, yeah, they get that wrong "that" being whatever you just studied but if you raised the stakes enough, they would get it right. That was claim one. Then another claim was, well, in your experiments, you just gave them one chance at this. And in the real world, we get to learn. And so in the real world, people behave like econs. Now, the first thing to notice is I would often hear those two remarks from the same person, often in the same workshop. And they're self-contradictory. Why? Because the higher the stakes, the less often we get to do it. We buy milk twice a week maybe, soups less often, cars less often, houses very infrequently. So as we raise the stakes, the amount of practice we get goes down. So you can have one of these arguments, but not both. And then there's the annoying fact that there's no evidence to support the claim that people improve as the stakes go up. None. So then we get to another rude line I have, called the invisible hand wave. I suppose I'm referring again to Milton Friedman. And here's the way it goes. It's and this is never written down but was heard often. And I think it's still heard in some economics workshops, right here on this campus.

And the line is, "Well, if people behaved in markets the way they do in your experiments or your studies, then". And now I the reason I call this a hand wave is I claim no one has ever finished this sentence with both hands in their pockets. And that's because it's not possible to do. Try it. I mean, there has to be a lot of hand-waving because markets have no way of transforming humans into econs. So how would this work if it worked? What is supposed to happen if you engage in a market? So suppose you choose the wrong career, or marry the wrong spouse as my wife did, or fail to save for retirement. If you failed to save for retirement, barring reincarnation, you're screwed. If you take out a mortgage, you won't be able to repay unless house prices keep going up or interest rates go down. You know, you get poor. That's all. You don't disappear. Stupidity is not fatal, unfortunately. And here's maybe the most important point, so I put it in bold. It's much easier to make money exploiting irrationalities than fixing them. So here's an example. And this is a dated number. The actual number is almost certainly bigger. This is the amount of extended warranties sold annually in the US. Now, almost always you should just turn down extended warranties. That's a good rule of thumb. Just say no, like Nancy Reagan said. Now, but people are making billions of dollars selling extended warranties. I have been trying to convince people not to buy extended warranties for a long time. So far, I've made exactly $950 before tax in this effort, which is what I got paid for writing one New York Times column. And you know, $950 compared to $27 billion, you know, they're winning. And as a general principle, it's just really hard to make money convincing people that they're making mistakes. They just think that there's something wrong with you. And, you know, go away. So where are we so far? The one-liners didn't work. So we have to just get down to work, and we have to look at the data and say, all right, how differently do humans behave compared to econs? And if that's a lot, then what do we do with economic models to stick in some new thing instead of the econ? So let me emphasize that nowhere have I ever said and in Misbehaving I disavow on numerous occasions the idea that we should just throw away all of standard economics.

In fact, behavioral economics would not exist without the neoclassical economics, because it was the starting point. It's the benchmark for everything. And just like in high school you

learn physics, the simple physics in a vacuum, and that's a good way to start learning physics I guess. But if you want to fire up a rocket ship, you probably ought to pay attention to atmosphere. So and for the role of stakes, that's an empirical question, and I'll show you a little bit of data. So let's take the argument about self-interest. There is lots of evidence from behavioral economists that people have a preference for outcomes that they perceive to be fair. Now, take the prisoner's dilemma game, which I don't think there are any courses at the University of Chicago that don't cover the prisoner's dilemma, so I won't explain it. But the theory is that the dominant strategy is to defect, and so everyone should defect. But in laboratory studies, a little less than half of the people cooperate. So my friends Steve Levitt and John List wrote a paper a decade or so ago saying, well, they're not so sure about these experiments because the stakes are low. So how do we address that? It's hard to get a budget to run really high prisoner's dilemma games, unless you use a game show. So somebody invented a game show that was only shown in the UK that ends with a prisoner's dilemma. And here's how it works. There would be two finalists. They will have earned a certain amount of money. And then they play what we'll technically call a weak prisoner's dilemma. They called it "split or steal.

