

They Thought We Were Ridiculous:

The Unlikely Story of Behavioral Economics

Episode 1: Beyond Anomalies

Synopsis

For years, neoclassical economists have made an unusual assumption: that people are rational decision-makers. But a few social scientists dared to challenge that assumption. They collected observations, analyzed data, and presented their perspective. Their work would usher in a new era of Economics.

- Economists have held that people are rational.
- A group of young economists provided data challenging the rationality assumption.
- Workers don't optimize their earnings (in a surprising way).
- The stock market defies pure rationality.

Experimenting on TurboTax

STEPHEN ROLL: This is possibly the single most significant financial event of the year.

ANDY: That's Dr. Stephen Roll. He's an assistant professor of research at the Social Policy Institute at Washington University. And he was telling me about tax season. Tax day is not everybody's favorite day of the year. But in the United States at least, it's not uncommon to find out that you've paid more to the government throughout the year than you actually owe. So, you get that money back as a lump sum refund. And while some people might be thinking about what little treat they can get themselves with their tax refund, that money – that refund – is really significant for low-income households.

STEPHEN ROLL: For most of these folks, it's the single largest payment they'll receive all year can be the equivalent of multiple months' worth of income.

ANDY: Part of Stephen's work is with this big program called Refund to Savings, which is in partnership with Intuit, the company that makes the software TurboTax. And they're focusing their attention on a version of TurboTax. That's free for low- and moderate-income households. They had some big ideas about how tinkering with this simple online software could change important decisions people make about their own finances.

STEPHEN ROLL: We were able to embed experiments to cue them about the frequency of emergencies, for example. And so we iterated on this, probably eight or nine different field experiments every tax season. And just by making these very small changes to the tax filing

process, we're actually able to increase the rate at which people deposited the refund into some sort of savings vehicle.

ANDY: These experiments basically involve adjusting aspects of the interface based on psychological research. So when people would get to the end of the tax filing process, where they say, whether they want their refund as a check or direct deposit into a checking account, or to put away into a savings account, they've done everything they can think of to encourage people to put at least some of their tax refund into savings. According to their website, they say that as a direct result of all of this, they've generated over \$94 million in additional savings deposits for around 65,000 additional savers.¹ And if you look longer term...

STEPHEN ROLL: The money that we encourage people to set aside at tax filing was still, on average, in their accounts six months later.

ANDY: This is obviously great news for the people that it's helped. But it also just raises this funny question about how anyone thinks about their money. According to some of the most basic ideas about economics, a program like Refund to Savings should not make any difference. Stephen says he presents his team's research to economists all the time, and more often than not...

STEPHEN ROLL: Someone in the audience is like, well, this doesn't make any sense. Why would people change what they're doing with their tax refund? Surely they've thought about this in advance, and that they should know exactly how many credits they qualify for and should know, to the dollar, how much of a refund they're going to get when they file their taxes. So given that, there should be nothing we can do. That would change their financial behavior. That's the counterargument.

ANDY: But the program does work. people's savings decisions are not always rational. And the only reason we appreciate that today is because for the last 30 years, a bunch of rogue social scientists have been bold enough to question the man and set the record straight.

Introduction

ANDY: From Opinion Science, I'm Andy Luttrell.

KURT: I'm Kurt Nelson.

TIM: And I'm Tim Houlihan, and Kurt and I are from the Behavioral Grooves podcast.

¹ <https://socialpolicyinstitute.wustl.edu/items/refund-to-savings/>

ANDY: And together we've been tracing the story of this major shift in how economists think about people and the decisions they make. What started as a fringe movement in a quiet corner of academia would end up changing how governments and businesses around the world operate. But change is never so easy. It took fights between the old guard and the scrappy young iconoclasts between economists and psychologists between scientists and policymakers. We're calling it "They Thought We Were Ridiculous: The Unlikely Story of Behavioral Economics. A five-part podcast series to explain where this movement came from, the impact that it's had, and where it's going. Episode One: Beyond Anomalies.

Richard Thaler and the Failures of Classical Economics

RICHARD THALER: I just kept running into examples of behavior that didn't fit economic law.

