Received: 24 March 2022 | Revised: 16 June 2022 | Accepted: 4 August 2022

DOI: 10.1002/mde.3701

RESEARCH ARTICLE

WILEY

Valuation of ticket prices for first-division football matches in the Spanish league

Daniel Megía-Cayuela

Department of Economics and Economic History, University of Malaga, Malaga, Spain

Correspondence
Daniel Megia Cayuela, Department of Economics and Economic History, University of Malaga, Campus El Ejido s/n. 29013, Malaga, Spain.
Email: danimegia@uma.es

This paper measures the optimal prices of football tickets and investigates the pricing strategy of the first-division teams in the Spanish league during the 2018/2019 season. The paper develops a dual hybrid model of supply and demand based on a hedonic price approach. Fans have multiple motivations to attend the stadium, such as the quality of the opposing teams, the pre-match qualifying position, the schedule, the day of the match, the stadium facilities, and the atmosphere. Their final decision will be conditioned by the price set by the clubs. The data show a difference of almost 300% in ticket prices among clubs. The estimation results from a hedonic price equation reveal that an optimal pricing strategy is followed by only five out of 20 clubs in the league. We also quantify the percentage of overvaluation or undervaluation of ticket prices.

1 | INTRODUCTION

Although we firmly believe that the future of professional sports management lies in the implementation of new management systems based fundamentally on technology and science, we cannot reject the traditional approach since it is necessary and complementary to the strategy of modern comprehensive management. We are convinced that the big data system has become one of the new strategic monitoring alternatives and is essential to modernize the sports industry; however, it is still vital to monitor the matches on site in the stadiums since the fusion of the two strategies is the key to the sustained growth of content production. The rise of technology is facilitating the continuous evolution of the sport of football, allowing us to enjoy football matches without having to attend stadiums live and with an excellent level of monitoring and detail. The technological progress, undertaken by companies specializing in football management, has been especially significant and has facilitated alliances between these companies and clubs, with investments in new audio-visual equipment, the development of new computer systems, monitoring applications, and the development of modern telecommunications and electronic devices. Naturally, this technological investment has translated into higher prices of football matches, either for attendance at stadiums or for viewing on television platforms. It is not possible to compare the sensations and emotions engendered by watching a live match with those produced on a screen, despite the fact that match broadcasts today offer us an excellent level of monitoring thanks to numerous television cameras, surround sound, and multiple replays, with a perception of detail that sometimes does not correspond to that of live viewing.

From this point of view, sports economists have contemplated the best option for the fans and the clubs, naturally considering the budget restriction of the cost of the match induced either by paying for television rights or by purchasing tickets. On the one hand, we find the modern approach of television networks that base their strategy on the use of technology as a means of attracting fans. On the other hand, we see the traditional approach of clubs that need the live assistance of fans, with the double purpose of the fans cheering on their teams in addition to buying tickets and thus providing an important source of income. The next question concerns the price impact of the two approaches. Authors such as Wang et al. (2018) have argued in their studies about the strategies of the Belgian television networks, the holders of the retransmission rights of the Belgian Pro League, and the different strategies to persuade fans to watch the matches on television to the detriment of attendance at the stadium. Obviously,

attending a match live and watching it on television are completely heterogeneous products with different characteristics, so a comparative study of the prices of the two products would be an option for analysis but is not the subject of this study.

Considering this idea from all angles, it would be worth analysing the pricing strategy of football clubs as a favourable situation in which to achieve efficiency in professional sports management. Within this analysis, we will find a market or league competition in which 20 participating teams with different economic and structural characteristics will compete for the same product, victory in a football match. "Different flavours, same price" is how McMillan (2002) described this market model, which compares the prices of carbonated drinks, such as Coca Cola, Fanta, and Seven-Up, but with the particularity on this occasion of finding different teams but with similar prices. The local teams set similar prices for all the games of the season so that their fans experience little variation, regardless of the visiting team, within a pricing strategy. Nevertheless, within the same league market, we observe a 300% difference in the price of tickets between the cheapest and the most expensive within the framework of the first division of the Spanish league during the 2018/2019 season.

Focusing on our objective, we observe that, in the league competition, the local team is in charge of organizing the match between the two teams, so it is also in charge of setting the price of its tickets to maximize its income. Following an efficiency criterion, it is understood that ticket prices will be set as close as possible to a unit rate income elasticity of demand, with which the price and attendance ratio is the most optimal. García et al. (2020) analysed the product "football match" in the Spanish League, using the calculation of the elasticity of demand; they concluded that football is considered to be a luxury sport. Therefore, in this market, we find the same product (football match) for all the teams but each team sets the price of its tickets based on its structural costs. These costs will be conditioned by variables related to the quality of the match to be played and explicit variables linked to the evaluation of the aspects of the environment, atmosphere, accessibility, and equipment of the stadiums. If we take the example of FC Barcelona, the fixing of its ticket prices will be conditioned on the salary costs of its squad, so its tickets will be more expensive than those of other teams with lower-rated players. In the same way, the maintenance of its stadium, with almost 99,000 spectators, is not comparable with another with a capacity 10 times smaller, as is the case of Huesca. For our similar study, we incorporated the idea of Corts (1998), who argued that products with different production prices cause different prices to exist within the same market. This analogy occurs in the league football competition, in which, within the same market or competition, each team sets its price according to its cost structure, showing great disparity in the price of tickets between teams.

In the aforementioned study by McMillan (2002), he advocated setting uniform prices for the different carbonated drinks (Coca-Cola, Fanta, and Seven-up) as the cost of production is different for each drink. This approach, transferred to our study, makes a team like Huesca set the same average price for the entire season, regardless of the rival teams' value and classification position. McMillan defended his idea through the development of a hybrid model, subject to supply and demand. On the supply side, it tries to maximize the utility of a good, in the same way that football teams aim to maximize their revenue from ticket sales. However, we also want to incorporate the demand into this model, calculating its curve from the residual price, that is, the price at which the demand to purchase the good is satisfied. It considers consumers, in our case football fans, as accepting the price through learning or habit, as mentioned in the study by Rhee and Bell (2002), in which prices do not influence consumption when they are inelastic, as stated by Hoch et al. (1994).

To obtain the most up-to-date and homogeneous data, the period of this study was the last season before the COVID-19 pandemic, the 2018/2019 season, during which there were no attendance restrictions at the stadiums in Spain before they would remain empty of the public from March 2020. This paper quantitatively measures the pricing strategy on the supply side, that is, football clubs, considering the behaviour of the demand, which depends on fans' level of satisfaction with the ticket price. We propose a dual and hybrid model, in which the supply and demand participates, within the framework of study in the search for efficient sites in the football industry. Considering that the sale of tickets is a line of business that probably has room for improvement in terms of efficiency, we develop a hedonic price model for football tickets, which divides their value between the intrinsic and the extrinsic characteristics of a football match, according to the valuation of the fans. We can obtain the target or predicted ticket price from the residual values by performing a multiple linear regression of the calculation variables mentioned above. The most important contribution of this study is to determine the overvaluation or undervaluation in pricing as well as identifying the clubs that apply the optimal strategy. Previous studies, such as the one by Welki and Zlatoper (1994), have explained the influence of the overvaluation of ticket prices in the NFL, considering it to be harmful in terms of the attendance ratio at the stadium due to an inelastic demand, which is only compensated for when local fans see to win to their team the match.

Our study has important implications for decision making in the financial management of clubs, especially regarding pricing and its acceptance by fans. Specifically, our analysis can be used to calculate the optimal ticket price, its current deviations through residuals, the ticketing revenue, and the impact if the price was to be adjusted, both per match and during the season.

Starting the analysis of the study variables within the model, it is important to point out that the clubs are responsible for ticket pricing and that, in addition to determining the price according to their structural costs, they should consider the variables that the fans value most when buying a ticket. From here, the concept of a dual hybrid model arises. We consider it important to split all the variables studied into two large groups. We call the first group intrinsic variables, those related to the quality of the matches, with which we will analyse the quality of the match for the fans, taking on the value of the squads. The better the players participating in a match are, the more value fans will give it and therefore the ticket price that they are willing to pay will be higher. Naturally, the team with the best players will have a higher salary cost, which will determine higher pricing. Therefore, it

will be necessary to analyse the squad's value, the fit moment, and the table position related to the values of the local and the visiting team. The second group of variables is defined as extrinsic and consists of those related to the environment and the surroundings of the match and the time and day of the week variables, which are essential for the decision making of a fan when buying a ticket.

The data incorporated into our study on the squad's value were obtained from the www.TransferMarket.com website. This website is one of the most popular and reputable data sources of football statistics. The squad's value, which has been incorporated into this study, comes from the sum of the individual valuations of each player in the possible event of a transfer. Many authors, such as Müller et al. (2017), have considered this database to be very reliable in terms of research literature when calculating these valuations through "selective decisions" on various indicators, such as salary, match performance, and the possible transfer or interest of other teams. Other authors have been interested in the value given by Transfermarket because this value and its weighting are influenced by comments from specialized magazines and newspapers (e.g., Bryson et al., 2012). In addition, it incorporates into its evaluation indices the correlation between the variables of the salary of the players and the weighting of the performance estimated by football experts, as in the studies by Franck and Nüesch (2011) and Torgler and Schmidt (2007). According to Müller et al. (2017), www.transfermarket.com is one of the best websites for estimating market value, offering great utility.

Within the set of motivations to attend a match, the previous classification of a match between the two opposing teams is recurrent. A fan will prefer to watch teams that are in a high-ranking position than teams that are in a lower-ranking position. Previous studies, such as the one by Bitran and Wadhwa (1996), have incorporated the analysis according to the qualifying position of the opposing teams as a weighted variable for pricing in a football match. García et al. (2020), in their study of ticket prices, adopted the value of the local team, the uncertainty of the result, and the day of the week of the match as the main motivations for attending a match. They grouped all the teams in the Spanish first division into four groups of teams based on the historical average in the league rankings. The existence of a correlation between the series studied and the historical one was concluded. In our study, to improve the motivational variables of the fans, we included other variables, such as the influence of the time and day of the match, following Cisyk and Courty (2021).

These authors, in their studies, developed a pricing model through the so-called hedonic pricing approach. This method consists of determining the price of a product from an econometric model, evaluating its characteristics individually. The modern hedonic approach, in which the price of an item can be defined using a vector of attributes, is based on the early papers by Lancaster (1966) and Rosen (1974). This argument has been widely applied in different economic fields to various product lists in many research articles, such as the article by Griliches (1961) on market pricing in the automobile industry. Hence, Stewart and Jones (1998), studying professional sports, evaluated baseball players in MLB before a possible transfer according to performance statistics. Wilhelmsson (2002) followed the same approach in the real estate market, and Gustafson et al. (2016) priced the wine market based on vintage attributes. In addition, the hedonic approach to pricing has been used in articles on the economics of sport. This article adopts an alternative approach to the hedonic price method. Its main contribution is that it can quantitatively measure the variables in fans' decision making, identifying those with the most influence when make purchasing decisions and comparing them with the club's pricing strategy in a hybrid dual model of both demand and supply.