" The two players were given these golden balls, which was where the name of the show comes from. And they could choose split or steal. If they both choose split, they each get half. If one splits and the other steals, the one who steals gets everything. And if they both steal, they both get nothing. OK, so if we had run this study, it would have cost us 2.8 billion sorry, well, it's pounds so it's almost billion. But 2.8 million pounds, which, so far, none of the presidents or deans sitting in the front row have offered me that kind of money to run an experiment. So we studied this one. And the stakes vary a lot. So from 100 pounds to 100,000 pounds. And how does cooperation vary? That's a pretty enormous range to study. Does cooperation fall? Sort of. So here's the game if you want to get a this is the high stakes, highest stakes. Some of you may have seen this on YouTube. If you haven't, check it out. This is the expression the two players' faces when they discover they're the pot that they can share or not is 100,000 pounds. They're pretty amazed. Now, the guy on the left is pleading and promising that he's going to split. And she is saying if she steals, no one would ever talk to her again. And here you can see they're bonding and making promises. And you can guess, you can decide which one you think is nicer. I think it's fair to say she had some misgivings about her choice, but not 100,000 pounds worth. So all right, so what happened over this range? Well, John and Steve were kind of right, sort of, in that cooperation rates fall as stakes go up. But they fall to the level we see in labs, right? Does this anyway, on the right side here where the money gets big, you can see the cooperation rates are sort of 40% to 50%, which is what we've seen in games for $10 or $20. The only reason it falls is that the stake that the cooperation was really high when the stakes were relatively low. This is something my colleagues and I have observed in I've now written three papers about game shows, so how low I've gone.

And one was on the dreadful show Deal or No Deal, which was almost designed to be an economics experiment. But what we see in this game and in that one is something that I've called the Big Peanuts Phenomenon. And what I mean by that is, suppose that you're playing for only 500 pounds. Well, you were expecting to play for tens of thousands of

pounds. So that seems like peanuts. Now, if we ever tried to run an experiment with 500 pounds I don't know what that is now, $750 that would be a lot of money, right? And in any other time of their life, they would think that was quite a bit of money. But in this particular case, they thought, well, for $750 it doesn't it's not worth it to be a jerk on TV. So we got very high cooperation rates, but there's no evidence that cooperation disappears at very, very high stakes. All right, let's raise the stakes further from hundreds of thousands to trillions, and talk about the Efficient Market Hypothesis, a phrase that was coined by my friend and golf buddy Eugene Fama. And I like to describe this as having two components. The first is what I call the "no free lunch" component, which is, you can't beat the market. The second component I call "the price is right." You can see I have an affinity with game shows. And this component says that asset prices are correct. That is, they're equal to their intrinsic value, whatever that is. Now, in my judgment, the "no free lunch" component is approximately true. If I were grading it, I would give it maybe an A-minus. And what do I mean by that? It may be possible to beat the market, but most people don't. So it's hard. But I will say the following three things cannot all be true. Investors are rational, markets are efficient, and the financial sector takes up almost 10% of the economy. You can have two, but not three, of those. You pick which ones you want. I'm not saying the financial sector has to be 0, but 9% is a lot. So all right, what about "the price is right"? The defenders of the Efficient Market Hypothesis long slept well at night about this part because they thought it was untestable, and there's nothing better in theory than it being untestable.

So and the reason why it was thought to be untestable is we can't measure intrinsic value. So if I think Apple is cheap, and I think it's undervalued, and Bob thinks Apple is great and is going to go up, who's right? How would anybody know? There's no place you can look up the intrinsic value of Apple shares? So how can we test this? We have to get tricky and look for special situations where we can test it. And there are several of them that I've studied. But I'm going to show you the one that's the most fun. So there's a closed-end mutual fund. I guess I have to explain what that is. Unlike the prisoner's dilemma, it's not taught in every class. A closed-end mutual fund is just like a regular mutual fund except that the shares are traded on exchanges. So if you want to buy shares in the CUBA fund, you would call your broker in the old days, or go to your account and say, I want to buy $1,000 worth of shares in the CUBA fund. Now, the interesting thing about these closed-end funds is that they don't always sell for the value of the assets that they own, which is a little odd. And in fact, I wrote a early paper about closed-end funds talking about that. It infuriated Merton Miller for reasons I never learned, but it did. So but let's go back to CUBA. The CUBA fund has the ticker symbol, C-U-B-A, but cannot and could not ever invest in Cuba. For one thing, there are no securities in Cuba. For second, it would be against the law. So we can stop with those. So the fund has never owned any interest in Cuba. They have mostly US stocks, some Mexican stocks, some cruise ship lines. I'm not sure why they named it the CUBA fund. Maybe they appeal to the mojito set or something like that. So OK, so that's the CUBA fund. And like most closed-end funds, historically, it traded at a discount, meaning the shares traded at about 10% to 15% less than the assets that they owned.