ANDY: It cuts out there for a second, but he's talking about behavior that doesn't fit with economic law. And that guy is Richard Thaler. These days, He's a distinguished professor at the University of Chicago Booth School of Business. But in the early 70s, he was an economics grad student at the University of Rochester. But before we go any further, we need to take a quick second to acknowledge the core assumptions of economics or economic law, or at least economic law, according to so-called neoclassical economics. Basically, economists tended to base their work on the assumption that people strive to make optimal decisions. That means they make an unbiased assessment of all their options based on rational expectations about each option's pros and cons. It's pretty much the idea that people will make the best choice, the choice they ought to make. And Thaler was being trained as an economist. He knew how people were supposed to make decisions. But he kept noticing that people in his life were acting weird. Or, at least weird according to an economist, like one time he and a friend were living in Rochester, New York, and they got free tickets to see a basketball game in Buffalo.

RICHARD THALER: And there was a big blizzard. And we decided not to risk driving to Buffalo in a blizzard.

ANDY: Which makes sense, it would be dangerous to make a long drive in a blizzard. But what was weird is that his friend said,

RICHARD THALER: Well, we had been given these tickets. He said if we had paid for those tickets, we would have gone.

ANDY: And this didn't make sense. If it's dangerous to drive, it's dangerous to drive. What difference does it make whether you spent money on the tickets? Also, it was funny when we talked to Thaler, he had just gotten a text from his daughter who was living in California. There was a heat wave there...

RICHARD THALER: Where the high temperature was going to be 110.

ANDY: But she and her friends had planned this camping trip. And rather than just cancel it, they were all trying to figure out how best to cope with the heat.

RICHARD THALER: And my daughter, Jessie, is saying, “That that Blizzard story is still working here in Northern California!”

ANDY: So anyhow, when he was a new professor at the University of Rochester, he jotted this blizzard story down on a blackboard in his office. And he would add other observations as he had them, like someone who thought a sweater was too expensive to buy, but was excited to receive it as a gift from his wife, even though you know, they share all their finances.² And then there's...

RICHARD THALER: My famous story about pushing the bowl—cashew bowl, here wait a minute, I have a prop...

ANDY: Tim and I were talking to him via Zoom, and he's in his office at the University of Chicago. He walks over to his shelf and brings something back to his desk.

RICHARD THALER: Wait, how do I do this?

TIM: Just a little bit higher. There we go...

ANDY: So, it was a bowl of cashews. Not a real one, but like a commemorative model of a bowl of cashews. There was a birthday present he got from a while back. So, what's the deal with this bowl of cashews? Well, one of the stories that made it to the Blackboard is about a time in grad school when he had friends over for dinner. They were all waiting for dinner to be ready, so Thaler put out a big bowl of cashews that people would snack on. But a lot of the cashews got eaten very quickly. So, he took the cashews away and hid them in the kitchen.

RICHARD THALER: So we wouldn't ruin our appetites.

ANDY: And everyone at the party seemed happy that the cashews got hidden too. But well, I guess I should mention that Richard Thaler went on to win a Nobel Prize in 2017. Is that jumping the gun a little bit? So, in his Nobel lecture, he actually opens with this story. And he explains why the whole thing was weird from an economist's point of view.

² Misbehaving: The Making of Behavioral Economics; <https://www.norton.com/books/misbehaving/>

RICHARD THALER [Nobel Prize lecture³]: Since it was a group of economics graduate students, we began to analyze it, which shows you the danger of going to a dinner party with a group of economists. And so the analysis was that we were happy and that we were not allowed to be happy. Because it's a basic axiom of economics, that more choices are always preferred to fewer. And before we had the choice to eat the nuts or not, and now we didn't. So, what were we doing being happy?

ANDY: Eventually, his office blackboard was full of all these observations.

RICHARD THALER: You know, I had this long list of funny things people did, but it wasn't clear what to do with it because they were just stories.

Bounded Rationality

ANDY: Over time, Thaler started running his own experiments probing the limits of rational choice theory by testing how real people actually processed economic information and made their own choices. For example, he found that people irrationally value things more once they fall into their possession, that people mentally earmark different pots of money for different uses. After a while, an important opportunity fell in his lap, a new journal was in development, the *Journal of Economic Perspectives*. And in talking with someone at a conference, they learned that the journal was interested in running something like a regular column. So, he went up to the new journal's editor and pitched a series of articles that would be called Anomalies. The editor was up for it.

