

HOW CAN WE STRETCH ELASTICITY?

STEPHEN WADE, RESEARCH AND DEVELOPMENT MANAGER, WASHINGTON'S LOTTERY AND PRINCIPAL, LOTTERY MANAGEMENT CONSULTING, LLC



M., my friend who is both a professional economist and a lottery enthusiast, is deeply involved in public policy. He often has interesting perspectives on items that are up for consideration by the legislature. Usually, none of these has much to do with the lottery. One day, though, we were talking about how the legislature in another state had recently relaxed a rule that had required the lottery to return a certain percentage of its sales to the state. We agreed that this was a good move if the intent of the legislature was to raise more money.

"Yes" I said, "the legislature finally was persuaded that Price Elasticity of Demand works for lottery games. A smaller slice of a bigger pie can be more food." I like to throw in things that I remember from economics when I am talking with M., to maintain a higher tone of the conversation.

"Now," said M., "they will be free to develop their games along the same lines your lottery has, I suppose. Or they may be given even more freedom. I assume that you are still under a directive to control the spread of lottery play?"

"A directive?"

"I mean, your legislature has never told you what to charge for your prizes, but someone must have told you not to try to get more people to play, as a matter of policy?"

"No!" I said. "At least, we are constantly talking about how to get more people to play. We worry that we are going in the direction of having fewer and fewer people spending more money."

"Ah. Well, looking at your pricing policy, it's no surprise that your participant base is narrow. I had thought maybe you were under direction to do that."

I was beginning to feel a little defensive. "What pricing policy is that?"

"You exploit Price Elasticity of Demand only in substituting one product for another, among current users. Of course, I don't know if that is your policy. But I can see it is your practice."

"You can't infer what we mean to do, from what we actually do," I said.

M. smiled. "Yes, we have that problem in my office too."

I felt reassured by M.'s nonjudgmental tone, so I ventured to ask, "So, what do you see, specifically?"

"Within your scratch game business, which games cost the players least to play?"

"The bigger the ticket, the lower the cost: the twenty-dollar tickets return the most to the player." M. had amazed me with this perspective in one of our early conversations.

"And which games have the smallest player base?"

"The twenties- only about one player in ten actually buys them."

"And what did they buy before they bought twenties?"

"Everything else in the Scratch line, probably. We coaxed them up from the ones and twos."

"And the ones and twos have the biggest player base, and also the highest cost to play."

M. made the gesture I call the Raised Index Finger of Instruction, as he said, "You applied Cross-Price Elasticity of Demand to induce some of the broader player base to substitute fives for twos, tens and twenties for fives. Each time you offered a substitute product, you made it cheaper for them to play in the long run. You also gave them bigger tickets, more interesting graphics. Some portion of your players moved each step. This is all product substitution among the existing customer base."

"And we made a lot more money," I asserted.

"If so, then you must have offered them something they wanted." I had talked with M. enough to know that he was not necessarily agreeing with me here, but only acknowledging a diversion he did not wish to pursue.

"So, you have attempted to make more money by getting some part of your player base to buy much more of a somewhat less expensive product. It has certainly increased sales. But why confine your use of Price Elasticity of Demand to moving some of your current player

base up an escalator? Why not go after new players?"

"What would that look like?"

"Your focus would be on converting people to play in the first place. You would identify the products people are most likely to try," he said, using his fingers to put quotes around "try." "You would aim to increase demand for these by making the cost of playing these as low as you can bear."

"And if people are most likely to try the one- or two-dollar tickets, you would make the Lottery's prize expense the same on those as on the tens or twenties?"

"Why not? Wouldn't you expect to sell enough to net the same money, and get more players besides?"

"How much more would we have to sell?"

"Let me get back to you on that. I can get your prize structures off the Web. What do you pay for sales?"

"You mean to the retailers? They get six percent of sales."

"I mean retailers, and anyone else who gets paid on sales."

I told him what I knew and we went on to talk about other things.

The next week he got back to me with one of those e-mails with a table in it.



I was a little taken aback, but was not completely sure that I was reading the table correctly. I insert it on next page.

The next time I saw him, I said, "Do you mean to say that if we increased our prize expense from 60% to 75%, we would have to double sales just to break even? I'm not sure we could do that." (*See Chart on next page*)

"Haven't you done it already, by substituting products?"

"Doubled sales?"

PRIZE EXPENSE BREAK-EVEN FACTORS (ASSUMING 10% COST OF SALES)

Change Prize Expense FROM:	Change Prize Expense TO:				
	55%	60%	65%	70%	75%
55%	1.00	1.17	1.40	1.75	2.33
60%	0.86	1.00	1.20	1.50	2.00
65%	0.71	0.83	1.00	1.25	1.67
70%	0.57	0.67	0.80	1.00	1.33
75%	0.43	0.50	0.60	0.75	1.00

"No, broken even. Or more."

In fact, as I later checked into it, our increases of sales over the years and our increases in prize expense have been moderate in size and linked together in time. We have grown our gross profit by more than enough to break even, if we attribute all the change, over years, to players substituting one product for another. But we don't do that. We know that our biggest increases in sales came at a time when the economy was booming and the population of playing age was growing. The effects of more people, easier money, and games that cost less to play are completely intertwined in our history. At the time of the conversation I was less well informed and consequently more confident than I am today.

"I'm sure we have done much better than break even."

"Then it might be safe to expect the same thing to happen among the more casual players, no? And then maybe you can keep more of them playing for longer. And eventually they might substitute some of your bigger tickets for the ones they started on, not because the big tickets cost less to play

but because they have learned to appreciate something the big tickets provide. If the big tickets are preferred, you might even be able to charge more for them."

"That would turn our whole policy on prize expense upside down!"

"I thought you didn't have a policy."

"Maybe not, but we certainly have customs."

"Yes, sometimes it can be hard to tell the difference between policy and custom. But you see, now, why I asked about your policy constraints? To me, it seems that offering better and better prices to a smaller and smaller part of the customer base is a good way to build up a big trade without expanding use of your product. If you want to expand use of the product through the population, you would more likely succeed by making the entry-level product as attractive as you can. And part of that would be what we call pricing for penetration."

I used the phrase "pricing for penetration" around the Lottery a couple of times, but did not get

much of a response. I sketched the idea of doing something very different with prize expense, and usually got an indignant response: "We have always done it this way." With customs that strong, what use is policy?

However, when the discussion at the Lottery returns, as it sometimes does, to our narrow player base, I do try to offer M.'s perspective. I am pretty confident that price elasticity of demand for lottery tickets is sufficient to support all kinds of product substitution, for players who like Scratch tickets. I would like to think that offering beginning players a better deal would help confirm them as long-term players. I hope that some time, we will be willing to test this notion in a big way. And when that opportunity arises, I hope I will be able to ask M. for advice. ■

STEPHEN WADE
RESEARCH AND DEVELOPMENT
MANAGER, WASHINGTON'S
LOTTERY AND PRINCIPAL, LOTTERY
MANAGEMENT CONSULTING, LLC