So here's a plot. The orange-ish line is net asset value, which means the value of the assets that the fund owns. The green line is the price. And you can see over there at the beginning

it's trading at a discount. And then something strange happens. And all of a sudden, it starts trading at a surplus of 70% So a week earlier, you could buy $100 worth of Caribbean stocks for $85. Then the next week $170. Anybody have any idea? So this was the day that President Obama announced his intention to relax relations with Cuba. Now, remember this fund doesn't have any ownership in Cuba. And you might think, well, yeah, but if he goes through with this, it could boost the economy throughout the region. But if that were the case, then the orange line would go up, right? Because these cruise ship lines that are going to be frantically going back and forth are going to make more money. If anything, the market goes down a little bit over this period. If there's a rational explanation for this, I don't know it. So Fischer Black, co-inventor of the Black-Scholes formula, said maybe we should define an efficient market as one where prices are right within a factor of 2. Now, economists, when they are grading themselves, tend to be easy graders. And this is an example. The Dow is about 25,000 now? So that means the right price is somewhere between 12 and 50,000, you know? I don't know whether you want to call that efficient. But some policy makers have had the belief that prices have to be equal to intrinsic value. And in fact, Chairman Greenspan admits to having made that mistake. In a famous "mea culpa" speech sometime after the financial crisis, he admitted possibly putting too much faith in the idea that there couldn't be bubbles. Now, I think this, as an assumption, is innocuous, as long as you don't believe it. If you start to think it's true, then you're going to think that there are all sorts of things that we shouldn't worry about, like real estate prices in Las Vegas.

And I'm not going to talk about this today. The same argument applies to labor markets. So if you think some people get paid too much and some too little, there's even more reason to doubt the idea that it must be the case everybody is getting paid exactly what they're worth. LeBron James is, but Now, here's another rude phrase that I've introduced. The economic model usually makes vague predictions. For example, if price goes up, quantity demanded goes down. There's no magnitude there. But in some specific situations, economics makes precise predictions, which is that there is a variable that will have exactly zero effect. And I call these supposedly irrelevant factors. These are things that economists are sure don't matter at all, but they matter. So sunk cost, there's if you eat some dessert because you paid a lot of money for it, you're committing the sunk cost fallacy. Framing the idea, my friends Kahneman and Tversky invented, where they showed that showing physicians data on the percentage of people who survive an operation versus the percent who die matters a lot. Although obviously one is 1 minus the other. Which options are named the default. I'll show you some data on that in a minute. Something I've spent a lot of time in my career talking about, mental accounting people put labels on money, and they're not supposed to. So you'll have to read my book or something, which should really be mandatory I think. But let me just show you data on one of a couple of these, for a topic that I think is important which is retirement saving. Now, earlier in the talk I made fun of the idea that people would be able to solve this problem themselves. And so I've devoted a lot of attention to trying to help people save for retirement. And notice saving for retirement is hard in two ways hard conceptually, the math problem is hard, and hard self-control.