2 | TICKET PRICE MEASUREMENT: THE HEDONIC PRICE APPROACH

In our analysis of football ticket prices, based on a hedonic price methodology, we perform a decomposition of the set of attributes that can be associated with the product called "football match." Kemper and Breuer (2016), following the hedonic pricing method, performed a study of the Derby County Team of the Premier League during the 2013/2014 season, with a methodology called dynamic ticket pricing (DTP). In other professional sports, such as Major League Baseball, Drayer and Shapiro (2009) and Mondello and Rishe (2005) studied ticket prices in the NFL playoffs. The former conducted a study of tickets in the Colorado Rockies team with a methodology called variable ticket pricing (VTP), taking the opposing team and the date of the match as study variables. In addition, they developed computer software for pricing using the DTP system, as reflected in the studies of the San Francisco Giants by Dunne (2012) and Moore (2010). Authors such as Shapiro and Drayer (2014) wanted to expand this subject through a similar study within a framework of other professional sports, such as Major League Baseball. Splitting attributes or characteristics for calculating the ticket prices for sporting events is a very common methodology in pricing strategy. Bitran and Mondschein (1993), Gönsch et al. (2009), and Klein and Steinhardt (2008) used the dynamic pricing model (DPM) to create a multiple pricing model based on a multitude of variables, such as match day, seat location, opponent evaluation, and qualifying position.

The hedonic method uses a multiple regression model to calculate the objective or forecast price, and this price is calculated using a set of variables that make up the characteristics of a football match in terms of its quality and environment. The theoretical foundations of this approach come from Lancaster (1966), who developed the consumer theory of the differentiated product. The key to Lancaster's approach is that the utility function of consumers is defined according to attributes. Rosen (1974) also applied the hypothesis-based hedonic approach to the calculation of attributes' utility value. A product can be defined as a group of attributes that are valued positively by consumers. The price of a good is calculated as the sum of the implicit economic value of each attribute.

The most important contribution of this study is the creation of a dual model for supply and demand, for that reason, we consider it to be a hybrid model. On the supply side, the main objective is to maximize the utility of the good, in this case football tickets. On the demand side, the aim is to maximize the level of satisfaction regarding

the purchase of tickets and find the break-even point at which the price paid is similar to the pricing by clubs. At this point, using a statistic based on building a multivariable linear regression model allows us to calculate the objective ticket price for each match, that is, the price at which the supply and demand find their balance. The calculation of this objective or forecast price for each match is made from the residual records derived from the regression model. Chan (2006) and Kim et al. (2002) carried out studies based on hybrid supply and demand models, in which they used the logarithm as a tool to reduce the dimensionless variables.

The objective of the hedonic approach allows us to analyse the factors that make up a football match individually and to determine the fans' level of satisfaction. From the extraction of these values, we can create a time series of cross-sectional data and calculate the objective or forecast ticket price for each match. This price may be compared with the real price set by clubs, the difference being the residual records. Previous authors, such as Griliches (1971), based on the calculation of hedonic price regressions, have shown in a reduced way how the representation of consumer and producer behaviour is optimally and efficiently developed. The hedonic price approach allows us to learn how the price of a product changes when there are variations in its attributes. The price of a good can be split into a first component, which reflects the real price change, and a second component, which reflects the variation in terms of a change in its characteristics. The hedonic approach postulates that each good is defined by the set of its attributes. For any good, we can explain this by means of a vector of attributes, X, as $X = (X_1, X_2 \ldots X_n)$, where X_k ($k = 1, 2 \ldots k$) defines each of the characteristics of the product. The key is to establish that, for any product, there is a functional relationship between the price, P, and its vector of attributes, X, such as

$$P = f(X) \tag{1}$$

Implicit prices can be defined from the function described below, which determines how much the price of a product changes depending on the variation of its attributes. Hence, the regression model can be represented by

$$P_k = f(X_k, \beta_k) + \varepsilon_k \tag{2}$$

where P_k is the vector of prices of variety k, X_k is the vector of characteristics of each variety, β_k is a vector of coefficients, and ε_k is an error term. In empirical analysis, the price of a good is predicted from its attributes and dummy variables. From the regression model, we can calculate the importance of each attribute, called the implicit price, and the estimate of the quality-adjusted price, which we call the real price. If we look at these prices from a statistical point of view, the first conclusion is that the current price quantification changes a product with respect to its quality because prices must be forecast for quality to be compared through variables. The main objective of measuring the satisfaction of football fans who attend stadiums is to determine the difference between the real paid price and the expected price. Therefore, the smaller the difference is between the two prices, the higher the level of satisfaction fans will have and the higher revenues the clubs will receive.

We can obtain a double measurement from Equation (2). One is the level of satisfaction of the fans, and the other is the optimization of the revenues from clubs' ticket sales. Both measures are defined as the change in the quality of the characteristics that has occurred with respect to ticket prices. In other words, the level of satisfaction with both can be represented as the difference between the change in pricing not forecasted by the variable match quality and the change in clubs' pricing. This methodological approach can be applied using multiple regressions, following, for example, Berndt (1996), who developed in his research the application of econometric techniques to a variety of empirical, classical, and contemporary problems. Another reference study on the calculation of hedonic prices with the influence of price variations according to the variation of characteristics was carried out by Bongers and Torres (2014), who determined the price of U.S. fighter aircraft over time when the characteristics of the aircraft varied. The approach commonly used in the empirical literature is to define an equation in a separate regression for each observed variable. Additionally, it can be used to compute a block regression for dimensionless and dimensional variables with the inclusion of dummy variables. For the first type of variables, natural logarithms are applied so that the regressions can be expressed from the dependent variable and the coefficient of these variables shows the percentage change in their characteristics when the price varies. As mentioned above, Kim et al. (2002) and Chan (2006) used the logarithm as a reducer for dimensionless variables. The dummy variables are coded with 0 and 1 to include them in the regression, which shows the percentage trend of consumer behaviour from the coefficient when the ticket price changes. We use this method in our study because we seek to measure the true price change when some of the variables influenced by fans change. Therefore, the logarithm simplifies as follows:

$$\ln P_k = \alpha + \sum\nolimits_i \lambda_i d_i + \sum\nolimits_k \beta_k \ln X_k + \varepsilon_k \tag{3}$$

Many authors have used the hedonic price approach to investigate pricing behaviour in a variety of markets. Vaugh (1928) studied the factors that explain the prices of tomatoes, cucumbers, and asparagus, presenting the first hedonic price analysis. Court (1939) then used this method to study prices in the automobile industry, developing the methodology later used by Griliches (1971). The contribution of Rosen (1974) was decisive in defining "hedonic prices as the implicit price of a good, which is made up of a series of attributes where economic agents associate an economic value to each variable or attribute." Rosen developed two stages in the study of hedonic prices. The first involves a regression of the prices on the characteristics of the goods. The coefficients of this regression are often interpreted as implicit prices or as the consumer's marginal willingness to pay for each characteristic. Rosen's second stage includes the regression of the marginal prices of each characteristic of a good in relation to the demographic variables of the good and the consumer. This second

stage aims to recover a demand function for each characteristic. However, it was later found (Bartik, 1987; Brown & Rosen, 1982; Epple, 1987) that the second-stage regression suffered from a simultaneity problem because consumers with a strong preference for a given feature naturally purchased large amounts of that feature. This simultaneity problem caused inconsistent estimates in this second stage. Epple (1987) suggested that this problem can be solved if the data obtained allow research to conclude that the tastes of the consumers are the same. However, data of this type have proven difficult to find; therefore, Rosen's second stage is not as widely used today. Because we found many criticisms of the second stage of Rosen's hedonic price evolution in previous works, we preferred to develop only the first stage for the article and not to include the second stage. There was a high possibility of finding inconsistent data due to the considerable heterogeneity between the different fans of the La Liga teams and the inconsistency of being able to consume high amounts of the characteristics analysed in our model because they are intangible variables. This led us to reject their incorporation.

Similarly, Triplett (1973) considered the final price of a good as the individual sum of the value of each attribute that makes up said good. Hedonic prices have been the subject of many previous research articles in various economic fields, such as the aforementioned study by Griliches (1961) on market prices in the automobile sector. Stewart and Jones (1998), in the professional sports sector, assessed the valuation of the players before a possible transfer according to the statistics of Major League Baseball players. Wilhelmsson (2002) followed the same approach in the real estate market, and Gustafson et al. (2016) and Nerlove (1995) set prices in the wine market according to crop attributes.

Hence, the importance of this study is due to its analysis of the fans' preferences when consuming this intangible product, football, and the deviation between the prices set by the clubs and the prices desired by the fans. This aspect was included as a line of research by Drayer et al. (2012) and Kemper and Breuer (2016), who analysed the satisfaction of fans with the price of football tickets, considering that there are variable multiples depending on the day of purchase of the tickets: the same day as the game, the day before, or 2 weeks before. Another variable included in our analysis is the importance to the fans of the opposing team's qualifying position prior to the match. A fan will prefer to watch teams that are ranked higher than teams that are ranked lower. In their study, Bitran and Wadhwa (1996) incorporated the analysis according to the qualifying position as a weighted variable for pricing tickets in a football match. García et al. (2020), in their study of football ticket prices, according to the value of the players in the squad, classified the 20 teams of the first division of the Spanish league, distinguishing them into four large groups based on the correlation between historical rankings and ticket pricing when acting as away teams. In this way, it was concluded that the tickets were more expensive the higher the historical qualifying coefficient a visiting team had.

The main contribution of this study is the inclusion of the different and most representative variables in the previous literature that best represent the characteristics of the product (X_i) with a two-dimensional model approach, oriented towards supply and demand. To this end, regarding the product, we based the analysis on two groups of variables: some implicit in football matches, related to the quality of the match; and other explicit ones regarding the setting and atmosphere of the match. From previous studies, we adopted the six main recurring variables in the comparative analysis to set the objectives or forecast prices.

3 | DATA

The data originate from various statistical sources in relation to player ratings, ticket prices, ratios of public attendance at matches, schedules, match dates, team classifications, and stadium ratings, according to UEFA. The main source is a website of German origin, www.Transfermarket.com. Many authors have considered this website to be one of the databases with the highest level of reliability when evaluating players in an up-to-date manner, as suggested by Müller et al. (2017). This database contains detailed information on the value of the squads of all the professional teams in the world. The second source was the www.Besoccer.com website. This Spanish website, a specialist in news and a database of the main football leagues, is a source of information on the public attending each match and the time and date of matches. Previous authors, such as Segarra-Saavedra et al. (2019), have argued in their studies that the Besoccer company is a benchmark in artificial intelligence applied to news documentation and sports journalistic writing.

The database (see Appendix A) created for this study contains information on the 380 matches held during the 2018/2019 season in the Spanish first division of the national football league championship. A methodology consisting of a hedonic regression was applied to a double hybrid model on the supply side and on the demand side. From the supply point of view, the clubs set real ticket prices based on a "company cost" criterion. When setting ticket prices, the local team must consider the costs derived from the football team and those of organising a football match, such as the cost of a squad and the staff necessary for a match with their respective marginal costs. However, if we appreciate that there is a correlation between the salary cost of the players and the ticket price, we can affirm that the ticket pricing policy is conditioned on the level of the players of each team. If a club wants to have better-quality players on its team, it must apply higher ticket prices and fans must assume higher costs.

On the demand side, the objective was to compare the different attributes that make up a good related to the predicted ticket price. In our case, the dependent variable is the average price of the tickets for each match. We took the lowest and the highest price in each club, and the dependent variable was the average between them. In this way, we incorporated it into the model though its natural logarithm. As independent variables that indicate the purchase of a ticket, we considered the most sensitive for a football fan to be those referring to the quality of the opposing team and the factors around a match. We refer to the quality variables as intrinsic variables and those related to the stadium and its environment as extrinsic variables.

