

GARY: Two Americans and a German have won this year's Nobel Prize in economics for their groundbreaking study of theories used in games, such as Poker, as a way to help explain economic interaction. The winners are Hungarian-born John Harsanyi of the University of California at Berkeley, John Nash of Princeton, and Reinhard Selten of the University of Bonn.

Joining us now to help us get a better grip on just what these economists accomplished is economist Paul Anton, who's a partner in Bugby Anton and Associates in Minneapolis. Good morning.

PAUL ANTON: Hi, Gary.

GARY: What in the world, sir, is game theory?

PAUL ANTON: Well, game theory is the study of systems, where your payoff depends, not only on the actions or strategies you choose, but also on the strategies chosen by the other players. So for example, if you're studying the behavior of the OPEC oil cartel, if they all hang together and keep their price high, they all get their portion of it and get some money.

But there are incentives for an individual country, let's say, one that's behind in its balance of payments to say, gee, if we drop our price a couple of dollars, we can sell three times as much oil. They may make a lot more money there, so that what they choose to do depends on whether the other people follow them, or so on. So they're complicated structures, but they all come from the viewpoint that the economic system is really operated by people.

GARY: I mean, it's like-- I'm sorry for being so dense about this, but I don't have a clue about these kind of things. It's like creating a scenario, and then you figure out how it would play out?

PAUL ANTON: Well, no. There's a classic game that's often taught in game theory called the prisoner's dilemma game, which says, let's say we have two prisoners who may have committed a crime. And we tell each guy, if you confess, turn state's evidence, you'll serve one year and the other guy will serve 10.

If you guys both confess, you will each serve 20 years. But if you both hang together, you'll only serve two or three years. That's all we can get you on. Well, if they hang together as a team, they each serve two years. But if one of them says, I'm just looking out for myself and turns state's evidence, well, then he gets one year and the other guy gets 20.

And so what you have is situations, where it's not merely in economics, I set a price and then see how much I can sell, but I set a price, and then my competitors, they may set the same price or they may set a different price. They may undercut me. And so to figure out what I'm going to do, I've got to be figuring out what they're going to do, how they're going to price their product. Are they going to sell on the basis of quality?

And so understanding those theories of games helps us to model and figure out the actual economic behavior of people running businesses, or buying things, or setting policies, like cartel policies, for example.

GARY: So it allows you to recognize the complexity of economics, as opposed to a black and white situation?

PAUL ANTON: Well, that's right. And you talk to a lot of people in business, and they're very clear about who they're playing the game against. Pepsi is playing the game against Coke. And do we come out with a new product? Do we have giveaways? Do we do whatever?

It's not merely we're choosing something, but we're choosing something. And part of choosing the right strategy is figuring out what they're doing or what they're going to do if we do something. So Professor Nash, for example, who's one of the three here, the one from Princeton, there was something called the Nash equilibrium, which was about a market, where people are playing games against one another, but they get to a point where the market stays in a kind of equilibrium because they're now both in a place where if either of them makes a move, the other one can make a move to their advantage.

And so they stay at that place, but they stay at it, from this kind of dynamic game theory context, not because it's the kind of best place to be, in some sense.

GARY: Interesting. Thanks for the explanation.

PAUL ANTON: Well, I hope it was. It's complicated stuff, you're right, but it helps us understand how people really react in the real world.