You have to delay gratification and go back to Adam Smith's quote. So about 20 years ago, 1994 I think, I wrote a little paper saying the only thing we could do to increase retirement saving is just a tiny little change in 401 plans where the default used to be, when you were first eligible there were a big pile of forms to fill out. If you didn't fill them out, you The switch was, you get that pile of forms, and on the top one it says, if you don't fill out these forms we're going to enroll you at this saving rate and in this fund. Now, that's a SIF, right? That's a Supposedly Irrelevant Factor because there's a lot of money at stake, and the cost of filling out the form can't really be that great. So here's what happens. Let's call those maroon lines. The maroon lines are the percentage of people who enroll, and the blue lines are the ones no, sorry. All of those are the percent who enrolled. The maroon lines are for people with automatic enrollment. The blue lines are for plans that don't use it. You can see, for any income group, if you just switch the default you get 90% of the people in. And you did nothing. Here's where we've just grouped people by age. Same thing. Now, there's a problem with automatic enrollment, which is that most plans default people into too low of a saving rate. This is not true at universities. Universities have historically had very high, generous retirement plans, either because they love their faculty or because they want to get rid of old people. You can decide which. But anyway, so in the private sector, they typically start people out at a 3% saving rate, which is not great. So how can we fix that? Former student of mine and I created something we call Save More Tomorrow. And the idea is we give people the opportunity to increase their saving rate later, because we all have more self-control in the future. Right? Many of us are planning diets in June, or July maybe. So I was going around the country kind of like Johnny Appleseed trying to get some firm to try this.

Finally one firm in Chicago agreed to do it. And they did it by hiring a financial adviser and having the adviser go offer to speak one on one with each employee. There were only about 300 employees. And the Save More Tomorrow option was his second choice. His first choice was to suggest raising saving by 5 percentage points. For the ones who said, no, they won't do that, he offered them Save More Tomorrow. So here's what happens. This is a plot of the saving rates of people who say, I don't want to talk to that guy. This is a plot of the saving rates for the people who accepted his advice to go up 5 percentage points. And you can see they go up and then flatline. Here are our guys. Notice they were the worst savers to begin with. And we almost quadrupled their saving rates in less than four years. So these two ideas, automatic enrollment and Save More Tomorrow, it's now called Automatic Escalation, are now used in a majority of large companies in the US. And we guesstimate that we've increased people's saving by $30 billion, but that's a wild guess. OK, last topic. And I've saved this one for last because it sounds horrible, as this cartoon suggests. How do people do choosing health-care options? So a large employer I'm almost done. A large employer tried what an economist would think of as the ideal system, namely they gave people every possible option. So there were 48 options altogether. This is like you go into Alinia, and Grant sends out a list of 4,000 ingredients and says, tell me what you want. Right? So now, this is a great strategy for econs. They can just really fine tune the plan perfectly. How did it work for humans? Not so much. More than half picked a plan for which there was another that dominated it. What do I mean by dominated? I mean that in any state of the world, no

matter how much health care you consume, there was a plan that was better. Think of this like there are two Starbucks located next to each other.

One is 20% cheaper. Half the people are going to the expensive one. Right? They serve the same coffee, the same network, same everything. OK, well, you know, this was a mere private-sector employee. What was the mistake they were making? Choosing too low of a deductible. Similar to my point about extended warranties. So let's see. Would this apply to a place where the employees have really high IQ? OK, so here at the University of Chicago we have four health-care plans. Two are health maintenance organizations. I'm not going to talk about them at all. The other two are Blue Cross Blue Shield. They're called PPOs. I'm going to only talk about those. And there is lots of complicated details. And I'm going to gloss over them. The prices depend on how much you make. The less you make, the more the university subsidizes the health insurance. But the math of this is all pretty much the same. So I'm going to quote the numbers for high-income employees, which is defined here as making more than $175,000. And for a family plan. And there are two deductibles $1,000 and $4,000. The low-deductible plan comes with an option of the dreaded Flexible Spending Account. Which everyone hates. Is there anyone here who likes their Flexible Spending no. So you have to file forms, and sometimes they get rejected for reasons you don't understand. It's awful. The high-deductible plan comes with a wonderful Health Savings Account that doesn't require any paperwork. You just swipe a debit card or pay for it it works just like a credit card. And there are no forms to fill in. OK, which plan is better? Now, I'm going to show you a chart that's a little out of date. And I am not giving any advice. If there are any lawyers in the room, I am not giving any advice. These lines reflect how much it would cost you that's the vertical axis as a function of how much spending you do on health care. You can see one is below the other one everywhere. That's good. Right? So low is good here. It means you're saving money.

