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Does the football matter? An insight into football pools players' behaviour

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DOES THE FOOTBALL MATTER? AN INSIGHT INTO FOOTBALL PLAYERS' BEHAVIOUR

KEYWORDS: Football pools, Player's behaviour, Composition of the coupon, Jackpot.

ABSTRACT: This paper analyses the role of the composition of the coupon in the demand for Spanish football pools (*La Quiniela*). As *La Quiniela* players are expected to use their football knowledge in the process of selecting matches results, the inclusion of editions of the game in which the teams listed in the coupon are unfamiliar may negatively affect *La Quiniela* sales. Empirical findings confirm that the link of the pools to the composition of the coupon matters. Additionally, the net revenue effect of the inclusion of new *La Quiniela* fixtures is also studied concluding that it seems to be in favour of the operator.

The history of football pools in Spain (*La Quiniela*: a pari-mutuel betting medium based on the results of football matches) incorporates multiple changes of price, game design and operation, and prize structure, intended to adapt the game to the evolution of the Spanish gambling market. Mainly, the introduction of lotto games in the market, such as *La Primitiva* (a 6/49 lotto game) in 1985, questioned the pools' predominant position leading to substantial cannibalisation of *La Quiniela* sales (Forrest and Pérez, 2011, and García and Rodríguez, 2007). The operator responded by adjusting the game in order to recover sales. These changes contributed to treat the football pools as if they were a lottery game. Previous papers modelling pools demand in Spain (Forrest and Pérez, 2011; García and Rodríguez, 2007; García, Pérez and Rodríguez, 2008) have analysed pools sales using the same framework as followed in the lotto demand literature; such as the effective price model (Gulley and Scott, 1993) and the jackpot model (Clotfelter and Cook, 1989, and Forrest, Simmons and Chesters, 2002). The effective price model, based on expected utility theory, has been the most frequently used in this type of analysis. In this model the effective price of a bet is defined as the difference between the nominal value and the expected prize. Forrest, Simmons and Chesters (2002) specify an alternative model where the jackpot (the maximum prize) is considered the relevant economic variable determining sales. Furthermore, García and Rodríguez (2007) distinguish between the effects of the two variables including both in the model specification when analysing the demand for football pools in Spain.

Additionally, starting in the 1995/96 season some extra editions (mainly in midweek; similar to biweekly draws in lotto games) of the game were introduced - the per season average number of *La Quiniela* fixtures rises from 40.5 in the period between 1970/71 and 1994/95 seasons to 46.95 in the following period till the 2014/15 season. The inclusion of new *La Quiniela* fixtures beyond the Spanish First Division and Second Division calendar leads to editions of the game in which there might be no First Division games and even no First and Second Division games on the coupon (between the 1970/71 till the 1994/95 season there were only 28 editions of the game in which neither First Division teams nor Second Division teams were listed in the coupon). As *La Quiniela* players are expected to use their football knowledge in the process of selecting matches results, this may clearly affect players' behaviour in aggregate and so *La Quiniela* demand and sales.

García and Rodríguez (2007) and Forrest and Pérez (2011) predicted a considerable decrease in sales if there were no First Division matches in the coupon. However, they no control for the exact composition of the list of matches and their analysis was limited to the inclusion of a dummy variable for the absence of First Division and Second Division teams. This result was showing the importance of the "illusion of control" by bettors in *La Quiniela*, compared to the traditional lotto games where the knowledge of the game has no influence on the bets.

The aim of the paper is to provide more detailed evidence of the role played by the knowledge of the performance of the teams (the so-called "illusion of control") on the demand of *La Quiniela*. This paper goes further in the analysis of the composition of the coupon by taking into account the different types of matches included. Moreover, the net revenue effect of the inclusion of new (additional) *La Quiniela* fixtures is also studied by comparing the

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estimated impact on a 'regular weekend' fixture – only matches from the First and Second Division - sales of having a previous midweek fixture scheduled with the sales achieved in that midweek fixture, paying special attention to the composition of the midweek coupon.

Next section describes the data and discusses the methodology approach. Following, the main empirical findings are presented. The paper ends summarizing the main conclusions reached.

Method

We analyse the effect of the composition of *La Quiniela* coupon and the net revenue effect of including a midweek fixture by estimating a demand model similar to that in *García* and Rodríguez (2007) and Forrest and Pérez (2011) but distinguishing among ten different types of fixtures according to the (type of) football matches listed in the coupon instead of just including a dummy to control for a midweek fixture. In Table 1 we report the frequency distribution of the number of fixtures depending on whether the coupon corresponds to a weekend or a midweek fixture. As mentioned above, midweek editions of the game were introduced as a strategy of the operator to boost sales increasing the number of *La Quiniela* fixtures per season (Figure 1). Figure 2 lines the evolution of the number of *La Quiniela* midweek fixtures from the 1970/71 season to the 2014/15 season, where it is clear the substantial increase in the number of midweek fixtures in the last years.

