Economic crisis, sport success and willingness to pay: The case of a football club.

Pablo Castellanos-García
Departamento de Economia Aplicada I, Universidade da Coruña, A Coruña, Spain

Jaume García Villar
Departament d'Economia I Empresa, Universitat Pompeu Fabra, Barcelona, Spain

 and

José Manuel Sánchez Santos
Facultad de Economía y Empresa, Universidade da Coruña, A Coruña, Spain

Abstract
Purpose – The purpose of this paper is to obtain evidence about the scope of the determinants of the willingness to pay (WTP) of the residents in a Spanish city (A Coruñ a) for keeping a professional football team (Deportivo) competing at the highest level. Apart from the individual socio-demographic characteristics of the respondents and their attitudes as football fans, the authors try to know the influence on the WTP of factors such as the general economic conditions and the plausibility of the team disappearance.
Design/methodology/approach – The value of the intangible benefits associated with the team existence is derived from the application of the contingent valuation method (CVM), using two surveys conducted in 2003 and 2012, respectively, with the aim of obtaining information concerning citizens' behaviour and attitudes towards a professional football team.
Findings – The consumption of public goods generated by the local football team is relatively inelastic to the sport success and general economic situation, but the value assigned by residents to those goods depends on these factors. Of the two components of the WTP, the non-use value is especially sensitive to changes both in the Spanish economic conditions and in the quality of the public goods generated by the football team.
Originality/value – This is the first study that applies the CVM to a football team controlling for both the general economic conditions and the team sport success and, as such, it provides interesting insights into the nature and scope of the determinants of individuals' WTP in a CVM setting.

1. Introduction

This paper focuses on the factors influencing both consumption and value of public goods (nonmarketable externalities) that arise as a consequence of the existence of a sport team in a city. It is generally assumed that the team success has important impacts by enhancing the city image and its external prestige, by producing feelings of civic pride and collective identity, by increasing the citizens' self-esteem and by influencing on the individuals' subjective perception of quality of life (Owen, 2006; Carlino and Coulson, 2004; Allison and Monnington, 2002; Santo, 2007; Pawlowski et al., 2011). Moreover, people can watch the games on TV and also have the possibility of talking and reading about the club, living the club path intensely (enthusiasm, excitement, joy) and participating in the collective celebrations. To the extent that there is not either rivalry or excludability in the consumption of these sub-products, we can state that we are dealing with goods that have clear public good components (Zimmerman, 1997; Wicker et al., 2011).

The estimation of the value of the above mentioned goods requires first quantifying the benefits that flow to each individual and then extrapolating them to all the relevant population. In this regard, the basic tool for carrying out this calculation process is a contingent value survey whose results reveal the willingness to pay (WTP) of individuals to keep a sport team competing at the highest level.

In our case, the monetary value of the intangible benefits for the city residents stemming from hosting a successful football team is derived from the application of the Contingent Valuation Method (CVM). Among the more recent studies that apply this methodology in sport field are Walker and Mondello (2007), Atkinson et al. (2008), Walton et al. (2008) and Vekeman et al. (2013). More specifically, some illustrative examples of valuation of public goods generated by sport teams are provided in Johnson et al. (2001), Johnson et al. (2007) and Fenn and Crooker (2009).

As a starting point for the analysis carried out in this paper, we used the results of Castellanos and Sánchez (2007) and Castellanos *et al.* (2011), who addressed specifically the case of a professional football club: RCD de La Coruña ('Deportivo'). In this regard it should be noted that when a city has a competitive team in a sport with the economic and social importance of football in Spain, everything that has to do with the team usually plays an important role in the life of a significant percentage of the population living in the city and its metropolitan area, even for people that do not attend football matches at the stadium (non-users).

The above-mentioned authors took as a reference the results of a survey conducted in 2003. At that time, A Coruña (Spain) was a city hosting a very successful football team. In this case, the contingent valuation survey presented a hypothetical scenario in which respondents were asked how much they would be willing to pay to support such status quo. In order to continue this research line, the same survey was conducted in 2012. In this case, the conditions were quite different because the period of the team in the top

flight came to an end since it had been relegated to the Second Division in 2011. Deportivo was promoted to First Division in June 2012 and the team was competing in this category when the second survey was conducted. In these circumstances, the risk of relegation is a credible threat of disappearance of the club as a professional team: the relegation jeopardises the club economic viability and it could imply its liquidation if the team do not come back immediately to the first category. Currently Deportivo is dealing with an extremely delicated economic situation and since january 2013 the team is subjected to the Ley Concursal (Spanish Law on Insolvency) and with a liquidation warning issued by the insolvency administrators.Obviously, the potential disappearance of the football team that generates such positive externalities would result in a loss of welfare for citizens which benefited from them.