You're really saving money if you're young and healthy. Then you're over in this left-hand corner. And there could be a few thousand at stake. For everybody else, it's merely 800 or 1,000 or something like that. OK, well, this is the University of Chicago. Everybody is going to be in the lower plan, right? No. 80% are in the wrong one. Now, guess which plan is newer? So there's something called Status Quo Bias, which is a fancy term for sticking with what you've always done. And the high-deductible plan was an innovation about three years ago. And the default remember how important defaults are the default in open enrollment, if you don't fill it out, if you don't go log in, is same as last year. So the upper line I'm giving people the benefit of the doubt and saying they're all asleep. And the lower line are the ones who are awake. What's the basic problem? Economists are using one theory for two different tasks. Which is to say what's the rational, smart thing to do and what people do. And we need two theories. OK, that's point one. Point two, there's no reason why economics necessarily has to be based on rational choice. Here's a quote from Kenneth Arrow, possibly the smartest economist of the 20th century, who just says it's obvious that we don't have to build theories that way. And he gives us an example. You could have a theory where people take the first one. So what instead, if we're not if we're going to get rid of econs, what are we going to do? We could try to borrow some good psychology. Now, I falsely advertised forecasts about the future, which, as Yogi Berra said, forecasts are hard,

especially about the future. So I have exactly one slide, and it's my last one, you'll be happy to hear. So if every economist were convinced by this, then behavioral economics will disappear. I've been predicting its disappearance for 20 years. So far it hasn't happened. It will disappear because economics will be as behavioral as it needs to be. So for easy things we can have Fermis, and for hard things we can have Thalers.

And that'll be more work for economists. Behavioral economics is harder because almost anybody who has had high school calculus can solve an optimization problem. And figuring out what people like me do is harder. The result will be economics with more explanatory power and opportunities to help or to nudge for good. Like this. Thank you. AUDIENCE: Thank you for your presentation today. When an individual reaches their maximum 401 contribution, what should a consumer do to force themselves to save more money? RICHARD THALER: Piggy bank? I mean, look, there are lots of ways of so commitment strategies are useful for self-control problems. So the reason why 401s are so successful is the money gets taken out before you have a chance to spend it. And people can recreate that on their own. And another thing people can do is if they have a mortgage and it's a 30-year mortgage and they can afford it, refinance and get a 15-year mortgage. And then 15 years later, you won't have a mortgage. AUDIENCE: Thank you for the presentation. So there is plenty of evidence for mistakes people sorry, that people make individually. Is there evidence for mistakes doing in groups or socially as a yeah, as a mass? RICHARD THALER: Well, I'm staring at two social psychologists who could but won't volunteer to answer this question for me. Nick, correct me if I'm wrong, but I think the way most groups operate, if anything, they make things worse. Now, they could make things better. Because there is the wisdom of crowds. So if you have 10 people in a room, then collectively they know more. But the way many groups operate, what will happen is that the group will get polarized, and the most extreme members of the group will have disproportionate weight. The loudest members of the group will have disproportionate weight. So it's certainly not the case that groups are a solution to the problem. Groups that are run well, where the opinions are collected independently so people don't influence each other before they've had a chance to think, it could help but it's the way groups normally work, no.

OK, we had somebody in the front. Yeah? AUDIENCE: I wonder if you have a wish list for public policy areas where you would like behavioral economics to have more influence. Are there some out there that are on your list for future work? RICHARD THALER: Well, in my book, Misbehaving, I talk about how I would like to see behavioral macro. Macroeconomics, you know, the study of the big stuff. There has been some work but not very much. I think there are huge opportunities for that. There are lots of people doing work in development and poverty where there are big opportunities. Health care, the combination of behavioral insights plus technology I think is the best hope for reducing health-care expenditures. And the reason is that a lot of our health care expenditures are because people don't take their medicines. So take diabetes. If people just take their medicine, it can be handled. If they don't, a lot of bad stuff can happen, like losing your vision and your limbs. And so how to fix that? Well, the technology now exists, or close to exists, to stick something in your body that will measure your blood sugar in real time and fix it. Now, if we skip the fix-it part, just the continual monitoring, if your cell phone beeped every time that you should do

something, that would also help. So I think medicine is obviously we have to we can't spend a sixth of our GDP on health care and more and more forever. We have to figure out something. And part of it is just helping people take care of themselves better. It's not the only solution. The last I would mention is corruption. The biggest problem in many poor countries is corruption. And getting people to be more honest is a behavioral problem. Look, let me just say, all the problems we face, when you boil it down, are behavioral problems. Climate change is a behavioral problem.