Data and empirical model

Data we use include all *La Quiniela* fixtures from season 2008/09 to season 2014/15 (n = 391). It is clear that what we call *regular* fixtures (i.e., fixtures with Spanish First Division matches

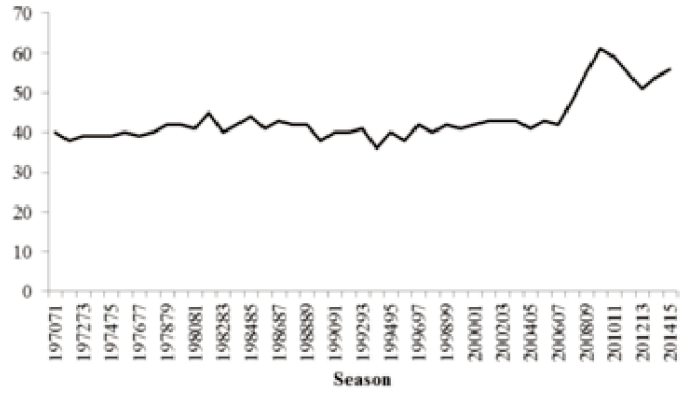

Figure 1. Number of La Quiniela fixtures (1970/71 – 2014/15)

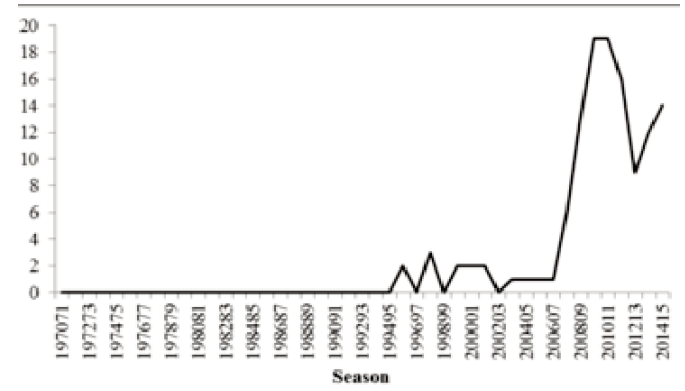

Figure 2. Number of La Quiniela midweek fixtures (1970/71 – 2014/15)

Type of football matches	All fixtures	Weekend fixtures	Midweek fixtures
Spanish First Division and (Second Division or Second	252	246	6
Spanish First Division and 'other European leagues'	14	0	14
Spanish Second Division and Second Division B	12	12	0
Spanish Second Division and 'other European leagues'	6	5	1
Spanish Second Division and (National Teams or Spanish	24	24	0
Spanish Cup	13	0	13
National Teams	12	2	10
UEFA Champions League	41	0	41
UEFA Champions League and Europe League	12	0	12
UEFA Europe League	5	0	5

Table 1. Composition of La Quiniela coupon in terms of the type of football matches included

and either Second Division or Second Division B matches) are mostly concentrated in the weekend coupons. Also, as expected, fixtures with either Spanish cup matches or European competitions matches are mostly relevant in the case of the midweek fixtures.

In Table 2 we show the key summary statistics for the relevant economic variables distinguishing between weekend and midweek fixtures and whether they are regular fixtures or not. It can be observed that sales are (on average) significantly higher on weekend fixtures compared to midweek features, and also higher for *regular* fixtures compared to *non regular* ones. At a first glance it seems that the type of *La Quiniela* fixture and whether it is a weekend or a midweek fixture matter in terms of the demand for football pools.

Results

Table 3 reports the estimated coefficients for the considered type of fixtures – the dependent variable is the (log) number of bets and other control variables include (log) jackpot size (real terms), a lag of the dependent variable, a time trend, seasonal (monthly) dummies, and the fact that certain fixtures take place on midweek.

The estimated coefficients confirm that the link of the pools to the composition of the coupon matters. We observe a statistically significant reduction in *La Quiniela* sales when other football matches than those corresponding to a *regular* fixture are included in the coupon. Furthermore, the effect varies according to the type of football matches covered by the coupon, being the reduction more substantial when its composition does not involve First Division teams. One possible explanation (Forrest and Pérez, 2013) is that players who actively attempt to apply their knowledge and skill to the selection of matches results may feel less confident about having a chance of winning the jackpot when the teams included in the coupon are unfamiliar.

As expected, and according to previous literature, jackpot size has a positive and significant impact on *La Quiniela* sales with an estimated short run elasticity of 0.12.

