The Journal of Socio-Economics 45 (2013) 124–131

Contents lists available at SciVerse ScienceDirect

The Journal of Socio-Economics

journal homepage: www.elsevier.com/locate/soceco

Syndicated play in lottery games

Brad R. Humphreys [a,*], Levi Perez [b]

[a] University of Alberta, Department of Economics, Canada
[b] University of Oviedo, Department of Economics, Spain

ARTICLE INFO

Article history:
Received 10 July 2012
Received in revised form 19 April 2013
Accepted 3 May 2013

Keywords:
Lottery
Syndicate
Principal–agent problem

ABSTRACT

Anecdotal evidence indicates that many people pool funds to purchase lottery tickets. We investigate the characteristics of such syndicated lottery play in Spain. The results indicate that the method of play, and the characteristics of syndicate members, exhibits significant heterogeneity across different lottery games. Employed individuals are more likely to participate in lottery syndicates than unemployed individuals, and females are more likely to play lottery games syndicated than males. The evidence supports both economic and sociological motives for syndicated play; informational problems appear to be an important barrier to the formation of lottery syndicates.

1. Introduction

Syndicated play in lottery games is a practice in which friends, relatives, or co-workers pool funds and collectively purchase lottery tickets. Anecdotal evidence suggests that syndicated lottery play is common all over the world. However, little research has focused on the reasons why individuals pool funds and play lottery games in a syndicate. Clearly, syndicated lottery play could be driven by economic or sociological motives. From an economic perspective, syndicated play represents economic cooperation aimed at maximizing the expected return from playing a lottery game. From a sociological perspective, syndicated play represents a means for participants to enhance or keep social status within a social network.

Based on past jackpot winners, syndicated play in lottery appears common all over the world. The largest Lotto jackpot ever in Ireland was won by a 16 member syndicate, sharing a €18,963,441 jackpot. The largest syndicate to win a Lotto jackpot in Ireland was the Confey GAA syndicate in County Kildare; its 291 members shared a €205,520 jackpot in August 2004. Lottery sponsors encourage syndicate play. The home page of the UK National Lottery contains a "Start a Syndicate" link that contains tips for forming a lottery syndicate and a template for a formal syndicate agreement. Other official lottery web sites contain similar information.

In the two largest lottery games in the United States, PowerBall and MegaMillions, over the period 2002–2010, there were 104 MegaMillions jackpots and 108 PowerBall jackpots claimed. 14.4% of the MegaMillions jackpots and 16.6% of the PowerBall jackpots were claimed by syndicates, some involving as many as 30 members. An additional 10.5% of the MegaMillions jackpots and 9.25% of the PowerBall jackpots were claimed by trusts or corporate entities that could represent either single players or syndicates. Between 15% and 25% of all lotto jackpots in the US are claimed by syndicates. Since jackpot winners are clearly a random sample of lotto players, the underlying rate of syndicated play must fall somewhere in this range. Guillen et al. (2012) report that 21% of US lottery players surveyed in 1997–98 participated in a lottery syndicate.

Given evidence of frequent syndicated play in lottery games and the lack of attention paid to syndicated lottery play in the economics and sociology literature, we investigate the characteristics of syndicated lottery players and the nature of syndicated lottery play in a specific population: lottery participants in Spain. The Spanish lottery market has a number of interesting characteristics that make it an ideal setting for examining syndicated play: lottery games are very popular in Spain, the country has a long history of offering lottery games, and many lottery games with different characteristics, including both passive and active games and a mix of odds of sinning and jackpot sizes, are available in this market.

Both economic and sociological theories explain participation in lottery syndicates. The existing research focuses primarily on sociological explanations for syndicate participation and tends to focus on participation in a single lottery game or averages across games (Garvía, 2007; Guillen et al., 2012; Beckert and Lutter, 2012). This paper analyses syndicate participation in multiple lottery games with heterogeneous characteristics using proxy variables for both economic and sociological motivations.

* Corresponding author at: Economics of Gaming, University of Alberta, Department of Economics, 8-14 Tory, Edmonton, Alberta, Canada T6G 2H4.
Tel.: +1 780 492 5143.
E-mail address: brad.humphreys@ualberta.ca (B.R. Humphreys).

1053-5357/$ – see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.socec.2013.05.010

Our results indicate that syndicated play differs across types of lottery games in important ways. The characteristics of syndicate players, and the nature of syndicated play, in low probability-high payoff lotto games differs from those in passive games, and from those in football pools, a popular Spanish gambling activity that resembles lottery games and is played at lottery outlets where other lottery game tickets are purchased.[1] The results suggest that sociological factors predominate, although information asymmetries may also be an important factor in explaining syndicated lottery play.

2. Explanations for syndicated lottery play

A lottery syndicate is a group of people who periodically pool a specific amount of money to be used to purchase lottery tickets together and share all winnings from those tickets. For example, if an individual currently spends €1 a week on tickets for some lottery game, he could agree to cooperate with other individuals, perhaps co-workers, family, or friends, who also spend €1 a week to form a syndicate. This would allow these individuals to buy a larger number of tickets each week between them, increasing the probability of winning. If a ticket wins a prize they would each receive a share of the winning. Note the forming a syndicate involves both costs, in that a syndicate member must contact all other members periodically to collect the money used to purchase tickets and distribute winnings, and also requires trust, in that the person who collects the money and distributes the winnings could misrepresent either the amount won or the existence of any winnings. In this sense, a lottery syndicate faces the classic principal–agent problem. Garvía (2007) discusses syndicated lottery play in the principal–agent context.