The intrinsic variables are those related to the quality of the match. For these variables, we took the value of the squads of the two facing teams from the website www.Transfermarket.com. The value of the match is the result of calculating the product of the valuations of the two opposing squads. To incorporate it into the model, its natural logarithm was applied. From a company theory point of view, clubs set ticket prices in relation to the valuation of their players and their salary costs. Therefore, there will be a correlation between the ticket prices and the salaries of the football players. The second intrinsic and sensitive variable for the fans is the state of fitness of the facing teams. The table position prior to the match will be a sensitive variable of interest when purchasing a ticket. To assign a rating according to the table position before the matches for each day, we estimated the inverse of the table position so that a higher rating is given to the teams located in the first positions. For the evaluation of the first day of the league, the final classification of the previous season was taken, incorporating the three promoted teams in the same position that remained in the second division in the previous season.

On the other hand, we incorporated into the model the extrinsic variables, that is, the variables around a match, such as the facilities of the stadium, the settings, the entrances, and the environment surrounding the football match. Pedersen et al. (2011), in a very interesting study, created a valid tool to assess the strength of football fans' preferences for stadium facilities. The characteristics of a stadium cause variations in the price of tickets, so characteristics such as wide screens behind the goals, the sale of soft drinks in the stands, fully covered stands, and entertainment shows affect the variation in price. We incorporated the classification with which UEFA has already rated the stadiums into our study. All the stadiums in the Spanish first division are rated with a three- or four-star typology. We incorporated this into the model through a dummy variable, assigning a value of 1 to those with four stars and a value of 0 to the rest. Continuing with variables sensitive to price, without a doubt, fans consider match schedules to have a great influence on match attendance. During the season, the disparity of schedules due to the sale of television rights establishes that they can be played every day of the week and in extended hours in the morning, in the afternoon, and at night. In the same way, both variables were treated as dummy variables. Regarding the day of the week, a value of 1 was assigned to the matches played on Saturdays and Sundays, as they are considered more traditional days, and a value of 0 was assigned to the rest of the days of the week. Similarly, with respect to the schedule, a value of 1 was assigned to the matches played in the afternoon and evening, with a value of 0 being given to the matches played in the morning and at midday. Finally, the attendance ratio variable also influences the motivation of certain fans who are hesitant to attend the stadium. If a team tends to have a high rate of attendance in a regular season, it directly influences the purchasing ticket. If the attendance drops, clubs must set prices according to the rate of attendance to avoid having empty seats. In this way, we used the data referring to attendance at each match from the Besoccer website and integrated the value into the model through the percentage attendance rate, calculated according to the maximum capacity of the stadium and the number of spectators.

In our hedonic price approach, we had already defined the six variables considered to be sensitive for the fans, which will cause variations in ticket prices, and they were incorporated into the model though the regression system to calculate the forecast price for each match in the 2018/2019 season.

Table 1 shows the basic descriptive statistics of the data. We observe that the average ticket price in the Spanish league is €53, with the most valued match being Barça–R. Madrid (matchdays 10 and 26). The least valued game is Huescar–Eibar (matchdays 1 and 34). These records are provided in Appendix A. Regarding the schedules, 81% of games are played in the afternoon–night hours and 76% on Saturdays and Sundays. UEFA four-star stadiums represent 45% of the league total. Comparing the average of all the ticket prices, they soar by 300% between clubs. The highest average price is €105 for Ath. Madrid, and the lowest is €27.50 for Huesca. The average attendance at the stadiums is 73%, with the minimum value of the attendance rating being 33% and the maximum being 100%.

4 | ESTIMATION RESULTS USING THE HEDONIC PRICE METHOD

Based on the previous analysis, in this section, we calculate, from a multiple linear regression, the predicted ticket price for the 380 match registrations of the entire season analysed. A set of explanatory variables reflects the quality and all the factors around a match. The variables, except for dummy variables and percentages, are expressed in logarithms. The calculation of the objective price is the essential

TABLE 1 Descriptive statistics

Variables	Mean	Std Dev	Min.	Max.
Match value (€)	73.302	152.797	2.047	1.264.400
Ticket price (€)	53.33	23.44	27.5	105.00
Attending rate	0.727	0.133	0.327	0.990
Table position value	0.032	0.059	0.003	0.500
Schedule	0.818			
Match day	0.766			
4* UEFA stadium	0.450			

variable for our analysis since it reflects the variation in the forecast price according to the quality of the matches and their environment when any of the variables to which fans are sensitive vary. Berndt (1996) presented a description of the variations in variables due to a change in the quality of a good in addition to constructing a hedonic price index using a multiple regression method. As main results, we can highlight the regression coefficient of 0.75, considered significant as it is within the range (0.70–1), with an R^2 of 0.578. In the analysis of variance, as the most significant variables, we underline direct confrontation and the type of stadium as they have a probability lower than 0.05. The coefficients that weigh the most in the model are the type of stadium and the classification of the teams prior to the match (Table 2).

The most important result gained from the analysis was the measurement of the predicted ticket price using the hedonic method, so the implicit prices were obtained from the different characteristics that make up a football match. The estimated coefficients of the characteristics reflect the variation in the price of a certain percentage when there is a variation in the value of the characteristics. Hence, we analyse our coefficients, expressed in logarithmic form, which represent the increase in face value adjusted for price quality. The estimated value for the qualifying position variable is 0.358, which implies that the growth of 35.8% in the forecast price is due to a variation in the qualifying position of the opposing teams, keeping the rest of the characteristics constant. We can say that, for fans, the position of the teams before the game is decisive for the ticket price. If we focus on the regression results presented in Table 2, we find that all the estimated parameters are statistically significant at conventional levels except for the schedule and match day.

The estimation of our model also included three dummy variables: schedule, match day, and UEFA stadium rating. We consider that the estimated coefficients for the schedules and match days are not significant because they present negative indicators. This means that a variation in any of these characteristics does not significantly modify the ticket prices. The stadium rating shows a high level of importance, with a coefficient of 0.566. In other words, a variation of 56.6% in the forecast price is due to the type of stadium, the rest of the characteristics remaining constant. These data reveal that the price of the tickets is correlated with the size of the club; therefore, the clubs that have larger budgets and the best sporting results over a long history have modern stadiums.

In general, the model explains, with a confidence level close to 58%, that the variations in ticket prices come from the characteristics selected in this model, according to the reference obtained through the R^2 indicator. García et al. (2020) obtained a similar R^2 coefficient in their study, in which they collected some of the characteristics of football matches that we developed in this study. The selected features exhibit the expected positive signs, indicating the relative price (implied price) of each feature. Since all the variables except the binary ones are in logarithms, the estimated coefficients can be interpreted directly as elasticities. The estimation of the model includes three binary variables, specifically the time, the day of the game, and the type of stadium.

The residual records ε_k are one of the central elements of our analysis. They reflect the deviations between the forecast price and the average price set by the clubs. These residuals indicate the difference between the market ticket price paid by fans for each match and the theoretical ticket price predicted by the hedonic pricing model. In this way, we created a tool to improve the ticket sales line of business for football clubs. The main results derived from the estimation using the hedonic price regression are shown in Table 3. In our analysis, we regrouped all the residual records by the team that plays at home, so we had 19 residual records equivalent to the 19 matches as the home team. Each residual record allowed us to determine the difference between the objective forecast price and the average fixed price, enabling us to state whether the prices set are optimal or whether they are overvalued or undervalued. A positive value indicates that the ticket price of a match is higher than the predicted price obtained from the estimated hedonic equation, and the indicators of deviation can be classified as "expensive" or "overvalued". Similarly, if a value is negative, we can consider it to be "cheap" or "undervalued" compared with the average price set by the clubs. However, in earlier literature on professional sports pricing, Fort (2004) stated that profit maximization theory is explored for its inelastic pricing implications in a study on Major League Baseball. This means that the price of an overpriced ticket is inelastic; therefore, these teams may be optimizing their ticket revenue. These values are of interest regarding the management strategy in the sale of tickets. The clubs with overvalued indicators are Ath Madrid, Espanyol, Real Madrid, and Levante, with a deviation of over 40%. Only six clubs apply an optimized fixed price, with a deviation error of around 6% over zero. In the opposite case, we can highlight the pricing strategy of Sevilla CF by defining it as different from the rest, with a negative difference of 44%, when it was one of the great first division clubs in recent seasons in terms of both budget and value of the squad. We can understand this strategy of lower revenues and profits in favour of its fans due to its excellent management of the transfer of players. It allowed it to compensate for these theoretical losses with the profit that it obtained from the

TABLE 2 Price equation estimates

Explanatory variables	Coefficients	*t* statistic
Intercept	1.579	10.641*
Schedule (dummy)	−0.041	−1.141
Match day (dummy)	−0.0245	−0.760
Attending rate	0.147	1.738**
UEFA stadium (dummy)	0.565	19.006*
Match value	0.0287	2.171*
Table position value	0.357	1.302***
Number of obs.	380	
R^2	0.578	

Note: Estimated standard errors in parenthesis.
*Significance at 10%.
**Significance at 5%.
***Significance at 1%.

TABLE 3 Deviation percentual and its impact in Euro by fixing tickets

Teams	Objective price (€)	Average price (€)	Residual sum (€)	Deviation p/match (€)	Deviation %	Deviation ticket sales (€)
At. de Madrid	72	105	626	33	0.46	35,201,545
R.C.D. Espanyol	64	93	546	29	0.45	19,611,262
Real Madrid C.F.	71	100	548	29	0.41	33,210,167
Levante U.D.	38	53	278	15	0.38	5,613,947
Girona F.C.	37	45	147	8	0.22	1,610,400
F.C. Barcelona	73	82	158	8	0.11	12,053,019
C.D. Alavés	38	43	81	4	0.11	1,383,605
Rayo Vallecano	37	40	55	3	0.08	653,931
Real Valladolid	38	40	44	2	0.06	830,988
Athletic Club	68	70	43	2	0.03	1,753,585
Real Sociedad	37	38	11	1	0.02	243,811
C.D. Leganés	38	38	−12	−1	−0.02	−122,983
RC Celta de Vigo	37	35	−37	−2	−0.05	−656,532
Real Betis B. S.	67	63	−79	−4	−0.06	−3,536,694
S.D. Eibar	36	30	−116	−6	−0.17	−572,345
Getafe C.F.	65	53	−240	−13	−0.19	−2,638,124
Villarreal C.F.	38	30	−145	−8	−0.20	−2,423,464
S.D. Huesca	37	28	−181	−10	−0.26	−1,192,887
Valencia C.F.	69	48	−415	−22	−0.32	−16,401,579
Sevilla FC SAD	67	38	−565	−30	−0.44	−26,445,185

transfers of its players for the revaluation of players at the sporting level.

Since we included the attendance rate at the stadiums in all the matches of the 2018/19 season in the data table, this allowed us to calculate the positive or negative deviation in ticket sales with respect to the predicted ticket price. This deviation comes from the total residual records mentioned above for each team, so, to obtain the total deviation for the season, the number of spectators was multiplied by its residual record. The most relevant result obtained is that R. Madrid and Ath. Madrid had additional total revenues due to the overvaluation of the ticket price by 35 and 33 million euros, respectively, while Valencia and Seville suffered a loss of 16 and 26 million euros.