On the other hand, the introduction of extra midweek fixtures may have a negative impact on next weekend fixture sales. First, it

	All fixtures		**Regular**		**Non-regular**		**Regular**		**Non-regular**	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Bets (million €)	13.814	7.640	18.541	5.301	8.353	2.657	8.546	0.994	4.558	1.744
Jackpot (million €) (real)	2.012	1.552	2.783	1.447	1.033	0.397	0.935	0.119	0.550	0.432
Number of fixtures	391		246		43		4		98	

Table 2. Key summary statistics

	All fixtures (n = 391)		**Regular weekend fixtures (n = 246)**	
covariate	**coefficient**	***p*-value**	**coefficient**	***p*-value**
(log) (real) *jackpot* (millions)	0.120	.000	0.120	.000
(log) *bets* (lagged) (millions)	0.029	.002	-	-
trend	-0.002	.000	-0.001	.000
trend squared	-	-	-2.01e-06	.000
midweek	-0.709	.000	-	-
	(type of) Football matches included in the coupon		*(type of) Football matches included in the coupon in the previous midweek fixture*	
Spanish First and (Second Division or Second Division B) (*regular*	reference group		-0.062	.022
Spanish First Division and 'other European leagues'	-0.099	.015	-0.038	.040
Spanish Second Division and Second Division B	-0.715	.000	-	-
Spanish Second Division and 'other European leagues'	-0.672	.000	0.021	.746
Spanish Second Division and (National Teams or Spanish Cup)	-0.595	.000	-	-
Spanish Cup	-0.679	.000	-0.064	.003
National Teams	-0.669	.000	-0.063	.008
UEFA Champions League	-0.569	.000	-0.021	.188
UEFA Champions League and Europe League	-0.872	.000	-0.062	.005
UEFA Europe League	-0.844	.000	-0.026	.441
Adjusted R^2		.982		.956

Table 3. Estimation results (Dependent variable is (log) of bets (millions))

reduces the available number of days to place a bet for the weekend edition of *La Quiniela*. And second, it may lead football pools players to distribute their 'betting budget' among a higher number of fixtures (reallocating expenditure from the weekend fixture). The question here is answered by comparing the estimated impact on a 'regular weekend' fixture sales of having a previous midweek fixture scheduled with the sales achieved in that midweek fixture. Again, the different type of matches included in the midweek fixture coupon is taken into account.

According to the estimated coefficients for the different types of Football matches included in the coupon in the previous midweek fixture the negative impact on the corresponding 'regular weekend fixture' sales is assessed. As it is shown in Table 4, in all cases the number of bets (on average) in the midweek fixture exceeds the fall in sales generated in the next *La Quiniela* weekend fixture. The sales net effect is in favour of the operator. So it seems that the average weekly net revenue is higher when midweek fixtures are included.

Discussion and Conclusions

Previous papers modelling the demand for football pools as if they were a lottery game have paid limited attention to the composition of the list of matches included in the coupon. Here the analysis of this issue goes further by distinguishing among twelve different types of fixtures according to the type of football matches listed in the coupon. A statistically significant reduction in *La Quiniela* sales is found when other football matches than those corresponding to a 'regular' fixture are included in the coupon showing that the link of the pools to football matters. Future research might analyse this "illusion *of* control" effect beyond *La Quiniela* and explore it in other types of sports betting products, such as fixed-odds betting.

Moreover, it can be concluded that the extension of the number of *La Quiniela* fixtures is a good sales strategy even when it implies the introduction of other football matches apart from those from both the Spanish First and Second Division that may affect football pools players' behaviour in aggregate.

(type of) Football matches included in the coupon in the previous midweek fixture	coefficient	estimated impact on weekend fixture (mean) bets (millions)	midweek fixture (mean) bets (millions) -minimum and maximum values are in brackets
Spanish First and (Second Division or Second Division B)	-0.062**	-1.119	8.458 (7.066 – 9.161)
Spanish First Division and 'other European leagues'	-0.038**	-0.694	6.992 (4.029 – 12.221)
Spanish Second Division and 'other European leagues'	0.021	0	2.065 (2.065 – 2.065)
Spanish Cup	-0.064***	-1.150	4.006 (2.573 – 5.601)
National Teams	-0.063***	-1.124	4.828 (3.082 – 6.990)
UEFA Champions League	-0.021	0	4.276 (3.018 – 6.493)
UEFA Champions League and Europe League	-0.062***	-1.112	2.987 (2.526 – 3.480)
UEFA Europe League	-0.026	0	3.724 (3.238 – 4.255)

*Note: **p < .05; ***p < .01.*

Table 4. Net revenue effect of the inclusion of new (midweek) La Quiniela fixtures

¿IMPORTA EL FÚTBOL? UNA VISIÓN DEL COMPORTAMIENTO DE LOS APOSTANTES DE LA QUINIELA

PALABRAS CLAVES: quiniela, comportamiento del jugador, composición del boleto, premio máximo.

RESUMEN : Este trabajo analiza el papel que juega la composición del boleto en la demanda del juego La Quiniela. Dado que los apostantes de La Quiniela hacen uso de sus conocimientos futbolísticos a la hora de realizar sus pronósticos, es de esperar que la inclusión de jornadas del juego en las que figuren equipos "poco conocidos" por los apostantes afecte negativamente a las ventas del juego. Así, los resultados obtenidos confirman la relevancia de la composición del boleto en La Quiniela en este sentido. Además, se constata que el efecto neto en términos de ingresos de la inclusión de jornadas adicionales de La Quiniela es positivo para el operador.

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