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Why Are Bots Buying Sneakers?

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S1: Derreck, what is your relationship with Sneakers?

S2: It's it's a tumultuous one.

S1: Derreck Johnson is a designer at Slate, and he's very into Sneakers whenever some cool new sneaker is being released. Derreck knows all about it right now. He's got his eye on an upcoming drop of some limited edition Nike Air Max 1s, made in collaboration with an Amsterdam streetwear boutique. He's hoping to buy them online before they sell out.

S2: They did a pair of orange ones that sold out very quickly last week, and they're coming out with a pair of blue ones. I want the blue ones. Actually, I like Ben Orange one, so see what happens?

S1: What do you think your odds are of actually being able to buy them? Zero zero

S2: zero zero.

S1: The problem with buying limited edition Sneakers online these days is that the competition is incredibly fierce, maybe unnaturally fierce.

S2: If you're going to buy online, you have to be fast, but really like fast with your fingers and typing things because there are people out there that have found ways around that.

S1: What are these ways around it?

S2: Bots, called Bots

S1: Bots, are a special, clever kind of software much faster than any human sneakerhead could ever click on the correct shoe size and enter their credit card number and whatnot. Bots can swoop in and just buy everything in the blink of an eye, and then the people who control the Bots will put those sold out shoes on the resale market at much higher prices. So a limited run Adidas sneaker priced at \$250 might get swallowed up by Bots. And later that same day, you'll see those sneakers on eBay for \$600. Derreck says sometimes the Bots will just rip a pair of shoes right out of your virtual shopping cart.

S2: The number one way to know that Abbott has beaten you is if you're purchasing something that's in your cart. If you're not fast enough putting in your information, your address, your billing address, even if in advance of doing all that, that can actually leave your cart.

S1: It's in your car, and then suddenly it's gone.

S2: Mm hmm.

S1: I'm trying to imagine that at the at the Foot Locker, like the shoes are in my car, I look down.

S2: It's like losing my leg, grabbing them out of your hand and running before you can actually catch up. Yes.

S1: Bots. Don't just buy cool sneakers. They buy up those concert tickets you wanted, so they can then scalp them to you at an outrageous markup. They buy up tickets to basketball games and Broadway shows at the beginning of the COVID pandemic. Bots were buying hints in a teaser and face masks. Later, they were booking all the vaccine reservations Bots anything that's in very high demand with a very limited supply. That's an opportunity for the Bots to become greedy hoarders and corner of the market. Do you remember what it was like before the Bots came?

S2: Yeah, it was easy.

S1: This week on the show, it's getting Bots in here. So what can we do about it? Is there any way to create a system where Derreck and you can buy stuff without a swarm of Bots getting in the way? I'm Seth Stevenson in for Lizzie O'Leary and you're listening to what next? TBD a show about technology, power and how the future will be determined. Stay with us.

S3: The field of economics I'm in called market design, we think about the rules of the game, we think, look, the ticket Bots where the Sneakers Bots or high-frequency traders in financial markets, they're trying to optimize given the rules of the game.

S1: Eric Budish is a professor of economics at the University of Chicago's Booth School of Business. He studied things like concert ticket scalping and high frequency trading areas of the economy, where markets are being badly skewed by infestations of Bots.

S3: You don't need to be a genius to figure out what the incentives are. The incentives are to use technology to buy the mispriced asset at scale, and you see that in the sneaker market, you see that in the ticket market. I've documented that in the context of financial markets, upwards of 20 percent of financial market volume is high. Frequency trading raises the typical race. The difference in time between the winner and the loser is between five and 10 millionth of a second. So like you, blink your eye tens of thousands of times as much time has elapsed than a typical high frequency trading race. It's just like unfathomably fast, and that's that's 20 percent or more of stock market volume. The structure of the market rewards speed, the structure of the sneaker market, rewards speed, the structure of the ticket market, rewards speed speeds not a constructive form of competition, but that's what the market induces.

S1: Whether it's things, Eric has studied closely like ticketed events and high frequency trading or other stuff like Sneakers and hand sanitizer. The problem is the same new technology that's upended how markets function. Of course, the underlying issue, the fact that some things are very rare and also very desirable, which can lead to some sketchy behavior that part's been around forever. All right. So this thing where people buy up all the tickets to some event and then scalped them at a higher price or buy up all of a limited edition product and then resell it at a profit? Is that relatively new or is that something that also happened in the past?