5 | CONCLUSIONS

The application of microeconomics in the field of sports economics improves the efficiency of analysis for decision making in professional sports. In our case, this article focuses on the development of a hybrid dual model of supply and demand in which strategic pricing by the clubs is combined with the analysis of the characteristics that are most valued by the fans, with the aim of forecasting possible deviations between what is established by the supply and what is desired by the demand. We observe how, behind the purchase of a ticket, there is a series of attributes with an influence on the pricing. Each fan shows a different consumer model in which they consider aspects related to the quality of the match and all aspects surrounding a match, influencing their purchasing decisions.

This study is based on previous studies following the hedonic price approach, such as those by Lancaster (1966) and Rosen (1974), which analysed the demand in terms of preferences according to established prices. New models and methodologies related to the calculation of prices in professional football, such as the DTP model developed by Kemper and Breuer (2016) as well as the VTP model by Drayer et al. (2012), formed the basis of this article. A study very similar to this one but with important differences in terms of objective and model design was carried out by García et al. (2020), who, within a similar framework of Spanish football, used an equation of hedonic prices. In our study, it was a challenge to change the approach, so, as an innovation, new variables were included to analyse the change in ticket prices when the characteristics varied, without forgetting the construction of a dual hybrid model of supply and demand. In addition, another novelty compared with other literature was the regrouping of the residual records. Therefore, it was possible to obtain the deviation between the predicted price and the average fixed price, and this allowed us to identify the teams that established extra charges in the price, which coincided with the clubs with the highest budgets and the top-rated players. Finally, we were able to calculate the deviations in ticket sales for each club for the entire season to improve the revenue from ticket sales.

This article has no limitations. In the first place, it has demonstrated the contribution of the economy to the sporting field and especially to the financial management of clubs. Analysing characteristics such as the schedule, day of the game, type of stadium, qualifying position, value of the confrontation between the teams, and attendance rate at the stadiums enabled the study to contribute to building an empirical tool with the aim of optimizing clubs' income statement. Therefore, as a future application, this hedonic approach with the contribution of multiple linear regressions could be very useful for sports managers in the predicted assessment of players in the case of transfer, considering their own endogenous and exogenous variables in the model.

ACKNOWLEDGMENTS

I would like to thank José Luis Torres and Anelí Bongers and an anonymous referee for their helpful comments and suggestions for the previous version of the article. This research was carried out while he was a candidate in the Doctoral Program in Economics and Business at the University of Malaga, Spain. Financing free access square: University of Malaga/CBUA.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

Bartik, T. J. (1987). The estimation of demand parameters in hedonic price models. *Journal of Political Economy*, *95*(1), 81–88. https://doi.org/10.1086/261442

Berndt, E. R. (1996). *The practice of econometrics: Classic and contemporary*. Addison Wesley Longman.

Bitran, G. R., & Mondschein, S. V. (1993). *Pricing perishable products: An application to the retail industry (Working Paper #3592–93)*. Sloan School of Management, MIT.

Bitran, G. R., & Wadhwa, H. K. (1996). *Some structural properties of the seasonal product pricing problem (Working Paper #3897–96)*. Sloan School of Management, MIT.

Bongers, A., & Torres, J. L. (2014). Technological change in US jet fighter aircraft. *Research Policy*, *43*(9), 1570–1581. https://doi.org/10.1016/j.respol.2014.03.009

Brown, J. N., & Rosen, H. S. (1982). On the estimation of structural hedonic price models. *Econometrica*, *50*(3), 765–768. https://doi.org/10.2307/1912614

Bryson, A., Frick, B., & Simmons, R. (2012). The returns to scarce talent: Footedness and player remuneration in European soccer. *Journal of Sports Economics*, *14*(6), 606–628. https://doi.org/10.1177/1527002511435118

Chan, T. Y. (2006). Estimating a hedonic-choice model with an application to demand for soft drinks. *RAND Journal of Economics*, *37*(2), 466–482. https://doi.org/10.1111/j.1756-2171.2006.tb00026.x

Cisyk, J., & Courty, P. (2021). Stadium giveaway promotions: How many items to give and the impact on ticket sales in live sports. *Journal of Sport Management*, *35*(6), 537–565. https://doi.org/10.1123/jsm.2020-0322

Corts, K. (1998). Third degree price discrimination in oligopoly: All out competition and strategic commitment. *RAND Journal of Economics*, *29*(2), 306–323. https://doi.org/10.2307/2555890

Court, A. (1939). Hedonic price indexes with automotive examples. In C. F. Roos (Ed.), *The dynamics of automobile demand*. General Motors Corporation.

Drayer, J., & Shapiro, S. L. (2009). Value determination in the secondary ticket market: A quantitative analysis of the NFL playoffs. *Sport Marketing Quarterly*, *18*, 5–13.

Drayer, J., Shapiro, S. L., & Lee, S. (2012). Dynamic ticket pricing in sport: An agenda for research and practice. *Sport Marketing Quarterly*, *21*(3), 184–194.

Dunne, P. (2012). Dynamic pricing trend sweeps across major league baseball. Ticket News. http://www.ticketnews.com/news/Dynamic-pricing-trend-sweeps-across-Major-League-Baseball021222303

Epple, D. (1987). Hedonic prices and implicit markets: Estimating demand and supply functions for differentiated products. *Journal of Political Economy*, *95*(1), 59–80. https://doi.org/10.1086/261441

Fort, R. (2004). Inelastic sports pricing. *Managerial and Decision Economics*, *25*, 87–94. https://doi.org/10.1002/mde.1108

Franck, E., & Nüesch, S. (2011). The effect of talent disparity on team productivity in soccer. *Journal of Economic Psychology*, *31*, 218–229. https://doi.org/10.1016/j.joep.2009.12.003

García, J., Rodríguez, P., & Todeschini, F. (2020). The demand for the characteristics of football matches: A hedonic price approach. *Journal of Sports Economics*, *21*, 688–704. https://doi.org/10.1177/1527002520930252

Gönsch, J., Klein, R., & Steinhardt, C. (2009). Dynamic pricing: State of the art. *Journal of Business Administration*, *3*, 1–40.

Griliches, Z. (1961). Hedonic price indexes for automobiles: An econometrics analysis of quality change. In G. Stigler (Ed.), *The price statistics of the Federal Government: Review, appraisal and recommendations. National Bureau of Economic Research, no. 73*. Columbia University Press.

Griliches, Z. (1971). Hedonic price indexes for automobiles: An econometric analysis of quality change. In Z. Griliches (Ed.), *Price indexes and quality change: Studies in new methods of measurement* (pp. 55–87). Harvard University Press. https://doi.org/10.4159/harvard.9780674592582.c4

Gustafson, C. R., Lybbert, T. J., & Sumner, D. A. (2016). Consumer sorting and hedonic valuation of wine attributes: Exploiting data from a field experiment. *Agricultural Economics*, *47*(1), 91–103. https://doi.org/10.1111/agec.12212

Hoch, S. J., Dreze, X., & Purk, M. (1994). EDLP, hi-lo, and margin arithmetic. *Journal of Retailing*, *58*, 16–27.

Kemper, C., & Breuer, C. (2016). Dynamic ticket pricing and the impact of time. An analysis of price paths of the English soccer club Derby County. *European Sport Management*, *16*(2), 233–253. https://doi.org/10.1080/16184742.2015.1129548

Kim, J., Allenby, G., & Rossi, P. (2002). Modeling consumer demand for variety. *Marketing Science*, *21*, 229–250. https://doi.org/10.1287/mksc.21.3.229.143

Klein, R., & Steinhardt, C. (2008). *Revenue management: Grundlagen und mathematische Methoden*. Springer.

Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, *74*(2), 132–157. https://doi.org/10.1086/259131

McMillan, R. S. (2002). *Different Flavor, Same Price: The Puzzle of Uniform Pricing for Differentiated Products*. Available at SSRN: https://doi.org/10.2139/ssrn.947805

Mondello, M., & Rishe, P. (2005). Variable ticket pricing in Major League Baseball: A case study of the St. Louis Cardinals. *International Journal of Sport Management*, *6*, 214–232.

Moore, J. (2010). Premier league pricing. An investigation of spectator ticket pricing strategy of football clubs within the English Premier League. http://pure.au.dk/portal/files/10650/Premier_League_Pricing_Thesis_May_2010.pdf

Müller, O., Simons, A., & Weinmann, M. (2017). Beyond crowd judgments: Data-driven estimation of market value in association football. *European Journal of Operational Research*, *263*, 611–624. https://doi.org/10.1016/j.ejor.2017.05.005

Nerlove, M. (1995). Hedonic price functions and the measurement of preferences: The case of Swedish wine consumers. *European Economic Review*, *39*, 1697–1716. https://doi.org/10.1016/0014-2921(95)00013-5

Pedersen, L. B., Kiil, A., & Kjær, T. (2011). Soccer attendees' preferences for facilities at the Fionia Park Stadium: An application of the discrete choice experiment. *Journal of Sports Economics*, *12*(2), 179–199. https://doi.org/10.1177/1527002510379206

Rhee, H., & Bell, D. R. (2002). The inter-store mobility of supermarket shoppers. *Journal of Retailing*, *1*, 225–237. https://doi.org/10.1016/S0022-4359(02)00099-4

Rosen, S. (1974). Hedonic prices and implicit markets: Product differentiation in pure competition. *Journal of Political Economy*, *82*(1), 34–55. https://doi.org/10.1086/260169

Segarra-Saavedra, J., Cristòfol, F. J., & Martínez-Sala, A. M. (2019). Artificial intelligence (AI) applied to informative documentation and journalistic sports writing. The case of BeSoccer. *Doxa Comunicación*, *29*, 275–286. https://doi.org/10.31921/doxacom.n29a14

Shapiro, S. L., & Drayer, J. (2014). An examination of dynamic ticket pricing and secondary market price determinants in Major League Baseball. *Sport Management Review*, *17*(2), 145–159. https://doi.org/10.1016/j.smr.2013.05.002

Stewart, K. G., & Jones, J. C. H. (1998). Hedonics and demand analysis: The implicit demand for player attributes. *Economic Inquiry*, *36*(2), 192–202. https://doi.org/10.1111/j.1465-7295.1998.tb01706.x

Torgler, B., & Schmidt, S. L. (2007). What shapes player performance in soccer? Empirical findings from a panel analysis. *Applied Economics*, *39*(18), 2355–2369. https://doi.org/10.1080/00036840600660739

Triplett, J. E. (1973). Review of "Consumer demand: A new approach" by Kelvin Lancaster. *Journal of Economic Literature*, *11*(1), 77–81.