Principal–agent problems arise because of incomplete and asymmetric information. In the case of a lottery syndicate, the members of the syndicate who contribute money for the purchase of tickets and share in the winnings can be thought of as the principals and the syndicate member who collects the money, buys the tickets, keeps the tickets, collects the winnings, and distributes them can be thought of as the agent. In this case, the contributing members of a lottery syndicate can have incomplete or asymmetric information about the amount of money collected by the agent, the number of tickets that the agent purchases, and the number of winning tickets and value of the prizes generated by these winning tickets. This gives this person many chances to cheat syndicate members. Syndicate members must trust the individual who is responsible for buying the tickets to actually make the purchase and to share the prize money won, or alternatively develop some mechanism for ensuring that the ticket buyer accurately reports and distributes all winnings. Syndicates, then, can only emerge when their members are able to overcome this issue.

A simple economic explanation for participation in a lottery syndicate could be related to sharing the cost of the bet. Although most modern lotteries are low priced – a 6/49 lotto ticket typically costs between €0.50 in Spain to £1.00 in the United Kingdom – some lottery operators allow players to buy "multiple" bets on a single ticket. In a 6/49 lotto game this could mean betting on 7 or more number combinations instead of just betting on 6, increasing the odds of winning. This also increases the cost of the bet. One way to share this high cost is to play that lottery game in a syndicate. In addition, some passive lottery tickets, like the Spanish National Lottery, cost €30, €60, €120 or €200 per ticket, depending on the draw. Playing in a syndicate in this game is a way to participate in the game while reducing the cost of participation.

Of course, the only guaranteed way for an individual to increase their chances of winning any lottery game is to buy more tickets. But if an individual does not want to spend more, then an alternative way of increasing your chances is to participate in a syndicate. So, syndicates may be set up by players who pool their bets to increase their chances at winning a prize in a certain lottery game.

However, people playing in a syndicate may try to strike a balance between increasing the probability of winning and receiving a larger prize. The more members a syndicate has, the less each member will receive if a syndicate ticket wins a prize. So, syndicate play effectively transforms a lottery game with large prizes and small odds into a different game with lower prizes and better odds. As pointed out in Garvía (2007) one should expect syndicate players, compared to individual players, to have a preference for the later kind of lotteries over the former.

Thaler and Ziemba (1988) point out that a large lottery syndicate could attempt to "buy the pot" in a lottery game, if the game design includes a relatively small number of possible outcomes. While the transactions costs associated with buying thousands, or millions of lottery tickets would appear to make this difficult to accomplish, a growing number of lottery agencies allow for the purchase of lottery tickets on-line, which could substantially reduce the transaction costs by automating the process.

Thaler and Ziemba (1988) identify a second possible economic benefit from syndication. In many lottery games, players can select their own numbers in each draw. Because of this choice, some numbers are more popular than others. For example, lottery players select birthdays as their numbers, making numbers greater than 31 relatively unpopular. Since the numbers selected by players are not uniformly distributed, the expected return associated with different numbers is not constant, because of the increased likelihood of multiple winning tickets with the same number. Adams and Ferreira (2010) show that groups perform better than individuals when forecasting uncertain outcomes. A lottery syndicate could make better decisions about which specific numbers have a higher expected return than an individual, generating a higher return for a syndicate.

Finally, although individuals play the lottery in a syndicate to increase their chances of winning, participating in a lottery syndicate can also increase the enjoyment and excitement of lottery play. Wohl and Enzle (2009) conducted experiments that suggest individuals may view a syndicate as a way to increase the probability of winning by including "lucky" people in the group. Whether you play as a work group, with your family, in a sports club or at a local pub, playing together generates additional enjoyment and excitement through talking about winning. This is consistent with Conlisk's (1993) economic model of the utility of gambling. This model predicts that a small amount of satisfaction generated by the act of gambling can induce individuals, even risk averse individuals, to participate in gambling activities that have a negative expected return.

A number of sociological explanations for syndicated lottery play also exist. Garvía (2007) suggests that syndicated lottery play can be explained as an institutionalization process by which lottery tickets are transformed from purely economic assets into symbolic carriers of interpersonal ties that convey membership and status position in relevant social networks. Garvía (2007) points out: "... among the five first-prize Christmas lottery winners of the 20th century, we find the owner of a fusing company who distributed lottery shares among his relatives, his lawyer, and his 48 employees, though he kept the biggest share for himself Clearly, the brokers of these syndicates were not people who shared lottery tickets because they could not afford to play individually; nor did they share their tickets with relatives, friends, or employees

[1] Previous studies dealing with the demand for football pools are based on considering the football pools as being sufficiently similar to a lottery. Thus, the earlier empirical research on this field is based fundamentally on the application of demand for lottery models in order to capture the effects on football pools sales of ticket pricing, jackpot announcements or prize structure.