Football pool management in Spain

Contact details
Name author(s): Levi Perez & Placido Rodriguez
Institution(s) or organisation(s): Department of Economics, University of Oviedo
City and country: Gijón, Spain
Email address for correspondence: lperez@uniovi.es

Aim of paper and research questions

The importance of the football pool industry in Spain lies in the scope of its economic and social benefits. A share of revenues goes to the provincial governments in order to promote social activities and sport facilities. Also, the Spanish Professional Football League and the National Council of Sports benefit from football pools.
Football pools in Spain are managed by the Spanish Lottery Agency involving two different gambling products: *La Quiniela* and *El Quinigol*. Since revenues are fixed portions of sales, football pools management should be usually motivated by the maximisation of sales.
To see if revenue-maximising game designs have been chosen, we need to look at the determinants of participation, which include the price, the size of the prize pool, and the difficulty of the game, i.e. the probability of winning the top prize (jackpot).
We also consider the relevance of the composition of betting coupons, meaning the teams included on them, to account for the importance of the illusion of control in football pools, where bettors use their knowledge on football teams to try to correctly guess the results of the designated matches.
In order to study the effects of all these parameters on football pools sales we present such a model and use it to address the issue of whether both the current game design and the choosing of the teams included on the coupon are the appropriate ones to maximise revenues.

Literature review

The empirical research into how football pools run, or how they should be designed is limited. However, pools sales have been found to be influenced by game characteristics, such as price, prizes and the composition of the coupon (Forrest, 1999; Garcia and Rodriguez, 2007; Garcia, Perez & Rodriguez, 2008).
As football pools shares some characteristics with lotto games in that both are pari-mutuel games previous research have dealt with a demand model based on the same economic framework of the empirical models in the lotto demand literature. Thus, the economic variables considered to explain sales are the effective price – defined as the face value of a bet minus the expected value of the prizes on offer – (Cook & Clotfelter, 1993; Gulley & Scott, 1993; Scott & Gulley, 1995; Walker, 1998; Farrell & Walker, 1999; Farrell, Morgenroth & Walker, 1999; Forrest, Gulley & Simmons, 2000) and the jackpot (Forrest, Simmons & Chester, 2002).

Research design and proposed data analysis

Using data for all the fixtures for the seasons from 2005-2006 to 2007-2008 we estimate a demand equation for football pools devoting special attention to the issue of which economic model is behind the empirical evidence, i.e. whether the main economic determinant of sales is the effective price or the jackpot. This aspect has some relevant management implications because the effect of changing either the structure of prizes or the design of the game will differ depending on the economic model we consider.
To measure the impact of the list of matches included on the coupon on participation we define a set of dummy variables which captures three types of coupons according to the teams included:

those including Spanish Second but not First Division teams, those including National teams and those including Champions League teams.
Finally, we also wish to control the effect of other potential determinants of sales such as addiction, seasonality, and whether it is weekend fixture or not.

Discussion of progress

Since football pools are pari-mutuel, the amount devoted to prizes depends on sales, so both the effective price and the jackpot are endogenous to the demand function, we could not estimate both models by ordinary least squares. Following Gulley and Scott (1993) we estimate them by using two stages least squares. According to the results the jackpot model fits the data better than the effective price model.
Estimates are expected to evaluate whether the revenue-maximising design has been chosen and to suggest which matches should be included on the coupon in order to increase sales.
For *La Quiniela* we find that the long-run elasticity of sales with respect to the 'price' is close to minus one, that implied by revenue maximisation, while for *El Quinigol* it is, in absolute value, significantly higher, implying that this game design could be change to increase sales revenues.
The absence of Spanish First Division teams in the coupon is found to reduce sales, the same occurs when Champions League teams are included. The presence of National teams in the list of matches has no effect on sales.
The midweek features also cause a substantial reduction on sales.

References

Cook, P., & Clotfelter, C. (1993). The peculiar scale economies of lotto. *American Economic Review*, *83*, 634-643.
Farrell, L., Morgenroth, E., & Walker, I. (1999). A time series analysis of U.K. lottery sales: Long and short run price elasticities. *Oxford Bulletin of Economics and Statistics*, *61*, 513-526.
Farrell, L., & Walker, I. (1999). The welfare effects of lotto: Evidence from the UK. *Journal of Public Economics*, *72*, 99-120.
Forrest, D. (1999). The past and future of British football pools. *Journal of Gambling Studies*, *15*, 161-176.
Forrest, D., Gulley, O.D., & Simmons, R. (2000). Elasticity of demand for U.K. National Lottery tickets. *National Tax Journal*, *53*, 853-863.
Forrest, D., Simmons, R., & Chesters, N. (2002). Buying a dream: Alternative models of demand for lotto. *Economic Inquiry*, *40*, 485-496.
Garcia, J., Perez, L., & Rodriguez, P. (2008). Football pool sales: How important is a football club in the top divisions? *International Journal of Sport Finance*, *3*, 167-176.
Garcia, J., & Rodriguez, P. (2007). The demand for football pools in Spain: The role of price, prizes and the composition of the coupon. *Journal of Sports Economics*, *10*, 1-20.
Gulley, O.D., & Scott, F. (1993). The demand for wagering on state-operated lotto games. *National Tax Journal*, *46*, 13-22.
Scott, F., & Gulley, O.D. (1995). Testing for efficiency in lotto markets. *Economic Inquiry*, *33*, 175-188.
Walker, I. (1998). The economic analysis of lotteries. *Economic Policy*, *13*, 359-392.