S3: So I found examples of that phenomenon dating back to a Charles Dickens reading in the 1860s. And now this is not a new thing. Sneakers is a newer thing just because people weren't collecting Sneakers 100 years ago, but by now, this is an old phenomenon.

S1: Was this Charles Dickens giving a reading and people were scalping the tickets?

S3: Charles Dickens was giving readings. Tickets were priced at \$2 since the 1860s. A \$2 is a lot of money back then, but the resale value? There were reports of a resale value of 20 or 30 dollars a ticket. There were reports of a young boy being paid in gold for a good spot in line. It's the same economics without the scale of the internet.

S1: Has the internet fundamentally changed the dynamics of this?

S3: What the internet did was it changed the technology of ticket speculation of the scale with which you could amass tickets in the primary market, then easily resell them in the secondary market. So what used to be like stand in line and buy tickets became bill to buy and buy tickets

across the whole frickin country. And so the economies of scale in amassing mispriced tickets that changed dramatically with the internet and then the secondary market became a lot easier to use to. So the secondary market refers to where do you resell the mispriced goods? So in tickets, it's been StubHub and Vivid Seats and Tickets Now and eBay for a while. And in other markets, you Sneakers at Stock X and a few others. The secondary market venues have become a lot easier to use, too. In the old days, if something was priced at 50 bucks but worth two hundred bucks, there'd be a lot of shady brokers who would get the 50 hour tickets to then resell it 200 bucks. But a lot of fans would also get \$50 tickets and be quite happy about it. But if all of the tickets get scooped up by ticket Bots at 50 bucks and then resold at 200 bucks, that doesn't do the team or the artist any good. So the internet kind of broke the ability to mostly get your tickets to your fans at a low price.

S1: So there's two things. One is like the percentage of the tickets that scalpers can get the ease with which they are. But then there's also like the ease with which they can do it. So it's like if you had to physically stand in line to buy the tickets and then you had to stand out in the cold being like, Hey buddy, you need a ticket to sell the ticket. It feels like you were doing more work to earn the the difference there as opposed to like you made a bob. That just does it all.

S3: Yeah, it took more labor. It was it was more labor intensive, so it didn't scale as well.

S1: First, the internet upset the uneasy equilibrium we had with scalpers, and then Bots threw gasoline on that fire. They're able to scour the internet for new, rare product. And snatch them up faster than you can say, hey, no fair when products launch globally, with sales starting at different times in different time zones. The Bots will actually evolve to become more effective from one country to the next. And while there's some legislation that attempts to prevent Bots from buying up tickets, legislation that's been only moderately successful, there's still no law against using Bots to buy things like clothes or Sneakers. One notorious bought designer claims his Bots have successfully completed two million checkouts for items worth around \$300 million since he got started in 2018. He now rents out his Bots so you too can become a bot overlord if you want to get into the scalping game. Akamai, which makes some of the leading A. Bots software, says that business is growing at 40 percent annually. But while the Bots battlers fight software with software, Eric is thinking about the bigger picture.

S3: So Bots are a symptom of a mistake. There's a couple different versions of the mistake you might have made. One is you set the price too low or you set the quantity too low, and so you left money on the table. Or if your intention was to leave money on the table because you are out of the generosity of your of your heart, or because you're kind of a long term, prudent business person and want to give value to your fans because you know, a loyal fan base is important for

whatever reason. If you if you're choosing to set a price that's too low, then the mistake you've made is letting up the below market priced goods go to Bots, not your fans.

S1: An artist might set ticket prices low for a concert or a sneaker company might charge less for a shoe as a way of earning goodwill with fans. They don't want to seem like they're gouging. They want to seem like they're cool, like they're setting reasonable prices, even if the actual demand would allow them to charge a whole lot more. Or sometimes they might set a price too low because it's important for optics to have the thing sell out really quickly to seem like people are clamoring for it. And when they don't raise the price, it seems exactly what they're doing is just giving free money to the Bots.