COLIN CAMERER: He was not a behavioral economist, but he was very open minded and curious. It's like it might work. I don't use this stuff. But I'd like to know more about it.

ANDY: That was Colin Camerer, one of Thaler's colleagues and an important figure in his own right, but we'll hear more from him in a bit. What this all meant, though, was that four times a year for almost four years, Thaler wrote this column, which reached a big audience of economists. And each one would identify a bit of evidence that didn't fit classic economic theory. His first article came out with the first issue of the journal in the summer of 1987.⁴ He used the opportunity to highlight the fact that for decades, stock returns were substantially higher in January than any other month. And that doesn't make sense from a standard approach that says, stock prices should not follow any predictable pattern. It was an anomaly. Over the following years, he wrote about more than a dozen of these kinds of anomalies, often in collaboration with other experts. The evidence was there, presented in a respectable journal mailed to thousands of economists. The standard theory wasn't cutting it.

³ https://youtu.be/ej6cygeB2X0?si=IRRW_V7IB-7qZ1_f&t=73

⁴ <https://doi.org/10.1257/jep.1.1.197>

TIM: At this time, the ideas that Richard Thaler and his colleagues were coming to which set into motion a new perspective called behavioral economics, a perspective that focuses on things like economic decision making, but that throws out the assumptions that all people are being perfectly rational. And of course, that's where we're headed. But it's worth quickly mentioning that the seeds of these ideas were there long before Thaler was even born.

LIAM DELANEY: I had always been interested in history to fields and then I spent a couple of years almost obsessing on it and really trying to even just trace back the family tree of all this.

KURT: That's Liam Delaney. He's a professor at the London School of Economics. And he was telling us about the early days of economics. In particular, things looked a lot more behavioral back then, even as those rationality assumptions of neoclassical economics were being established.⁵

LIAM DELANEY: You start seeing the critiques emerging. Like if you read economics journals in 20's, and 30's, you've got lots of people saying, you know, we need more focus on habits. You've got the de-institutionalists. You've got evolutionary economists, people like Veblen, and all these really interesting people.

TIM: In 1918, for example, the economist John Maurice Clarke wrote that, "The economist may attempt to ignore psychology, but it is sheer impossibility for him to ignore human nature."⁶ Even earlier, in 1906, Vilfredo Pareto wrote, "The foundation of political economy and in general of every social science is evidently psychology."⁷ So, these ideas that economics need to appreciate faulty human psychology? Well, they were there in the early days.

LIAM DELANEY: Economics becomes more mathematical and more formal and more rational, based just at the time you have people like Marshall, an age where it's been really two of the big thinkers in economics, who were explicitly very psychological. And then you had the emergence of psychology as a discipline. So, in some sense, it's a mystery as to why economics, you know, veered away from not so sharply at that point. But I mean, you know, these things happen, I guess.

KURT: But by the 1950s, it was time to shake things up a little. Herb Simon was born in 1916, in Milwaukee, Wisconsin.⁸ He went to the University of Chicago for college, eventually getting a PhD in political science, but he took his doctoral exams by mail, because he was already the

⁵ <https://doi.org/10.1177/09526951211000950>

⁶ <https://www.jstor.org/stable/1820785>

⁷ Quoted in: <https://doi.org/10.1257/aer.106.7.1577>

⁸ <https://www.nobelprize.org/prizes/economic-sciences/1978/simon/facts/>

director of research at UC Berkeley.⁹ The guy spent his career constantly chasing new questions according to social psychologist Richard Nisbett...

RICHARD NISBETT: He was an economist and a political scientist and a psychologist, and an artificial intelligence researcher, and so on. He collaborated with all those people. Someone once told me, he had said to someone, you know, 'I walk across the campus and I feel like I am the university.' And he certainly, in some sense, deserve to think that way.

TIM: The guy even made a serious study of graduate level physics while he was in school, just because he wanted to beef up his math skills. The point is, this is a guy who's curious about everything. And in his Nobel Prize lecture in 1978,

KURT: Wait! Nobel Prize? Herb Simon?

TIM: Yeah, Herb Simon won a Nobel Prize, too!