Vaugh, F. (1928). Quality factors influencing vegetable prices. *Journal of Farm Economics*, *10*, 185–196. https://doi.org/10.2307/1230278

Wang, C., Goossens, D., & Vandebroek, M. (2018). The impact of the soccer schedule on TV viewership and stadium attendance: Evidence from the Belgian Pro League. *Journal of Sports Economics*, *19*(1), 82–112. https://doi.org/10.1177/1527002515612875

Welki, A. M., & Zlatoper, T. J. (1994). US professional football: The demand for game-day attendance in 1991. *Managerial and Decision Economics*, *15*(5), 489–495. https://doi.org/10.1002/mde.4090150510

Wilhelmsson, M. (2002). Household expenditure patterns for housing attributes: A linear expenditure system with hedonic prices. *Journal of Housing Economics*, *11*(1), 75–93. https://doi.org/10.1006/jhec.2002.0308

How to cite this article: Megía-Cayuela, D. (2023). Valuation of ticket prices for first-division football matches in the Spanish league. *Managerial and Decision Economics*, *44*(1), 576–594. https://doi.org/10.1002/mde.3701

APPENDIX A: DATASET

Dataset (variables in logarithms, except dummies)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
1	1	Athletic Club	C.D. Leganés	4.248495	1	0	0.719229	4	9.866683	0.003676
2	(19/8/2018)	Real Betis B. S.	Levante U.D.	4.135167	1	0	0.778487	4	9.478375	0.011111
3		RC Celta de Vigo	R.C.D. Espanyol	3.555348	1	1	0.559138	3	9.612728	0.006993
4		S.D. Eibar	S.D. Huesca	3.401197	1	1	0.518618	3	7.624175	0.005848
5		Girona F.C.	Real Valladolid	3.806662	1	0	0.691200	3	9.622998	0.005000
6		Rayo Vallecano	Sevilla FC SAD	3.688879	1	1	0.789672	3	9.666142	0.007937
7		F.C. Barcelona	C.D. Alavés	4.400603	1	1	0.526964	4	11.319559	0.071429
8		Valencia C.F.	At. de Madrid	3.860730	1	0	0.812346	4	12.863855	0.125000
9		Real Madrid C.F.	Getafe C.F.	4.605170	1	1	0.597774	4	11.235260	0.041667
10		Villarreal C.F.	Real Sociedad	3.401197	1	1	0.691489	3	10.683672	0.016667
11	2	C.D. Alavés	Real Betis B. S.	3.749504	1	1	0.866079	3	9.458172	0.002632
12	(26/8/2018)	Athletic Club	S.D. Huesca	4.248495	1	0	0.690912	4	8.980757	0.033333
13		At. de Madrid	Rayo Vallecano	4.653960	1	1	0.821199	4	10.844367	0.006173
14		R.C.D. Espanyol	Valencia C.F.	4.527209	1	1	0.819042	4	10.503150	0.009091
15		Girona F.C.	Real Madrid C.F.	3.806662	1	1	0.728067	3	11.377833	0.020833
16		C.D. Leganés	Real Sociedad	3.624341	1	0	0.781677	3	9.804472	0.008929
17		Sevilla FC SAD	Villarreal C.F.	3.624341	1	1	0.603439	4	10.996879	0.066667

(Continues)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
18		Real Valladolid	F.C. Barcelona	3.688879	1	1	0.820154	3	12.295273	0.025641
19		Levante U.D.	RC Celta de Vigo	3.960813	1	0	0.833084	3	9.485944	0.062500
20		Getafe C.F.	S.D. Eibar	3.960813	1	0	0.467321	4	8.226600	0.004202
21	3	C.D. Alavés	R.C.D. Espanyol	3.749504	1	1	0.866079	3	8.673755	0.014706
22	(2/9/2018)	F.C. Barcelona	S.D. Huesca	4.400603	1	1	0.733659	4	10.695076	0.166667
23		Real Betis B. S.	Sevilla FC SAD	4.135167	1	1	0.749857	4	10.787639	0.018519
24		S.D. Eibar	Real Sociedad	3.401197	1	0	0.605953	3	9.264918	0.007519
25		Getafe C.F.	Real Valladolid	3.960813	1	0	0.584345	4	9.480425	0.006494
26		Levante U.D.	Valencia C.F.	3.960813	0	1	0.949475	3	10.376366	0.006667
27		Rayo Vallecano	Athletic Club	3.688879	1	0	0.789672	3	9.415147	0.010000
28		RC Celta de Vigo	At. de Madrid	3.555348	1	1	0.655621	3	11.973433	0.013889
29		Villarreal C.F.	Girona F.C.	3.401197	1	0	0.669787	3	9.787928	0.004808
30		Real Madrid C.F.	C.D. Leganés	4.605170	1	1	0.748297	4	11.518760	0.041667
31	4	Athletic Club	Real Madrid C.F.	4.248495	1	1	0.762897	4	12.335789	0.125000
32	(16/09/2018)	At. de Madrid	S.D. Eibar	4.653960	0	1	0.813282	4	10.756350	0.006667
33		R.C.D. Espanyol	Levante U.D.	4.527209	1	1	0.424470	4	8.693958	0.028571
34		S.D. Huesca	Rayo Vallecano	3.314186	1	0	0.846795	3	7.712192	0.003571
35		C.D. Leganés	Villarreal C.F.	3.624341	0	1	0.837643	3	9.928855	0.002924
36		Real Valladolid	C.D. Alavés	3.688879	1	1	0.683431	3	9.502482	0.005682
37		Real Sociedad	F.C. Barcelona	3.624341	1	1	0.677367	3	12.335819	0.125000
38		Valencia C.F.	Real Betis B. S.	3.860730	1	1	0.824074	4	11.287568	0.004525
39		Girona F.C.	RC Celta de Vigo	3.806662	1	0	0.656600	3	9.586257	0.027778
40		Sevilla FC SAD	Getafe C.F.	3.624341	1	1	0.787935	4	9.834178	0.018519
41	5	F.C. Barcelona	Girona F.C.	4.400603	1	1	0.765455	4	11.440075	0.166667
42	(23/09/2018)	RC Celta de Vigo	Real Valladolid	3.555348	1	1	0.570759	3	10.441455	0.017544
43		S.D. Eibar	C.D. Leganés	3.401197	1	1	0.545811	3	8.510101	0.003125
44		S.D. Huesca	Real Sociedad	3.314186	1	0	0.890769	3	8.918545	0.005495
45		Levante U.D.	Sevilla FC SAD	3.960813	0	1	0.797350	3	9.876437	0.005348
46		Rayo Vallecano	C.D. Alavés	3.688879	0	1	0.789672	3	8.336675	0.009524
47		Real Betis B. S.	Athletic Club	4.135167	1	1	0.749857	4	10.536644	0.012500
48		Getafe C.F.	At. de Madrid	3.960813	1	1	0.759286	4	11.012403	0.022222
49		Real Madrid C.F.	R.C.D. Espanyol	4.605170	1	1	0.834830	4	11.404304	0.125000
50		Villarreal C.F.	Valencia C.F.	3.401197	1	1	0.712000	3	11.496807	0.004630
51	6	C.D. Alavés	Getafe C.F.	3.749504	1	0	0.926058	3	8.504711	0.030303
52	(26/09/2018)	Athletic Club	Villarreal C.F.	4.248495	1	0	0.762897	4	10.745883	0.008929
53		At. de Madrid	S.D. Huesca	4.653960	1	0	0.686908	4	10.409977	0.013889
54		C.D. Leganés	F.C. Barcelona	3.624341	1	0	0.837883	3	11.581003	0.050000
55		Girona F.C.	Real Betis B. S.	3.806662	1	0	0.757200	3	9.578688	0.015385
56		Valencia C.F.	RC Celta de Vigo	3.860730	1	0	0.812346	4	11.295136	0.013333
57		R.C.D. Espanyol	S.D. Eibar	4.527209	1	0	0.819042	4	8.395645	0.009259
58		Real Valladolid	Levante U.D.	3.688879	1	0	0.595264	3	9.522685	0.003096
59		Real Sociedad	Rayo Vallecano	3.624341	1	0	0.544557	3	9.352935	0.006250
60		Sevilla FC SAD	Real Madrid C.F.	3.624341	1	0	0.690020	4	12.586784	0.071429
61	7	Real Betis B. S.	C.D. Leganés	4.135167	1	1	0.810317	4	9.719616	0.007519

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
62	(30/09/2018)	RC Celta de Vigo	Getafe C.F.	3.555348	1	0	0.494138	3	9.443684	0.011364
63		S.D. Eibar	Sevilla FC SAD	3.401197	1	1	0.605953	3	9.578124	0.014286
64		Real Sociedad	Valencia C.F.	3.624341	0	1	0.596886	3	11.372423	0.006250
65		Real Madrid C.F.	At. de Madrid	4.605170	1	1	0.970362	4	13.765009	0.166667
66		Levante U.D.	C.D. Alavés	3.960813	1	1	0.798257	3	8.546970	0.013889
67		F.C. Barcelona	Athletic Club	4.400603	1	1	0.765455	4	12.398031	0.076923
68		Rayo Vallecano	R.C.D. Espanyol	3.688879	1	0	0.801192	3	8.483662	0.009804
69		S.D. Huesca	Girona F.C.	3.314186	0	1	0.846795	3	8.022801	0.004167
70		Villarreal C.F.	Real Valladolid	3.401197	1	1	0.663915	3	10.643126	0.007407
71	8	C.D. Alavés	Real Madrid C.F.	3.749504	1	1	0.866079	3	11.257317	0.083333
72	(07/10/2018)	Athletic Club	Real Sociedad	4.248495	1	0	0.876053	4	10.621500	0.005128
73		At. de Madrid	Real Betis B. S.	4.653960	1	1	0.931781	4	11.965865	0.050000
74		R.C.D. Espanyol	Villarreal C.F.	4.527209	1	1	0.456487	4	9.814399	0.010204
75		Getafe C.F.	Levante U.D.	3.960813	1	1	0.568869	4	8.524913	0.006250
76		C.D. Leganés	Rayo Vallecano	3.624341	1	1	0.926530	3	8.598119	0.002778
77		Valencia C.F.	F.C. Barcelona	3.860730	1	1	0.951626	4	13.148955	0.083333
78		Sevilla FC SAD	RC Celta de Vigo	3.624341	1	1	0.641113	4	10.795208	0.041667
79		Girona F.C.	S.D. Eibar	3.806662	0	1	0.704600	3	8.369173	0.005348
80		Real Valladolid	S.D. Huesca	3.688879	0	1	0.626403	3	8.877999	0.005848
81	9	F.C. Barcelona	Sevilla FC SAD	4.400603	1	1	0.892888	4	12.649026	0.500000
82	(21/10/2018)	Real Betis B. S.	Real Valladolid	4.135167	1	1	0.717117	4	10.433887	0.017857
83		RC Celta de Vigo	C.D. Alavés	3.555348	1	0	0.538655	3	9.465741	0.020000
84		S.D. Eibar	Athletic Club	3.401197	1	1	0.793116	3	9.327129	0.004902
85		Villarreal C.F.	At. de Madrid	3.401197	1	1	0.745447	3	12.175104	0.020833
86		S.D. Huesca	R.C.D. Espanyol	3.314186	1	1	0.890128	3	8.049272	0.008333
87		Rayo Vallecano	Getafe C.F.	3.688879	0	1	0.797087	3	8.314618	0.003759
88		Real Sociedad	Girona F.C.	3.624341	1	0	0.531570	3	9.663544	0.007407
89		Valencia C.F.	C.D. Leganés	3.860730	1	1	0.732449	4	10.617607	0.004274
90		Real Madrid C.F.	Levante U.D.	4.605170	0	1	0.782575	4	11.277520	0.022727
91	10	F.C. Barcelona	Real Madrid C.F.	4.400603	1	1	0.938714	4	14.050108	0.142857
92	(28/10/2018)	C.D. Alavés	Villarreal C.F.	3.749504	1	1	0.854637	3	9.667412	0.020833
93		Athletic Club	Valencia C.F.	4.248495	1	1	0.736756	4	11.434635	0.004525
94		At. de Madrid	Real Sociedad	4.653960	1	1	0.821199	4	12.050720	0.020000
95		RC Celta de Vigo	S.D. Eibar	3.555348	1	1	0.534793	3	9.187630	0.005556
96		Girona F.C.	Rayo Vallecano	3.806662	0	1	0.728067	3	8.457191	0.003759
97		Getafe C.F.	Real Betis B. S.	3.960813	0	1	0.719405	4	9.436115	0.010101
98		Real Valladolid	R.C.D. Espanyol	3.688879	1	0	0.660113	3	9.649469	0.083333
99		Sevilla FC SAD	S.D. Huesca	3.624341	1	1	0.556132	4	9.231752	0.012500
100		Levante U.D.	C.D. Leganés	3.960813	1	1	0.797350	3	8.808414	0.006944
101	11	Real Betis B. S.	RC Celta de Vigo	4.135167	1	1	0.709522	4	10.397145	0.007692
102	(04/11/2018)	Real Madrid C.F.	Real Valladolid	4.605170	1	1	0.839667	4	12.233031	0.015873
103		Real Sociedad	Sevilla FC SAD	3.624341	1	1	0.565291	3	10.872495	0.027778
104		S.D. Eibar	C.D. Alavés	3.401197	0	1	0.944880	3	8.248657	0.035714
105		R.C.D. Espanyol	Athletic Club	4.527209	1	0	0.326505	4	9.752227	0.012500