S3: Yes, I think the other cool option, the wonderful late economist Alan Krueger, called this Garth mode to Garth Brooks, who had he had a view as to what a fair price for a Garth Brooks concert was. 75 bucks, I think, was the answer. And he just announced, I'll play as many concerts as there is demand to see me at 75 bucks a ticket. So what that does is it kind of puts a ceiling on the resale value because, you know, they'll just be another take another concert you can buy tickets for. That's a beautiful way of shutting down. Speculation is just produce as much as the market will bear at the price that you think is a good, fair price. Sneaker companies could do that. They could just produce more copies of the in-demand Sneakers. But the choice of making it limited edition and also setting a below market price. That's the one that as an economist as is it just hard to get your head around? It doesn't make. Does it make perfect sense

S1: if I'm a sneaker head and there's limited edition run of just 50 pairs of a very cool sneaker, and I want to pay the \$100 fees price for it, but all I can't every Bots bought it up and they're only selling it for \$500. Well, one solution is, Oh, you don't just make 50 pairs of sneakers. They made 5000 pairs of the sneakers. But that just like defeats the whole idea. The whole idea is I want the cool limited edition sneaker, but I wanted it the price I can pay.

S3: Yeah. So they I, I hear you and economists have this line that wants our insatiable resources are limited.

S1: So you're saying consumers are babies and they should suck it up?

S3: That's your language, not mine.

S1: From the point of view of the regular person who just wants to buy a pair of cool sneakers out of love not to turn a profit on them, the whole situation is disheartening. But Eric would like us to think about it a little differently.

S3: I want to distinguish between. It's hugely frustrating because lots of people want this thing that I also want, and it's kind of expensive. I guess it's hugely my my son loves sports cars. I do not drive a Ferrari. This morning we were driving to school and there was a Ferrari next to us. I could just go home crying at night. Life is not fair. I do not get to drive a red Ferrari to school each morning and at some level, like that's that's a piece of of market capitalism. Ferraris are expensive, and part of me has that response to your question about about Sneakers. If there's if you want to buy a nice pair of sneakers, you can if you want to have a limited edition pair of sneakers that tons of other people want. And the reason they want it is there's only 500 of them at some level. Like, that's sort of like wanting the Ferrari because that's going to be an expensive object. The thing that pisses me off that frustrates me as an economist is the stupidity of a system of pretending the price is low and fair and accessible. But actually the prices is high and market clearing it. Just the difference in price between the perceived price and the actual price is all going to speculators or someone who who's grabbing a rat. So someone who's grabbing a piece of that markup on the sly.

S1: It's like a Ferrari set the price of a Ferrari at \$5000 and you're like, sweet, I can get a Ferrari. But then of course you can't. Everyone buys them up, and there's only a secondary market where they cost one hundred and eighty thousand dollars.

S3: Yeah. And you look at Ferrari be like, What are you doing? Why? Why on earth like just set the price of a Ferrari to be an appropriate market clearing price. But it doesn't do anybody any good to pretend the price is five grand. If if it's 180 grand, it's just going to create a lot of crushed hopes and dreams.

S1: When we come back, are there any solutions to this or have the Bots won the war? So how would we create rules that prioritize the emotions of the person who just wants to see the concert or buy the shoe and enjoy it?

S3: So I think Garth mode is a clean answer is just in. If you want to set a low price and you want your fans to all have a chance to buy at that price, raise the quantity, just perform more shows, produce more cool Sneakers so everybody can have have access. I think the other the other kind of answer is harder to execute on, but is to really put a lot of care into the allocation of the fairly the low priced good directly to your fans. So airline tickets have names on the ticket. I can't resell my ticket to you at a markup because my ticket, says Eric Budish. Right. So airline tickets are totally non-transferable. If you did that, then you could just sell tickets to your fans at whatever price you think is fair and shut down the resale market.

S1: These platforms, where the secondary sales happen, like StubHub or eBay, or wherever people are reselling their limited edition Sneakers, do they bear responsibility? Is there anything

they could be doing to make it better?

S3: I hold them responsible for lobbying to preserve flawed rules. So there. That's a line where I am willing to veer into morality talk. I think the thing to note about StubHub in the secondary market venues is how much of the pie they managed to grab for themselves StubHub, SeatGeek and all those sites. Their fees are so high that they're actually making more profit on the resale than the bot themselves and then the broker themselves. And that that means that they're in effect. They want there to be lots of brokers developing great Bots to scoop up mispriced assets to resell. And then they're taken taking this gigantic toll.