The aim of this paper is twofold. First, we provide empirical evidence on the validity of the CVM as a tool for quantifying the intangible benefits associated with the existence of a professional football club in a particular city. Second, we try to obtain additional evidence about the nature and scope of the determinants of willingness to pay (WTP) of individuals for keeping a football team competing at the highest level and enjoying the above-mentioned benefits. Particularly, in the present paper, apart from the individual socio-demographic characteristics of the respondents and their attitudes and behaviour as football fans, we are interested in knowing the influence on the WTP of factors such as the general economic conditions and the plausibility of a hypothetical football team disappearance.

The article is organized as follows. In Section 2 we emphasize the importance of the distinction between the use and non-use values when determining the economic value of a football team for a local community. In Section 3 we focus on some methodological issues related to the application of the CVM to the case under study. In Section 4 we estimate econometrically a bid function that explains the WTP of individuals according to a number of socioeconomic and behavioural variables. Finally, we summarize the main conclusions.

2. The value of a football team for a city

Generally speaking, the total economic value (EV) of a resource or asset is a monetary expression of the benefits it generates for the society. That value is not necessarily tied direct or indirectly to the use of the resource, but it is also based on altruistic, ethical and moral reasons. Therefore, the economic value of a resource is made up of use and non-use values (see Pearce and Özdemiroglu, 2002).

2.1. The use and non-use values concept

'Use value' refers to the benefits derived from using a resource for which there is generally a market. The concept of use value also includes the option value or the value to keep open the possibility of use in the future. Despite that individuals or firms are not currently using the resource, they might be willing to pay for the right to use this resource at some later date.

Non-use values, also known as passive use values, are independent of the individual's present use of the resource and they arise in contexts where an individual is willing to pay for a good even without obtaining any direct or indirect benefit from it. In short,

this concept reflects the well-being perceived by individuals who do not make a use, present or future, of the good. In turn, the non-use value can basically be broken down into three categories: pure existence value, altruistic existence value and bequest value.

Existence value is a concept reflecting the benefit people receive from knowing that good o resource exists. This is an example of non-use value because people do not require that utility be derived from direct use of the resource (Krutilla, 1967). Existence value is, therefore, the satisfaction people obtain from a thing for various reasons different from their expected personal use. In fact, the main explanation of this component is the symbolic value that can have the asset as part of the cultural identity of a group. Altruistic existence value is driven by the desire of other people to consume the good and bequest value is the value that any individual assigns to a resource knowing that others can benefit from it in the future. In the last two cases, the main reason that would explain that source of value is altruism.

Total economic value provides a convenient framework for organising the different components of value which have just been explained and that may be associated with the existence of a football team in a city. According to this approach, the existence of a football team has simultaneously and for the same individual, both a use value and a non-use value. The use value can be calculated directly through the price paid by spectators in the stadium (it is a good with a market price). To this value we should add the one given by people who are not direct consumers (they neither attend football matches nor plan to do so in the future) but, however, they enjoy the external effects generated by the sport club. In our case, the non-use value is associated with the value of the public goods generated by the football team.

The existence of non-use value seems undeniable, especially when one takes into account that in many cities a football team plays a significant role in citizens' life, although most of them do not attend football matches. The existence value refers to the fact that individuals who are not football fans and do not obtain any benefit from football matches, consider the continued existence of the football team to be important because they think that the team has a symbolic value for the citizens and it is part of the history and identity of the city where they live. Thus, for these individuals the football team disappearance would also entail a welfare loss. There are also individuals who are interested in the survival of the football team because they think that other people should have the opportunity of enjoying the benefits derived from its existence. In this case a bequest value arises from the desire of bequeathing the possibility of enjoying the benefits of having a successful team in the city to one's heirs or future generations.

2.2. The Willingness to Pay as a measure of value

The Contingent Valuation Method is a mechanism to assess individual preferences for public goods. Within the framework of that method, the individual WTP indicates the maximum amount of money the respondent would be willing to pay to enjoy the benefits associated with the existence of a football team. In this case, the maintenance of the status quo (keeping the team competing at the highest level of professional football) is not enforceable. Indeed the situation may worsen (the team can be relegated and even disappear) and if the individual wants to avoid this change, he/she has to pay for it. Therefore, individuals enjoy the public goods generated by the football team and the valuation scenario faces them to the possibility of losing this possibility of enjoyment.

So, according to this approach, the WTP allows us to approximate the value of the loss of utility (welfare) that would result from the disappearance of a football team.