KURT: Two Nobel Prizes in one story, oh, my gosh, Tim!

TIM: Just wait. Okay. All right, we'll get we'll even get to another next time. But in Herb Simon's Nobel lecture¹⁰, he talked about a formative experience he had in college, he was doing a field study in Milwaukee, which had to do with the city's public recreation facilities. These facilities were overseen by the School Board and the Public Works Departments. And he noticed that these two agencies could not see eye to eye, they were arguing over how to divide up money between two programs. And here's how he describes his reaction at the time, he thought, "Why did they not, as my economics books suggested, simply balance off the marginal return of one activity against that of the other?"

KURT: Sorry, what? What did he just say?

TIM: Okay, so basically, it was the kind of situation that should have a clear, rational answer. But the more you think about it, the more you realize that for a real human person, it's not such a simple, rational question. Eventually, this all led to a really important book in the 40s with a fantastically creative title of "Administrative Behavior."¹¹ He argued that if we're going to understand administration, we have to pay attention to the psychology of human choice.

KURT: And eventually, this became bounded rationality. Right, Tim?

⁹ <https://doi.org/10.1037/0003-066X.58.9.753>

¹⁰ <https://www.jstor.org/stable/1808698>

¹¹ <https://a.co/d/jalUfeE>

TIM: Exactly. There's this great paper in the 50's, where he writes about this decision equation and walks through the mental steps you need to take to come to a rational choice. And he says, "There is a complete lack of evidence that in actual human choice situations of any complexity, these computations can be or are, in fact, performed."¹² His point is that human beings are limited in how much they can actually think about these things.

KURT: Some of us more than others.

TIM: And given these totally normal limitations, the idea that we can be rational in the way economists assume like knowing everything, anticipating every possibility, maximizing every variable, instead, our ability to think rationally is bounded. There is a limit to it.

KURT: And this was super forward-thinking stuff. I remember Liam Delaney telling us how these ideas were ahead of their time.

LIAM DELANEY: If you target the language a little bit, you could easily think it was written, you know, in the last couple of years,

TIM: But unfortunately, the ideas had a hard time taking hold at the time. On the other hand, around the 1980s, a ragtag group of young economists, including folks like Richard Thaler and Colin Camerer, they would push the basic idea of bounded rationality even further.

Putting Behavioral Economics to the Test: The Cab Driver Study

ANDY: Welcome back, I'm Andy Luttrell and before the break we met some people pushing back against some of the most basic ideas in economics, that people are totally rational and looking to get the most for themselves. But it's one thing to propose that economic models are flawed, it's another thing to actually prove them wrong. So, let's take a look at a few examples of what classic economists think people do, and what real people in the real economy actually do, according to research by enterprising rabble rousers. And my colleague Tim is ready to walk us through one of these cases.

TIM: Thanks, Andy. Let's start with your comment that people are totally rational and are always looking out for themselves with a question back to you. So, imagine you work in a mailroom where letters come by on a conveyor belt and your job is putting stamps on those envelopes. For every stamp that you apply, you make a little bit more money.

ANDY: Sounds very exciting.

¹² <https://doi.org/10.2307/1884852>

TIM: Of course it is. But you don't control how many letters come down the conveyor belt on any given day. So some days there's a slow trickle of letters. Other days are busy with lots of stamping opportunities. And let's say today's one of those busy days. It seems like a never-ending stream of letters coming into the mailroom. You're stamping away making lots of money. What would make the most sense to you knocking off early after stamping a good number of letters, or sticking around and working the full shift?

ANDY: Working a full shift makes more sense, I think. I mean, if there are a lot of envelopes to stamp, then it seems smart to ride that wave and make more money.

TIM: Yeah, but it makes rational sense. And this is what classical economists predict we'll do. So let me reframe my question: Do you think that's what people actually do?

ANDY: Is this this is where we hear that economic models don't actually predict how people behave?

TIM: Of course! Some scrappy behavioral economists were curious about this very question. But were having a hard time studying it in the real world, at least until they found some data on New York City cab drivers.

ANDY: Yeah, so cab drivers would be perfect because they set their own hours and they also have the benefit of actually existing, I guess, unlike the envelope stamping mailroom conveyor belt operators.

