

WHAT IS IT ABOUT EL GORDO?

This game is built as if to rely upon records kept in ink on paper, and tickets that are transported by mule. It is in some ways a better game than those most of us sell now, not in spite of this constraint but because of it.



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"A whole village wins..." That's what we in the English-speaking lottery world say about the Spanish Christmas Lottery (Sorteo de Navidad), often referred to as "El Gordo." We know that there is something very positive about that "whole village" effect. This article is about why the Spanish game works this way, and also why we respond so positively to it.

"El Gordo," as you probably know, just means "the fat one" in Spanish. A big top prize in any lottery game might be called "El Gordo." The top prize in the game run each Christmas season by the Spanish National Lottery is big, but not that big: 4 million euros. This game is considered the biggest lottery game in the world not because of the top prize, but because of the total value of all prizes that are awarded from a single drawing event. In 2016, 16.5 million tickets sold at 200 euros apiece should bring in 3.3 billion euros – over \$3.45 billion. About 2.4 billion euros will be paid out in prizes – a generous prize fund amounting to about 70 percent of sales.

The drawing itself is a festive spectacle, embodying long tradition and watched by millions of TV viewers. You will find good descriptions of the drawing elsewhere. My purpose here is to understand less visible properties of the game.

In 2016, there are 165 prizes at the top value of 4 million euros, and also 165 of the second prize (1.25 million euros.) This produces a "shower of millions." There are eight lesser prize levels, with notable abundance of prizes at 200 euros and 1000 euros. In fact, when I studied the prize structure of the game, I was surprised to see that it has features I would recommend for an instant game, if someone asked me to design an instant game with a \$200 ticket. The overall odds

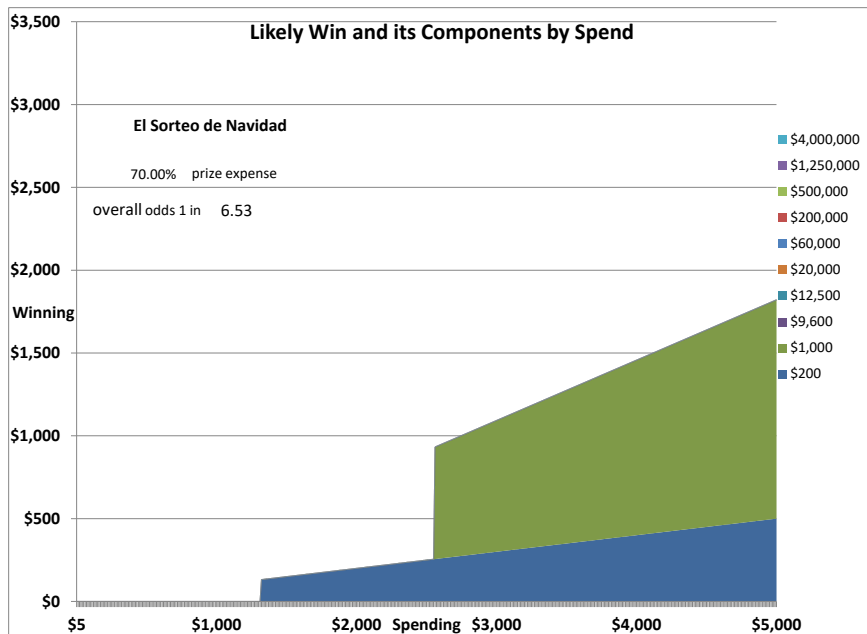
of the game are 1 in 6.35. There is a pretty good chance to win five times your wager. The chart on the next page (a graph of the type I described in the May 2013 *NASPL Insights*) conveys that if you can spend \$5,000, you can be pretty sure of winning back one-third of it. (The chart uses dollars but is based on the El Gordo prize structure in euros.)

This prize structure may help explain why the game has succeeded since it started in 1812! And yet, that is not the main focus of this article. Instead, I want to explain how the information technology and logistics of the early 19th century shaped the structure of this game, and why the authorities have been wise to change it very little for 200 years.