Regarding the concept of WTP, we have to make the following clarification. If the products are commercialized in a market, the WTP is equal to the sum of market price and consumer surplus. However, in our case, where we try to value assets which have public good components that are not exchanged in the market, the WTP is equal to the sum of use value and non-use value.

From a theoretical perspective, apart from the individual socioeconomic characteristics, there are other factors influencing the individual WTP to keep a team in a city. Particularly, we are interested in analyzing the impact of two of these factors: the macroeconomic global situation and the plausibility of the contingency (team disappearance). On the one hand, it should be expected that in a context of serious economic crisis people give priority to other goods not related to leisure enjoyment. Under these circumstances, the opportunity cost of devoting resources to football is higher and we can expect a decrease in the WTP in relation to the values obtained in a context of favourable macroeconomic conditions. On the other hand, when you ask for an individual's willingness to pay for avoiding a potential loss, one of the determining factors of the response is the plausibility of that loss. That is, other things equal, if the threat of disappearance of the team is not a credible scenario, probably the willingness to pay would be lower.

3.- Methodology and data

Considering that the non-use values can only be estimated by stated preference techniques, we estimate the value of the public goods provided by a football team using the Contingent Value Method. More specifically, we use an approach based on the CVM to analyze the WTP of the residents in A Coruña and its metropolitan area to keep a football club in the First Division. The CVM allows us to estimate both use and non-use values. In our empirical study we opted for the application of this method precisely because of its reliability in determining individuals' WTP for non-use values.

3.1. Data collection

The application of the CVM is based on conducting surveys (Mitchell and Carson, 1989; Carson, 2000). The use and non use values are derived from the answers that people gave when they were asked openly about the valuation of the good under analysis in the context of a hypothetical scenario where respondents and the interviewer represent the demand and the supply, respectively. In our case, it is based on directly asking individuals their WTP for avoiding the welfare loss derived from a hypothetical club disappearance.

The surveys were carried out by a company specialised in polls in January 2003 and September 2012 holding personal interviews. These surveys were conducted in order to obtain information concerning citizens' behaviour and attitudes toward a professional football team (Deportivo). Besides of that, the surveys provided us information about demographic and socioeconomic characteristics of football team fans. The technical features of the surveys are reported in Table 1.

[Insert Table 1]

The questionnaire used in this research was structured in several sections dealing with respondents' consumption of Deportivo's entertainment offer, letting us to know the degree to which they are favoured by aspects of public goods generated by the team. In the same survey, the scenario was expounded, profiling the contingent market context, defining the payment vehicle, and formulating the elicitation and complementary questions (The complete questionnaire is available upon request).

In this study the following two elicitation questions (the first one is in closed-ended format and the second is a payment scale) were asked to respondents:

Imagine that Deportivo could disappear as a professional club due to a lack of financial resources. In order to avoid its disappearance, the creation of a fund with the citizens' voluntary contributions is suggested.

1. *Would you be willing to pay for that through an annual voluntary contribution of [X] euros in order to guarantee that Deportivo could maintain the competitive level of recent seasons?*

   [The contribution is randomly modified throughout the sample, taking, on an equal basis, the values €1, 5, 10, and 25]

   Yes / No / Don't know

2. *Being more explicit, how much would you be willing to pay at most every year?*
[Nothing; between 0 and 6 euros (0-6); 6-12 euros (6-12); 12-30 euros (12-30); 30-60 euros (30-60); 60-90 euros (60-90); more than 90 euros; Don't know]

3.2 Empirical framework

In our analysis we took as a reference the results of the survey conducted in 2003. At that time, A Coruña (Spain) was a city hosting a very successful football team: Deportivo. During the 12 seasons period lasting from 1992-93 to 2003-2004, apart from winning the League title in 2000, Deportivo ended the season four times in second place, and another four times in third place, contesting the European Champions League five years in a row, and reaching the semi-finals once. In this case, the CV survey presented a hypothetical scenario in which respondents were asked how much they would be willing to pay to support such a scenario.

A survey with the same questionnaire was conducted in 2012. In this year, both the sports and economic conditions were quite different. On the one hand, as pointed out earlier the period of the team in the top flight came to an end. On the other hand, apart from the negative evolution of the team sporting performance, in 2012 Spain had serious economic problems and, in contrast to the economic situation in 2003, the country was going through an intense economic crisis. After several years of recession with negative rates of economic growth and a dramatic increase in unemployment, the perspectives of economic recovery are very poor.

The comparative analysis of the data for both scenarios allows us to evaluate the influence of the plausibility of the contingency (team disappearance) and the general economic environment on the results of the implementation of the CVM.