TIM: Exactly. So let's set the scene. It's the late 80s. When drivers rented their cabs for 12-hour shifts for a fixed price: work for one hour, work for 12 hours, the cost is the same. And unlike Uber or Lyft today, New York City taxis charged by time and distance that started when a passenger got in the cab.

ANDY: And the math is easy. The more passengers they carried, or fares as they like to call them, the more money a driver would make, right?

TIM: Yeah, yes. But the number of fares that they'd have on any given day could be well, let's just say unpredictable. Daily earnings for each cabbie depend on a million random factors. If it's raining, more fares. If the subway breaks down, more fares. If there's a big convention in town, more fares. Beautiful spring day, fewer fares.

ANDY: So, what you're trying to tell us here, Tim, is that if cab drivers are really motivated by money, they should spend more time in their cabs on those days when there's a ton of demand. And on days when things are slower, they should throw in the towel earlier. Is that right?

TIM: Yeah, that's exactly right. That's the theory anyway. So, Colin Camerer and a team of his colleagues got their hands on reams of actual data on what cab drivers actually did.¹³ Colin is a professor of behavioral economics at the California Institute of Technology. But at that time, he was in New York, and he just headed over to the Taxi and Limousine Commission or TLC as he calls it, to have a chat.

COLIN CAMERER: And there's a lonely economist who works there. And he basically sits around all day, and every three years that TLC decides to apply for a rate hike. So, every so often, this guy has to make a chart basically showing here's the inflation rate, you know, when it's time for a jump. And other than that, I don't know what he does all day. But so he is very glad to see me.

TIM: And fortunately, this economist had recently collected data for some internal studies...

COLIN CAMERER: From like 1000 or 2000 cab drivers and how many hours they'd worked and certain things. And also, the drivers are supposed to fill out these paper trip sheets, where they record each now, of course, now everything's electronic, but they were they record all this stuff. And so, I left with a free floppy disk with three datasets on it.

TIM: So, Colin heads back to his office at Cal Tech with tons of data. But now he had to do something with it. That's where his colleague, Linda Babcock comes in. Linda researches labor economics at Carnegie Mellon University.

LINDA BABCOCK: I happen to be on sabbatical at Cal Tech where Colin was, and you know, we chit chatted a lot. And he was in my office one day, and we were just shooting the breeze. And he said, he told me about this idea they had when they were at Russell Sage and these trip sheets, and I was like, 'Well, what did you guys find out?' and he said, 'I don't know. The data is upstairs. I haven't looked at it.' And so we walked up to his office, we got the box. And I was like, we have to analyze these data! This is criminal letting data get cold like this. And, you know, I'm a labor economist. And so labor economists know how to estimate labor supply equations. And so that became my job is that I got the data. And that's how I got added to the team.

TIM: So they crunched the numbers, and calculated how much money each driver made, along with how many hours they worked each day.

ANDY: And what did they find?

TIM: It was crazy. The data showed that the more money cab drivers were making on any given day, the earlier they quit, and the less money they were making, the longer they worked.

¹³ <https://doi.org/10.1162/003355397555244>

ANDY: Which is obviously not what your typical labor economist would have predicted.

COLIN CAMERER: I remember taking a cab to NYU for a seminar at NYU and thinking about cab driver labor supply. And I remember just asking some cab drivers like how do you decide how many hours to work? And some of them said, Well, you know, I tried to earn 200 bucks and the payment but some of them seem to have like a target of how much money to earn. And so if they had a high wage one day, they would quit earlier because they hit the target.

ANDY: I mean, it feels like an easy enough strategy. Psychologists have known for a while that we use all sorts of weird benchmarks like this for our decisions, it just simplifies the process.

TIM: And the point this all comes back to is that economists have generally expected that people will act rationally when it comes to how they earn money. But in the real world, real people are not always so rational. We make mistakes all the time, and not just little ones.

ANDY: I mean, when we talk about it like this, it actually seems kind of like a no brainer, right? Cab drivers are humans too. But it raises the question: how did economists miss this?