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An idea that arose naturally in this information technology (IT) environment is the sub-divisible lottery "ticket." The ticket is the element of a lottery system to which an outcome gets attached: individual tickets are winners, or they are not. Today, producing, tracking, and assigning outcomes to individual tickets is routine lottery IT business, and we think nothing of having millions of individual tickets vying to be the big winner on several nights each week. It is natural to produce as many tickets as each individual player wants, almost without limit.

However, in the days when the printer was a person who engraved a plate and turned a big screw to press it onto paper, there were obvious limits to how many tickets could be produced. It has always been desirable to have many players, but in the old days it was clear that many players could share



Norton.) I also think that the sad prospect of failing to share in a win enjoyed by one’s social circle motivates people to play. Whichever imagined emotion dominates, the outcome is the same and it is positive for the lottery. This is partly why people join lottery pools at work, and partly why El Gordo works so well.

Can we duplicate this sharing effect of “El Gordo” in North America? Perhaps, but not by building a game of the same structure. The success of the Christmas Lottery rests not only on the merits of the game design, but on tradition. This is something of incalculable value, for which no advertising can substitute. I also believe that the social linkage among people who buy at the same shop is stronger in Spain than it is in North America. It is not merely a matter of day-to-day habits, but of long familial association with a place. Few of my friends in North America live in the same neighborhood where their grandparents lived, while in Europe this is more often so. The likelihood that two shoppers in the same store are related by blood, marriage, or shared experience is higher outside of urban North America. Mobility works against the retail shop as a social nexus. Within Washington State, I have used records of winners to show that only about 40 percent of lottery draw game tickets are bought in the zip code where the player resides.

I do believe that we can use this understanding - that people vividly imagine the good feeling of sharing and the bad feeling of being excluded from sharing - to design better lottery games for North America. The key is to center the opportunity to share on a current social nexus, rather than merely on location. We do not have tradition in our favor - we must use innovation. ■

a ticket. Rather than “at least one ticket per player,” the rule of thumb was “at least one ticket per retailer.” The price of an individual ticket was set so high that few players would buy a whole one; instead the ticket was built to be broken into one-tenth shares or “decimos.” Because of this, several individual players who are patrons of the same retail shop will share in the outcome of a single ticket.

That single ticket would have been delivered by mule. Some mules delivered a single ticket to a village tobacco-seller; other retailers received several tickets. But in the retail environment of the time, with many small shops, probably no retailer required more than one mule to be fully provisioned with lottery tickets.

It was also clear that the drawing ceremony, entertaining and elaborate as it was, was not scalable beyond a certain point. Only so many winning outcomes can be determined in a night, by children who draw wooden balls representing ticket numbers from one vessel, and papers showing prize amounts from another, and sing the result. The obvious solution was to stick with limited set of ticket numbers and to issue the tickets in multiple series. All the tickets having the same number, across however many series, receive the same outcome.

Printing, distributing, and assigning outcomes to tickets was thus organized around the retailer, rather than the individual player. When a winning outcome was associated with a ticket, it was instantly associated with a retailer, and usually to players within walking distance of the retailer’s physical location. Further, some retailers arranged to have the same ticket numbers across multiple series delivered to them. This is how it happens that “the whole village wins:” the retailer captures the outcome, perhaps in multiples, and each player who holds a share of the lucky ticket number wins.

The charming social aspect of El Gordo is thus a product of IT and logistics at the start of the 19th century. The Spanish lottery has astutely recognized that this is something to be complemented but not superseded by modern technology. So nowadays El Gordo tickets have machine-readable bar codes for authentication, but the ticket is still meant to be shared. The price and the layout of the ticket support this.

Clearly, I think that this sharing aspect is important and something to be desired. Why? Basically, because I think the happy prospect of sharing a win within one’s social network motivates people to play. There is now significant academic research that supports the idea that humans are “wired” to experience joy in sharing (see a popular account of this work in the 2013 book *Happy Money - the New Science of Happier Spending* by E. Dunn and M.

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