(Continues)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
106		C.D. Leganés	At. de Madrid	3.624341	0	1	0.837883	3	11.295904	0.013889
107		Rayo Vallecano	F.C. Barcelona	3.688879	1	1	0.912612	3	11.129466	0.052632
108		S.D. Huesca	Getafe C.F.	3.314186	1	1	0.846795	3	7.880228	0.006250
109		Valencia C.F.	Girona F.C.	3.860730	1	1	0.797222	4	10.476679	0.006061
110		Villarreal C.F.	Levante U.D.	3.401197	1	1	0.712000	3	9.687614	0.009804
111	12	C.D. Alavés	S.D. Huesca	3.749504	0	1	0.866079	3	7.902285	0.010000
112	(11/11/2018)	F.C. Barcelona	Real Betis B. S.	4.400603	1	1	0.765455	4	12.250964	0.071429
113		RC Celta de Vigo	Real Madrid C.F.	3.555348	1	1	0.730483	3	12.196290	0.015152
114		Getafe C.F.	Valencia C.F.	3.960813	1	1	0.595893	4	10.334106	0.008333
115		Girona F.C.	C.D. Leganés	3.806662	1	1	0.658267	3	8.908727	0.005556
116		Levante U.D.	Real Sociedad	3.960813	1	0	0.784492	3	9.563231	0.010989
117		Rayo Vallecano	Villarreal C.F.	3.688879	1	1	0.789672	3	9.477319	0.003289
118		At. de Madrid	Athletic Club	4.653960	1	1	0.866557	4	12.112932	0.019608
119		Real Valladolid	S.D. Eibar	3.688879	0	1	0.580708	3	9.224371	0.009259
120		Sevilla FC SAD	R.C.D. Espanyol	3.624341	1	1	0.652919	4	10.003222	0.125000
121	13	At. de Madrid	F.C. Barcelona	4.653960	1	1	0.821199	4	13.827251	0.500000
122	(25/11/2018)	Athletic Club	Getafe C.F.	4.248495	0	1	0.762897	4	9.583182	0.005882
123		S.D. Eibar	Real Madrid C.F.	3.401197	0	1	0.605953	3	10.979206	0.012821
124		R.C.D. Espanyol	Girona F.C.	4.527209	1	1	0.517649	4	8.794271	0.022222
125		S.D. Huesca	Levante U.D.	3.314186	1	1	0.828077	3	7.922488	0.007143
126		Sevilla FC SAD	Real Valladolid	3.624341	1	1	0.573680	4	10.831949	0.041667
127		C.D. Leganés	C.D. Alavés	3.624341	1	0	0.791954	3	8.788211	0.013889
128		Villarreal C.F.	Real Betis B. S.	3.401197	1	1	0.712000	3	10.598816	0.005208
129		Real Sociedad	RC Celta de Vigo	3.624341	1	0	0.449215	3	10.482001	0.006061
130		Valencia C.F.	Rayo Vallecano	3.860730	1	1	0.812346	4	10.166071	0.003759
131	14	C.D. Alavés	Sevilla FC SAD	3.749504	1	1	0.899597	3	9.856235	0.250000
132	(02/12/2018)	F.C. Barcelona	Villarreal C.F.	4.400603	1	1	0.765455	4	12.460203	0.031250
133		Real Betis B. S.	Real Sociedad	4.135167	0	1	0.784162	4	10.474433	0.008929
134		RC Celta de Vigo	S.D. Huesca	3.555348	0	0	0.464241	3	8.841258	0.003333
135		Real Madrid C.F.	Valencia C.F.	4.605170	1	1	0.859447	4	13.086712	0.015152
136		Levante U.D.	Athletic Club	3.960813	1	0	0.797350	3	9.625442	0.006173
137		Girona F.C.	At. de Madrid	3.806662	1	1	0.806933	3	11.154976	0.047619
138		Rayo Vallecano	S.D. Eibar	3.688879	1	1	0.745250	3	8.058565	0.005263
139		Getafe C.F.	R.C.D. Espanyol	3.960813	1	1	0.552798	4	8.651698	0.016667
140		Real Valladolid	C.D. Leganés	3.688879	1	1	0.607683	3	9.763925	0.004525
141	15	Athletic Club	Girona F.C.	4.248495	1	0	0.762897	4	9.725756	0.006944
142	(09/12/2018)	Real Betis B. S.	Rayo Vallecano	4.135167	1	1	0.749857	4	9.268080	0.004785
143		S.D. Eibar	Levante U.D.	3.401197	0	1	0.641597	3	8.268860	0.011905
144		S.D. Huesca	Real Madrid C.F.	3.314186	1	1	0.941154	3	10.632834	0.010000
145		Real Sociedad	Real Valladolid	3.624341	1	1	0.597975	3	10.518742	0.006667
146		At. de Madrid	C.D. Alavés	4.653960	0	1	0.815268	4	11.034460	0.083333
147		R.C.D. Espanyol	F.C. Barcelona	4.527209	1	1	0.819042	4	11.466546	0.166667
148		Villarreal C.F.	RC Celta de Vigo	3.401197	1	1	0.712000	3	10.606385	0.004525
149		C.D. Leganés	Getafe C.F.	3.624341	1	0	0.909507	3	8.766154	0.006944

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
150		Valencia C.F.	Sevilla FC SAD	3.860730	1	1	0.824218	4	11.685630	0.035714
151	16	C.D. Alavés	Athletic Club	3.749504	1	0	0.975252	3	9.605240	0.011111
152	(16/12/2018)	RC Celta de Vigo	C.D. Leganés	3.555348	1	0	0.521862	3	9.727184	0.004808
153		S.D. Eibar	Valencia C.F.	3.401197	1	1	0.605953	3	10.078053	0.005556
154		Getafe C.F.	Real Sociedad	3.960813	0	1	0.536786	4	9.520971	0.008929
155		S.D. Huesca	Villarreal C.F.	3.314186	1	1	0.846795	3	9.042929	0.002941
156		Real Valladolid	At. de Madrid	3.688879	1	1	0.689587	3	12.010174	0.030303
157		Levante U.D.	F.C. Barcelona	3.960813	1	1	0.797350	3	11.339762	0.166667
158		R.C.D. Espanyol	Real Betis B. S.	4.527209	1	1	0.819042	4	9.605160	0.014286
159		Sevilla FC SAD	Girona F.C.	3.624341	0	1	0.564889	4	9.976751	0.055556
160		Real Madrid C.F.	Rayo Vallecano	4.605170	1	1	0.681469	4	11.067224	0.013158
161	17	Athletic Club	Real Valladolid	4.248495	1	1	0.800034	4	10.580954	0.004630
162	(22/12/2018)	At. de Madrid	R.C.D. Espanyol	4.653960	1	1	0.848268	4	11.181447	0.030303
163		F.C. Barcelona	RC Celta de Vigo	4.400603	1	1	0.791976	4	12.258532	0.100000
164		Real Betis B. S.	S.D. Eibar	4.135167	0	1	0.832396	4	9.180062	0.015385
165		C.D. Leganés	Sevilla FC SAD	3.624341	1	1	0.909025	3	10.117678	0.031250
166		Real Sociedad	C.D. Alavés	3.624341	1	1	0.567873	3	9.543028	0.011111
167		Girona F.C.	Getafe C.F.	3.806662	1	0	0.563333	3	8.625227	0.015873
168		Valencia C.F.	S.D. Huesca	3.860730	0	1	0.751996	4	9.731680	0.003571
169		Rayo Vallecano	Levante U.D.	3.688879	1	1	0.789672	3	8.356878	0.006579
170		Villarreal C.F.	Real Madrid C.F.	3.401197	1	0	0.846936	3	12.397961	0.014706
171	18	C.D. Alavés	Valencia C.F.	3.749504	1	1	0.922581	3	10.356163	0.025000
172	(06/01/2019)	S.D. Eibar	Villarreal C.F.	3.401197	0	1	0.508452	3	9.389301	0.004525
173		R.C.D. Espanyol	C.D. Leganés	4.527209	1	0	0.343755	4	8.935199	0.005682
174		Real Madrid C.F.	Real Sociedad	4.605170	1	1	0.659049	4	12.273577	0.016667
175		RC Celta de Vigo	Athletic Club	3.555348	1	0	0.457448	3	10.544213	0.003968
176		Sevilla FC SAD	At. de Madrid	3.624341	1	1	0.650157	4	12.363927	0.166667
177		Getafe C.F.	F.C. Barcelona	3.960813	1	1	0.876250	4	11.297502	0.142857
178		S.D. Huesca	Real Betis B. S.	3.314186	1	1	0.786538	3	8.833690	0.008333
179		Levante U.D.	Girona F.C.	3.960813	1	0	0.765757	3	8.667486	0.011111
180		Real Valladolid	Rayo Vallecano	3.688879	0	1	0.689587	3	9.312389	0.004386
181	19	Athletic Club	Sevilla FC SAD	4.248495	1	1	0.762897	4	10.934707	0.020833
182	(13/01/2019)	At. de Madrid	Levante U.D.	4.653960	0	1	0.834010	4	11.054663	0.055556
183		F.C. Barcelona	S.D. Eibar	4.400603	1	1	0.765455	4	11.041449	0.090909
184		Real Betis B. S.	Real Madrid C.F.	4.135167	1	1	0.749857	4	12.188721	0.033333
185		Valencia C.F.	Real Valladolid	3.860730	1	1	0.812346	4	11.331877	0.005952
186		Girona F.C.	C.D. Alavés	3.806662	1	1	0.686867	3	8.647284	0.025000
187		Rayo Vallecano	RC Celta de Vigo	3.688879	1	0	0.759020	3	9.275648	0.003509
188		Real Sociedad	R.C.D. Espanyol	3.624341	1	0	0.565291	3	9.690015	0.009615
189		Villarreal C.F.	Getafe C.F.	3.401197	1	1	0.581745	3	9.645355	0.007937
190		C.D. Leganés	S.D. Huesca	3.624341	0	1	0.830336	3	8.163729	0.002941
191	20	F.C. Barcelona	C.D. Leganés	4.400603	1	1	0.509995	4	11.581003	0.066667
192	(20/01/2019)	Real Betis B. S.	Girona F.C.	4.135167	0	1	0.795210	4	9.578688	0.015873
193		RC Celta de Vigo	Valencia C.F.	3.555348	1	1	0.540276	3	11.295136	0.005348