COLIN CAMERER: Lots of labor economists have taken cabs in New York or elsewhere? And why didn't anybody else think to study this? You know, it just never would have occurred to them. And when we first presented it was like, that would that would be really dumb, though, because it means they're quitting on a really good day with a lot of wages. And then they're driving a lot on a low day to hit their they should be doing the opposite. That's like I know! So, part of it was just being open, be have your eyes open, and seeing an activity in the economy with a different psychological lens. So, I think it was just a good case study of like this school of thought how it just got us to ask a question that was different.

TIM: Lastly, I want to share an interesting footnote to this story because it speaks to how radical it was for these researchers to poke the bear of big economics. I talked with George Lowenstein, who along with Richard Thaler joined Colin and Linda on the cab driver study. George is a Professor of Economics and Psychology at Carnegie Mellon University. And he said that because the study was so successful in proving that money motivated cab drivers aren't always rational, the research team tried recontacting the economist at the TLC, the one who gave them the floppy disk in the first place. They wanted to do a second round of research.

GEORGE LOEWENSTEIN: We went back to try to get some more data. The head of the Taxi and Limousine Commission, who Colin had interacted with, had been fired and replaced. And it had something to do with us publishing the article. Like a lot of people were upset about our paper. I'm not exactly sure what why they were upset what it is that upset them. But it's possible that we had something to do with getting this guy fired. But all I know is that when we went back in search of more data, the response was beyond cold like nobody wanted to talk to us.

Royal Dutch / Shell

ANDY: Okay, so cab drivers in New York don't seem to play by the rules economists say they should play by. But let's take a quick look at another example where the world doesn't seem to live by the official rules of rationality. And you'd think if economists had anything figured out, it might be the rules that stock prices abide by, at least I would assume so. But that doesn't always seem to be the case. In general, a standard economic approach, inspired by the *efficient market hypothesis* says that the stock market ought to abide by the standard economic rules. Specifically, this implies what's been called the law of one price.¹⁴ The idea is that identical goods must have identical prices, the pressure of the market should make this almost a guarantee. You try to sell the same thing I'm selling but for a different price, well, market forces should exert their magic and force our products to settle on one price. But that doesn't always happen, does it? There are plenty of examples of this stock market logic gone awry, but I think a super interesting one is the case of Royal Dutch Shell. I think the logo for Shell gas is one of the first corporate brands I was exposed to as a kid. There was a Shell gas station by my house, and I can still remember the giant yellow cartoon shell hoisted high up in the air. Okay, but where's this going? Well, if we rewind far beyond my own childhood, even before yours, I'm guessing back to 1907. That's when Shell became Shell. It was through a merger of the Royal Dutch Petroleum Company, which was based in the Netherlands, and the Shell Transport and Trading Company, which was based in the UK. One of the great love stories in the global oil and gas industry. But what made this merger unique is that the two companies continued to operate independently in different countries. And according to their 1907 agreements, the two companies would share in their total assets and dividends at exactly a 60/40 proportion. If we simplify that to a world where a non-economist like me can understand it: if the collective Shell Petroleum Company makes \$100, \$60 of it flows through Royal Dutch, which is based in Amsterdam, and \$40 of it flows through Shell Transport and Trading, which is based in London. What this all means is that because of this quirk of a 100-year-old merger agreement, the market value of Royal Dutch should be one-and-a-half times the market value of Shell. The Law of One Price. So, like each unit should be valued the same as any other unit. Royal Dutch has 60 units, Shell has 40 units. Royal Dutch should be valued at one-and-a-half times Shell. But in the late 80's, some economists pulled together all the stock exchange prices over the last seven years and the actual behavior of the stock market did not seem to abide by the Law of One Price.¹⁵ For a while the ratio of one company's value to the other was lower than one and a half. At other times, it was higher. Later analysis found the same thing, the value ratio was 30% too low in 1981, more than 15% too high in 1986.

COLIN CAMERER: Sometimes it goes up, sometimes it goes down and when it goes up, it doesn't come back right away. So that seems like the prices are not correct.

¹⁴ <https://doi.org/10.1257/089533003772034952>

¹⁵ [https://doi.org/10.1016/0304-405X\(90\)90015-R](https://doi.org/10.1016/0304-405X(90)90015-R)

ANDY: That was Colin Camerer again, and what struck me most about his description of the Royal Dutch Shell data is how dismissive traditional economists were. Like these are results that really challenged standard economics. The behavioral economists were on to something. But people didn't seem ready for it yet. People like the University of Chicago economist, Gene Fama.