S1: I understand why their motivation would be for there to be more scalping, but they're at least providing some kind of service. They're providing a platform where if you're willing to pay the higher price, OK, you can go there and pay the higher price and get the ticket to get the Sneakers in the other case. But what are the what are the scalpers providing? What value are they providing?

S3: So I think in a. I think you're absolutely right. I think in a perfect world there would be a resale market or something like that where if you really badly wanted to go to an event and you were willing to pay pay through the roof to get there, there'd be a price like someone would make you a market. I've used the secondary market to go to events. I want to go to all the time. It's great. I went to thirty five years ago. Last month I saw the Mets clinch the division title. My dad took me. He at the time, he said like a friend, gave him the tickets. But I think we, we all we all know where, where he got them. We sat way up in the upper deck at Shea Stadium and like, that was great and I don't know what my dad paid for those tickets, but whatever it was, it was totally worth it and I'm glad there was a market that made that possible. And that was in the good old days when most tickets went directly to fans in the first place. It's this situation we're in, where most of the tickets flow through Bots and then the secondary market, both of whom are collecting a big, a big fee that that doesn't make a whole lot of sense.

S1: Eric Budish has also studied the world of high frequency trading, where software gets used to execute huge amounts of financial transactions in fractions of a second. With both the Sneakers buying Bots or the high frequency trading Bots, people are investing tons of time and money and expertise in improving these Bots. They're locating the Bots closer to the point of sale, both of high frequency trading, and even with the Sneakers sales, they're locating the Bots closer to get that millisecond advantage. This all seems like it's just parasitic behavior. Is this providing any value to society?

S3: Let me answer your question directly, which is which is no it. It's socially wasteful behavior that does not provide value to society. When you see technology being used for these tiny

relative advantages, like being located ever so slightly closer to the exchange because that gives you an advantage measured in millions of seconds, are being having your phone located ever so slightly closer to the point of distribution for Sneakers sale? That's a symptom of competition on a bizarre level, and that's economists call that socially wasteful behavior or rent seeking behavior. I try to emphasize to my students the difference between value creation strategies and value capture so that the companies we we admire most grow the pie. They invent new things, they improve products, they create value. And a lot of this stuff is about capturing from a fixed pie or even shrinking the pie. Parasitic is not too strong a word, so.

S1: If I put you in charge of the universe, but I told you the only thing I want you to solve this problem with Bots buying up all the Sneakers, all the cool Sneakers. What would you do?

S3: I mean, first of all, I want to reject the premise of your question, which is I'm in charge of the whole universe and my task is to fix the Sneakers market. So I guess if I were king, I would. If you if Nike really wants to sell just 50 copies of some sneaker, they should sell those sneakers to fans who have done works of charity or who have, you know, one essay contest you some something noble and value creating for society that could be a way of competition on some different dimension other than price. And other than botting, that's more more socially valuable.

S1: Right now, the competition for the regular person is, you know, clicking faster than a bar, which you're never going to win. But you might be about in an essay contest.

S3: Yeah, you could beat a bot in an essay contest, just finding some constructive dimension to compete on. So that would be a way of redesigning the market to produce value creating competition, not value destroying competition.

S1: Eric Budish, thanks so much.

S3: Oh, thank you. This is this is fun, and I'm glad to be with you.

S1: Eric Budish is a professor of economics at the University of Chicago's Booth School of Business. Derrick Johnson is a designer at Slate, and that is it for the show today. TBD is produced by Ethan Brooks were edited by Tory Boche and Alison Benedict. Alicia Montgomery is the executive producer for Slate Podcasts. TBD. As part of the larger What Next family, TBD is also part of Future Tense, a partnership of Slate, Arizona State University and New America. If you missed it earlier this week, you should definitely go back and listen to Tuesday's episode of What Next? The show is about Bill Gates and his role in lagging vaccination rates. Lizzie Lizzie O'Leary will be back next Friday, and Mary Harris will be back in your feed next week. I'm Seth Stevenson. Thanks for listening.