(Continues)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
194		S.D. Eibar	R.C.D. Espanyol	3.401197	1	0	0.439980	3	8.395645	0.006250
195		Levante U.D.	Real Valladolid	3.960813	1	1	0.753609	3	9.522685	0.005952
196		Rayo Vallecano	Real Sociedad	3.688879	1	1	0.831645	3	9.352935	0.006944
197		Real Madrid C.F.	Sevilla FC SAD	4.605170	1	1	0.841913	4	12.586784	0.083333
198		Getafe C.F.	C.D. Alavés	3.960813	1	0	0.520714	4	8.504711	0.033333
199		Villarreal C.F.	Athletic Club	3.401197	1	1	0.712000	3	10.745883	0.004049
200		S.D. Huesca	At. de Madrid	3.314186	1	1	0.846795	3	10.409977	0.025000
201	21	C.D. Alavés	Rayo Vallecano	3.749504	1	0	0.866079	3	8.336675	0.011111
202	(27/01/2019)	Athletic Club	Real Betis B. S.	4.248495	1	1	0.762897	4	10.536644	0.010204
203		At. de Madrid	Getafe C.F.	4.653960	1	1	0.813793	4	11.012403	0.083333
204		R.C.D. Espanyol	Real Madrid C.F.	4.527209	1	1	0.819042	4	11.404304	0.025641
205		Valencia C.F.	Villarreal C.F.	3.860730	1	1	0.775412	4	11.496807	0.006579
206		Girona F.C.	F.C. Barcelona	3.806662	1	1	0.934733	3	11.440075	0.083333
207		Real Valladolid	RC Celta de Vigo	3.688879	0	1	0.666811	3	10.441455	0.003676
208		C.D. Leganés	S.D. Eibar	3.624341	1	1	0.750040	3	8.510101	0.006061
209		Real Sociedad	S.D. Huesca	3.624341	1	1	0.538025	3	8.918545	0.005556
210		Sevilla FC SAD	Levante U.D.	3.624341	0	1	0.576308	4	9.876437	0.025000
211	22	F.C. Barcelona	Valencia C.F.	4.400603	1	1	0.772883	4	13.148955	0.125000
212	(03/02/2019)	RC Celta de Vigo	Sevilla FC SAD	3.555348	1	1	0.603552	3	10.795208	0.014706
213		S.D. Eibar	Girona F.C.	3.401197	1	1	0.541279	3	8.369173	0.007576
214		S.D. Huesca	Real Valladolid	3.314186	1	0	0.775897	3	8.877999	0.003125
215		Real Madrid C.F.	C.D. Alavés	4.605170	1	1	0.655594	4	11.257317	0.066667
216		Real Sociedad	Athletic Club	3.624341	1	0	0.685392	3	10.621500	0.007937
217		Real Betis B. S.	At. de Madrid	4.135167	1	1	0.856614	4	11.965865	0.071429
218		Villarreal C.F.	R.C.D. Espanyol	3.401197	0	1	0.712000	3	9.814399	0.004049
219		Levante U.D.	Getafe C.F.	3.960813	0	1	0.797350	3	8.524913	0.016667
220		Rayo Vallecano	C.D. Leganés	3.688879	1	0	0.757034	3	8.598119	0.003704
221	23	At. de Madrid	Real Madrid C.F.	4.653960	1	1	0.989716	4	13.765009	0.166667
222	(10/02/2019)	C.D. Alavés	Levante U.D.	3.749504	1	0	0.690071	3	8.546970	0.015152
223		Athletic Club	F.C. Barcelona	4.248495	1	1	0.762897	4	12.398031	0.083333
224		R.C.D. Espanyol	Rayo Vallecano	4.527209	1	1	0.503703	4	8.483662	0.003968
225		Girona F.C.	S.D. Huesca	3.806662	1	1	0.710800	3	8.022801	0.002941
226		Real Valladolid	Villarreal C.F.	3.688879	1	0	0.609820	3	10.643126	0.003509
227		C.D. Leganés	Real Betis B. S.	3.624341	0	1	0.913843	3	9.719616	0.010989
228		Getafe C.F.	RC Celta de Vigo	3.960813	0	1	0.590357	4	9.443684	0.012500
229		Sevilla FC SAD	S.D. Eibar	3.624341	1	1	0.612062	4	9.578124	0.025000
230		Valencia C.F.	Real Sociedad	3.860730	1	1	0.812346	4	11.372423	0.013889
231	24	F.C. Barcelona	Real Valladolid	4.400603	0	1	0.678735	4	12.295273	0.066667
232	(17/02/2019)	RC Celta de Vigo	Levante U.D.	3.555348	0	1	0.533759	3	9.485944	0.004808
233		S.D. Eibar	Getafe C.F.	3.401197	1	0	0.605953	3	8.226600	0.020000
234		Real Betis B. S.	C.D. Alavés	4.135167	1	1	0.731837	4	9.458172	0.023810
235		S.D. Huesca	Athletic Club	3.314186	1	0	0.846795	3	8.980757	0.003571
236		Rayo Vallecano	At. de Madrid	3.688879	1	1	0.918901	3	10.844367	0.018519
237		Valencia C.F.	R.C.D. Espanyol	3.860730	1	1	0.812346	4	10.503150	0.010417

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
238		Real Madrid C.F.	Girona F.C.	4.605170	0	1	0.840272	4	11.377833	0.029412
239		Real Sociedad	C.D. Leganés	3.624341	1	1	0.582203	3	9.804472	0.010101
240		Villarreal C.F.	Sevilla FC SAD	3.401197	1	1	0.712000	3	10.996879	0.013158
241	25	C.D. Alavés	RC Celta de Vigo	3.749504	1	1	0.951714	3	9.465741	0.009804
242	(24/02/2019)	Athletic Club	S.D. Eibar	4.248495	1	1	0.813733	4	9.327129	0.008333
243		At. de Madrid	Villarreal C.F.	4.653960	1	1	0.863533	4	12.175104	0.027778
244		R.C.D. Espanyol	S.D. Huesca	4.527209	1	0	0.457535	4	8.049272	0.003846
245		Getafe C.F.	Rayo Vallecano	3.960813	0	1	0.667083	4	8.314618	0.010526
246		Girona F.C.	Real Sociedad	3.806662	1	0	0.678000	3	9.663544	0.009524
247		C.D. Leganés	Valencia C.F.	3.624341	0	1	0.837883	3	10.617607	0.007937
248		Levante U.D.	Real Madrid C.F.	3.960813	1	1	0.907865	3	11.277520	0.030303
249		Sevilla FC SAD	F.C. Barcelona	3.624341	1	1	0.787935	4	12.649026	0.250000
250		Real Valladolid	Real Betis B. S.	3.688879	1	1	0.728691	3	10.433887	0.007813
251	26	Real Betis B. S.	Getafe C.F.	4.135167	1	1	0.785762	4	9.436115	0.035714
252	(03/03/2019)	R.C.D. Espanyol	Real Valladolid	4.527209	0	1	0.466399	4	9.649469	0.005208
253		S.D. Huesca	Sevilla FC SAD	3.314186	1	1	0.874103	3	9.231752	0.010000
254		C.D. Leganés	Levante U.D.	3.624341	1	0	0.783523	3	8.808414	0.005495
255		Real Madrid C.F.	F.C. Barcelona	4.605170	1	1	0.973804	4	14.050108	0.333333
256		Villarreal C.F.	C.D. Alavés	3.401197	1	1	0.659064	3	9.667412	0.009259
257		Valencia C.F.	Athletic Club	3.860730	1	1	0.803313	4	11.434635	0.011111
258		Real Sociedad	At. de Madrid	3.624341	1	1	0.658329	3	12.050720	0.062500
259		S.D. Eibar	RC Celta de Vigo	3.401197	0	1	0.605953	3	9.187630	0.005348
260		Rayo Vallecano	Girona F.C.	3.688879	1	0	0.800199	3	8.457191	0.003509
261	27	C.D. Alavés	S.D. Eibar	3.749504	0	1	0.947228	3	8.248657	0.020000
262	(10/03/2019)	Athletic Club	R.C.D. Espanyol	4.248495	1	0	0.762897	4	9.752227	0.007576
263		At. de Madrid	C.D. Leganés	4.653960	1	1	0.821199	4	11.295904	0.038462
264		F.C. Barcelona	Rayo Vallecano	4.400603	1	1	0.765455	4	11.129466	0.052632
265		Getafe C.F.	S.D. Huesca	3.960813	1	1	0.647738	4	7.880228	0.012500
266		Girona F.C.	Valencia C.F.	3.806662	1	1	0.766800	3	10.476679	0.010204
267		Levante U.D.	Villarreal C.F.	3.960813	1	1	0.794707	3	9.687614	0.003704
268		RC Celta de Vigo	Real Betis B. S.	3.555348	0	1	0.620862	3	10.397145	0.007353
269		Real Valladolid	Real Madrid C.F.	3.688879	1	1	0.793468	3	12.233031	0.020833
270		Sevilla FC SAD	Real Sociedad	3.624341	1	1	0.603136	4	10.872495	0.018519
271	28	Athletic Club	At. de Madrid	4.248495	1	1	0.744225	4	12.112932	0.041667
272	(17/03/2019)	S.D. Eibar	Real Valladolid	3.401197	0	1	0.552180	3	9.224371	0.006944
273		R.C.D. Espanyol	Sevilla FC SAD	4.527209	1	1	0.819042	4	10.003222	0.015152
274		S.D. Huesca	C.D. Alavés	3.314186	0	1	0.873205	3	7.902285	0.010000
275		Real Betis B. S.	F.C. Barcelona	4.135167	1	1	0.912324	4	12.250964	0.125000
276		Real Madrid C.F.	RC Celta de Vigo	4.605170	1	1	0.802700	4	12.196290	0.018519
277		Valencia C.F.	Getafe C.F.	3.860730	1	1	0.859630	4	10.334106	0.035714
278		C.D. Leganés	Girona F.C.	3.624341	1	1	0.792757	3	8.908727	0.005495
279		Real Sociedad	Levante U.D.	3.624341	1	0	0.521646	3	9.563231	0.006667
280		Villarreal C.F.	Rayo Vallecano	3.401197	1	1	0.728383	3	9.477319	0.003096
281	29	C.D. Alavés	At. de Madrid	3.749504	1	1	0.866079	3	11.034460	0.100000