You know, dealing with North Korea is a behavioral problem. AUDIENCE: Would you care to comment on the income disparity that we've seen in this country, which seems to have increased enormously, certainly in my lifetime? Is it amenable? If so, in what ways? RICHARD THALER: Well, I mean, look, we know how to change it. For example, just this year we've made it worse. So you know, we could repeal that bill. That would at least get us back to where we were a year ago. This relates to I had this one glancing point about salaries. My colleague Steve Kaplan has never met a CEO who didn't deserve a higher pay. And that's one point of view. There are others who make comments like yours that it's certainly the case that the top 1% of the population, or in the top tenth of 1%, have owned an increasingly large share. But the argument against doing this, of course, the argument made on the right, is that we will not have any innovation and entrepreneurship if we do that. The counter to that is Bill Gates who seems to have made a lot of money and wants to give it all away. Same with his buddy Warren Buffett. So this is a problem this is not a structural problem. Now, obviously, at the bottom end there's a lot we could do to increase the skills of the people in the bottom quintile or what have you. But that's much easier to say than to implement. But this is eminently fixable. AUDIENCE: Thank you for speaking today. I was wondering if you can comment on how you see neoclassical economics and behavioral economics eventually merging into one discipline. Do you see it as a qualitative overlay on the mathematical models that people study in schools like this one? Or do you see it more of as an explicit buildout into those mathematical models? RICHARD THALER: Well, again, it's hard to forecast the future. What's happened so far is we can divide empirical and theoretical. There's been a lot of work on trying to build more behaviorally-realistic theoretical models.

Probably the leading practitioner of that field is my friend Matthew Rabin, who I was giving the credit or blame for the term "explainoations." And his strategy has been to study things piecemeal. So he'll take one bit of behavior like self-control and build a model of that. And there are still is going to be some maximizing going on in there. And he's leaving everything else aside. And then he'll move over to expectation formation and build a model of that, and again, ignore everything else. There will not here's a prediction. There will not be a new overarching theory of economic behavior. We have one. It's the best possible one. It just doesn't work at predicting. And that comes out meaner than I intend it to. We don't want to throw those away, because we still want look, the theory of the firm tells firms what they should do if they want to maximize profits. It's good to know that. Black-Scholes formula tells you how option prices should be set, and it works amazingly well. So that will continue. But at least for the near future, like the next decade, what we'll see on the theory side is piecemeal. On the empirical side, and economics has the biggest trend in economics over

my career has not been it becoming more behavioral. It's become more empirical. And partly that's because of the existence of data. The field of financial economics was created here at the University of Chicago because some people created a data set, now called the Chicago CRSP, Chicago I don't remember what it stands for. But all of a sudden you had monthly data on stock prices going back to 1926. And the field of financial economics existed. Gene Fama would have studied something else if CRSP hadn't come along. So there are data sets like that popping up everywhere. One of the most exciting young economists in the world, Raj Chetty, has become a master of exploiting large administrative data sets that include tax returns, anonymized of course. And to go back to this inequality question, he and his team have done some of the most exciting work just documenting that.

So and the thing about Raj Chetty's work and the work of many economists is that it's kind of atheoretical. And I mean that in a good way. That if you're trying to figure out what parts of the country people are more likely to escape the bottom to the top, that's an empirical question mostly. And the more people just get their hands dirty with data, they first of all, when they do that, they find things like the health-care stuff I showed you, and they're kind of confronted with the fact that people aren't choosing the best one. And so that's the future I see for the next decade, is continued exponential growth in empirical economics with better and better data sets. And I would say most economists under 40 don't think anything I said tonight is very revolutionary. This was an argument I was having with people my age and older. And the younger generation will lead us to the promised land.

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