COLIN CAMERER: If you ask Gene about that, Gene Fama, he says, 'Well, that's just a curiosity.' It is a curiosity, but and also, it's not a tiny little company on some small exchange, you know, like GameStop, you know, mean stock. It's a huge company. So if you said to him, is there anything you could see in the in the finance that would disturb your faith in rational, efficient stock markets? He probably would say, 'Well, I'd have to think about that.' And if you said, 'There's this weird Shell puzzle,' ... 'Well, that's a curiosity.' So you know, it sounds like somebody who will never be convinced.

Conclusion

TIM: So, we've got all this evidence: stock market prices, cab driver's decisions, a savings crisis, lots of anomalies that raise major questions about basing the field of economics on this assumption that people are rational and out to maximize their own gains.

ANDY: And in some ways, maybe it's because I'm a psychologist, but it just feels like, yeah, why were we ever assuming that people were rational to begin with? Like, I've seen the decisions I've made, they're not all good. So, I kept wondering whether these rational economists ever really believed this. When we talked to Richard Thaler, I asked him this, and he told a story about himself and another brilliant thinker, Amos Tversky, who we're going to get to know better in the next episode.

RICHARD THALER: So, in the 80's, there was a dinner in which I sat at the same table with Amos Tversky. And an antagonistic kicker. And the antagonistic economist was regaling us with stories about what idiots people are when it comes to economic decisions. And these included his wife, the dean, the president of the country, whoever was at the time, most business operators. and you know, Amis kept egging him off. And then at you know, at the end says to him, so, you know, I don't get it, because in your models, you assume everyone is irrational. But over dinner, you tell us everybody's an idiot. Which is it?

KURT: So, economists may secretly understand that people are irrational, that they're constrained by mental limits and a lack of self-control. But in traditional economics, it doesn't matter. And it's captured in a famous line by the economist Milton Friedman.

RICHARD THALER: Which is the "as-if" line.

KURT: In other words, people don't need to actually *be* hyperrational. They just need to make decisions *as if* they were.

RICHARD THALER: And Friedman that a famous analogy of a billiards player who plays as if he knew trigonometry and physics. And my response to that is, that might be true for an expert billiards player. But what about a typical guy at a bar who's aiming at whatever ball is closest to a pocket and often misses and makes predictable misses? Some shots, you can be pretty sure he's gonna miss this way. You know, economic theory isn't supposed to be a theory of experts.¹⁶

KURT: So, a group of rogue economists were starting to push back on assumptions, claiming that economic decision making comes from humans who have their own quirky thinking, but what was missing was the psychology. So next time, two Israeli psychologist Daniel Kahneman and Amos Tversky, kick behavioral economics into high gear.

RICHARD THALER: I always say my biggest discovery was discovering Kahneman and Tversky. They claim they existed before I met them, but you know economists didn't know about them. So I have a leg up.

KURT: But would economists be okay with psychologist messing with their models?

[CREDITS]

They thought we were ridiculous is written and reported by Andy Luttrell, Kurt Nelson, and Tim Houlihan. Editing and Sound Design by Andy Luttrell. Thanks to Ben Granlund, Alex Belanger, and Alexa Cover for design and marketing. And thanks to Mary Kaliff and Caroline Schaeffer for other assistance along the way. Music licensed by Blue Dot Sessions and Epidemic Sound. Transcripts with key source citations are available, check out the episode webpage. Thanks to the guests whose voices you heard, including Richard Thaler, Colin Camerer, Richard Nisbett, Liam Delaney, Linda Babcock, and George Loewenstein. This miniseries is a co-production of two podcasts: Opinion Science is hosted by Andy Luttrell and explores the science of people's opinions, where they come from and how they talk about them. Behavioral Grooves is hosted by Tim Houlihan and Kurt Nelson and explores our human condition through a behavioral science lens. You can find more information on both of those shows in the episode description. Thanks for listening. We'll see you next time.

¹⁶ As a note, the cab driver study actually found that experienced cab drivers abide by wage elasticity in the way economists would predict—they do end up working longer on days when demand is higher.