(Continues)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
282	(31/03/2019)	F.C. Barcelona	R.C.D. Espanyol	4.400603	1	1	0.933984	4	11.466546	0.076923
283		RC Celta de Vigo	Villarreal C.F.	3.555348	1	1	0.607000	3	10.606385	0.003268
284		Getafe C.F.	C.D. Leganés	3.960813	0	1	0.756250	4	8.766154	0.017857
285		Sevilla FC SAD	Valencia C.F.	3.624341	1	1	0.787935	4	11.685630	0.023810
286		Girona F.C.	Athletic Club	3.806662	1	0	0.704133	3	9.725756	0.009259
287		Rayo Vallecano	Real Betis B. S.	3.688879	0	1	0.789672	3	9.268080	0.006579
288		Levante U.D.	S.D. Eibar	3.960813	0	1	0.797350	3	8.268860	0.006061
289		Real Madrid C.F.	S.D. Huesca	4.605170	1	1	0.607929	4	10.632834	0.016667
290		Real Valladolid	Real Sociedad	3.688879	1	1	0.679810	3	10.518742	0.006250
291	30	Athletic Club	Levante U.D.	4.248495	1	0	0.684006	4	9.625442	0.008333
292	(03/04/2019)	At. de Madrid	Girona F.C.	4.653960	1	0	0.596924	4	11.154976	0.038462
293		S.D. Eibar	Rayo Vallecano	3.401197	1	0	0.482607	3	8.058565	0.004785
294		R.C.D. Espanyol	Getafe C.F.	4.527209	1	0	0.371944	4	8.651698	0.017857
295		C.D. Leganés	Real Valladolid	3.624341	1	0	0.837883	3	9.763925	0.005208
296		Sevilla FC SAD	C.D. Alavés	3.624341	1	0	0.787935	4	9.856235	0.028571
297		Villarreal C.F.	F.C. Barcelona	3.401197	1	0	0.830426	3	12.460203	0.058824
298		Real Sociedad	Real Betis B. S.	3.624341	1	0	0.415620	3	10.474433	0.011111
299		S.D. Huesca	RC Celta de Vigo	3.314186	1	0	0.840000	3	8.841258	0.002778
300		Valencia C.F.	Real Madrid C.F.	3.860730	1	0	0.910988	4	13.086712	0.055556
301	31	C.D. Alavés	C.D. Leganés	3.749504	0	1	0.866079	3	8.788211	0.011905
302	(07/04/2019)	Real Betis B. S.	Villarreal C.F.	4.135167	1	1	0.344825	4	10.598816	0.005882
303		RC Celta de Vigo	Real Sociedad	3.555348	1	1	0.607000	3	10.482001	0.006173
304		Rayo Vallecano	Valencia C.F.	3.688879	1	1	0.749421	3	10.166071	0.010526
305		Getafe C.F.	Athletic Club	3.960813	0	1	0.654762	4	9.583182	0.031250
306		F.C. Barcelona	At. de Madrid	4.400603	1	1	0.930541	4	13.827251	0.500000
307		Real Madrid C.F.	S.D. Eibar	4.605170	1	1	0.620453	4	10.979206	0.030303
308		Girona F.C.	R.C.D. Espanyol	3.806662	0	1	0.764200	3	8.794271	0.005495
309		Levante U.D.	S.D. Huesca	3.960813	1	1	0.781888	3	7.922488	0.003333
310		Real Valladolid	Sevilla FC SAD	3.688879	1	1	0.651351	3	10.831949	0.010417
311	32	Athletic Club	Rayo Vallecano	4.248495	0	1	0.726829	4	9.415147	0.006579
312	(14/04/2019)	At. de Madrid	RC Celta de Vigo	4.653960	1	1	0.821199	4	11.973433	0.031250
313		Girona F.C.	Villarreal C.F.	3.806662	1	1	0.769000	3	9.787928	0.003968
314		C.D. Leganés	Real Madrid C.F.	3.624341	1	0	0.973021	3	11.518760	0.030303
315		R.C.D. Espanyol	C.D. Alavés	4.527209	0	1	0.819042	4	8.673755	0.010989
316		S.D. Huesca	F.C. Barcelona	3.314186	1	1	0.940000	3	10.695076	0.050000
317		Sevilla FC SAD	Real Betis B. S.	3.624341	1	1	0.722237	4	10.787639	0.022222
318		Real Sociedad	S.D. Eibar	3.624341	1	1	0.615392	3	9.264918	0.008333
319		Real Valladolid	Getafe C.F.	3.688879	0	1	0.612246	3	9.480425	0.014706
320		Valencia C.F.	Levante U.D.	3.860730	1	1	0.812346	4	10.376366	0.011111
321	33	C.D. Alavés	Real Valladolid	3.749504	1	0	0.683871	3	9.502482	0.006944
322	(21/04/2019)	F.C. Barcelona	Real Sociedad	4.400603	1	1	0.759607	4	12.335819	0.100000
323		Real Betis B. S.	Valencia C.F.	4.135167	1	1	0.749857	4	11.287568	0.018519
324		RC Celta de Vigo	Girona F.C.	3.555348	0	1	0.708483	3	9.586257	0.004202
325		Getafe C.F.	Sevilla FC SAD	3.960813	0	1	0.654762	4	9.834178	0.050000

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
326		Real Madrid C.F.	Athletic Club	4.605170	1	1	0.748297	4	12.335789	0.047619
327		S.D. Eibar	At. de Madrid	3.401197	1	1	0.581823	3	10.756350	0.038462
328		Levante U.D.	R.C.D. Espanyol	3.960813	0	1	0.665615	3	8.693958	0.005208
329		Rayo Vallecano	S.D. Huesca	3.688879	1	1	0.789672	3	7.712192	0.002632
330		Villarreal C.F.	C.D. Leganés	3.401197	1	1	0.627787	3	9.928855	0.006061
331	34	C.D. Alavés	F.C. Barcelona	3.749504	1	0	0.944304	3	11.319559	0.125000
332	(24/04/2019)	At. de Madrid	Valencia C.F.	4.653960	1	0	0.635898	4	12.863855	0.100000
333		Getafe C.F.	Real Madrid C.F.	3.960813	1	0	0.781845	4	11.235260	0.083333
334		Real Sociedad	Villarreal C.F.	3.624341	1	0	0.565291	3	10.683672	0.006494
335		C.D. Leganés	Athletic Club	3.624341	1	0	0.333628	3	9.866683	0.011905
336		Levante U.D.	Real Betis B. S.	3.960813	1	0	0.804370	3	9.478375	0.006944
337		R.C.D. Espanyol	RC Celta de Vigo	4.527209	1	0	0.357314	4	9.612728	0.006667
338		S.D. Huesca	S.D. Eibar	3.314186	1	0	0.789359	3	7.624175	0.003846
339		Real Valladolid	Girona F.C.	3.688879	1	0	0.691795	3	9.622998	0.003268
340		Sevilla FC SAD	Rayo Vallecano	3.624341	1	0	0.787935	4	9.666142	0.008772
341	35	At. de Madrid	Real Valladolid	4.653960	1	1	0.821199	4	12.010174	0.029412
342	(28/04/2019)	F.C. Barcelona	Levante U.D.	4.400603	1	1	0.925146	4	11.339762	0.066667
343		Real Betis B. S.	R.C.D. Espanyol	4.135167	1	0	0.514686	4	9.605160	0.011111
344		Girona F.C.	Sevilla FC SAD	3.806662	0	1	0.728067	3	9.976751	0.011111
345		Rayo Vallecano	Real Madrid C.F.	3.688879	1	1	0.789672	3	11.067224	0.016667
346		Athletic Club	C.D. Alavés	4.248495	0	1	0.758168	4	9.605240	0.017857
347		C.D. Leganés	RC Celta de Vigo	3.624341	1	1	0.828971	3	9.727184	0.005208
348		Valencia C.F.	S.D. Eibar	3.860730	0	1	0.812346	4	10.078053	0.012821
349		Real Sociedad	Getafe C.F.	3.624341	1	1	0.490785	3	9.520971	0.022727
350		Villarreal C.F.	S.D. Huesca	3.401197	1	1	0.761745	3	9.042929	0.003759
351	36	C.D. Alavés	Real Sociedad	3.749504	1	1	0.932913	3	9.543028	0.013889
352	(05/05/2019)	Getafe C.F.	Girona F.C.	3.960813	0	1	0.654762	4	8.625227	0.014706
353		S.D. Huesca	Valencia C.F.	3.314186	1	1	0.817692	3	9.731680	0.008333
354		Levante U.D.	Rayo Vallecano	3.960813	0	1	0.783624	3	8.356878	0.003509
355		Real Madrid C.F.	Villarreal C.F.	4.605170	1	1	0.748297	4	12.397961	0.023810
356		Real Valladolid	Athletic Club	3.688879	1	1	0.802049	3	10.580954	0.007937
357		R.C.D. Espanyol	At. de Madrid	4.527209	1	1	0.460474	4	11.181447	0.050000
358		RC Celta de Vigo	F.C. Barcelona	3.555348	1	1	0.776517	3	12.258532	0.062500
359		S.D. Eibar	Real Betis B. S.	3.401197	0	1	0.605953	3	9.180062	0.007576
360		Sevilla FC SAD	C.D. Leganés	3.624341	1	0	0.552343	4	10.117678	0.015385
361	37	Athletic Club	RC Celta de Vigo	4.248495	1	1	0.797425	4	10.544213	0.010204
362	(12/05/2019)	At. de Madrid	Sevilla FC SAD	4.653960	1	1	0.879894	4	12.363927	0.083333
363		F.C. Barcelona	Getafe C.F.	4.400603	1	1	0.574592	4	11.297502	0.250000
364		Real Betis B. S.	S.D. Huesca	4.135167	1	1	0.472869	4	8.833690	0.003846
365		Girona F.C.	Levante U.D.	3.806662	1	1	0.889467	3	8.667486	0.003472
366		Rayo Vallecano	Real Valladolid	3.688879	1	1	0.664681	3	9.312389	0.003096
367		Valencia C.F.	C.D. Alavés	3.860730	1	1	0.776626	4	10.356163	0.020000
368		Villarreal C.F.	S.D. Eibar	3.401197	1	1	0.712000	3	9.389301	0.006061
369		C.D. Leganés	R.C.D. Espanyol	3.624341	1	1	0.837883	3	8.935199	0.009259

(Continues)

Id	Round	Home team	Away team	Y Price	X1 Schedule	X2 Match day	X3 Attending rate	X4 Uefa stadium	X5 Match value	X6 Table position value
370		Real Sociedad	Real Madrid C.F.	3.624341	1	1	0.691696	3	12.273577	0.041667
371	38	C.D. Alavés	Girona F.C.	3.749504	1	1	0.582107	3	8.647284	0.005051
372	(19/05/2019)	RC Celta de Vigo	Rayo Vallecano	3.555348	1	1	0.745069	3	9.275648	0.003096
373		R.C.D. Espanyol	Real Sociedad	4.527209	1	1	0.605428	4	9.690015	0.013889
374		Getafe C.F.	Villarreal C.F.	3.960813	1	1	0.808274	4	9.645355	0.014286
375		S.D. Huesca	C.D. Leganés	3.314186	1	1	0.714744	3	8.163729	0.003846
376		Sevilla FC SAD	Athletic Club	3.624341	1	1	0.472566	4	10.934707	0.023810
377		Levante U.D.	At. de Madrid	3.960813	0	1	0.811509	3	11.054663	0.033333
378		S.D. Eibar	F.C. Barcelona	3.401197	1	1	0.605953	3	11.041449	0.083333
379		Real Madrid C.F.	Real Betis B. S.	4.605170	0	1	0.702088	4	12.188721	0.033333
380		Real Valladolid	Valencia C.F.	3.688879	1	1	0.849265	3	11.331877	0.015625