Taking as data source the results of those surveys designed specifically to implement the CVM to the case of Deportivo, we estimated a bid function by two separate Tobit and logit models. The bid function is an equation that that describes the impact of a set of socioeconomic and behavioural variables on the WTP of individuals and it can be expressed as follow:

$$WTP = f (X_1, ..., X_n)$$

Where,

WTP (*Willingness to pay*) is the dependent variable whose value is derived from the answer to question 2 and

X_i are individual socioeconomic and behavioural variables.

The definition of the explanatory variables used in the empirical analysis is the following:

- *Amount of the bid*: Value of the voluntary contribution proposed in question 1.

- *Family income*: Annual household income (€).

- *No. of games attended*: Number of games an individual attends annually at the Deportivo stadium.

- *No. of games watched on TV*: Number of Deportivo games watched on TV by an individual during one year.

- *Gender*: Dummy variable equal to one for males and zero for females.

- *Consumption of public goods*: Sum of four dummy variables which correspond to whether an individual talks (*Talk*), reads (*Read*) or is concerned (*Concern*) about Deportivo on a regular basis, and the last one (*Quality*), which is equal to one if the individual thinks that the quality of life would worsen if Deportivo disappeared.

- *Age*: Age (number of years) of the individual.

- *Municipality*: Six dummy variables corresponding to whether the individual's residence is in *Coruña, Arteixo, Cambre, Culleredo, Oleiros* or *Sada*.

- *Education*: Dummy variable equal to one if the individual has a university degree and zero otherwise.

- *Prestige for Coruña*: Dummy variable equal to one if the individual considers Deportivo adds prestige to the city of Coruña.

- *User*: Dummy variable equal to one if the individual attends at least one fixture at Deportivo's stadium each season.

4. Analysis and Results

As a first step, in our empirical strategy we tested the hypothesis of equal means and variances of the WTP. This test revealed that WTP varies significantly across the two samples and it is lower in the 2012 sample. Obviously, this difference would be even higher if measured in real terms. This is a piece of evidence that shows the sensitivity of

the estimated value of Deportivo to the factors that make up the scenario under which the CVM is applied: the Spanish economic situation, the sporting success reaped by the team and the likelihood of the contingency (chance of losing the team).

4.1. Variation of the WTP across the samples

In order to provide an explanation of the decrease in the WTP, it would be interesting to analyze the evolution of the responses with a null WTP and the reasons the interviewees pointed out for being unwilling to pay anything so as to avoid the team relegation. In Table 2, we present the distribution of the reasons for a zero WTP reported by the individuals.

[Insert Table 2]

A first point of interest is that the percentage of respondents with WTP equal to 0 increases in the 2012 sample (from 36.5 % to 47.7 %). With respect to the reasons reported by the individuals, the view that Deportivo should generate the resources has the highest percentage, which shows an increase in the 2012 sample. These can be considered as 'protest zeros' that occur when respondents reject some aspect of the contingent valuation (CV) market scenario by reporting a zero value even though they attribute a positive value to the good being valued. On the other hand, the genuine zeros associated with the budget constraint consideration increased dramatically from 16.4% to 34% in the total sample. This seems to be the main change in the motivations reported by the individuals and it is a factor clearly related to the economic crisis. Moreover, this is a common trend to users and non-users.

The descriptive statistics of the samples are summarized in Table 3. Some of the figures reported in this table show that the importance of the team in the lives of the residents in A Coruña and its metropolitan area is not only maintained, but it increases in some ways. A remarkable point is the increased consumption of public goods despite sporting success levels are lower over the years prior to 2012. This result is consistent with the fact that rather than winning championships, the level of sport success relevant for building sympathy and identification links between fans and a club like Deportivo (with a small market size) is to compete in the First Division.

[Insert Table 3]

One of the most striking data is the increase in the percentage of people who believe that if Deportivo disappeared, the quality of life in the city would be worse. It is quite likely that this result is strongly conditioned by the fact that in the last season before carrying out the 2012 survey, Deportivo was competing in the Second Division after its relegation in 2012 season. This made people be more aware of what the relegation of the team means to the city. This explanation is consistent with Tversky and Kahneman reference-dependent theory of preferences. These authors argue that individuals view gains and losses in relation to a reference point, usually being the status-quo allocation of goods such that changes in the reference point lead to changes in a given welfare measure (Tversky and Kahneman, 1991). As noted earlier in this paper, in our case we have two very different reference points in 2003 and 2012.

4.2. Econometric estimates of bid functions

In order to find out the determinants of WTP and to compare the results obtained from two independent samples, we carried out two regressions, using logit and Tobit models. The main results of the estimates of the models that identify the determinants of WTP are shown in Table 4.

A large dataset of potential explanatory variables was collected through the survey, but for the sake of simplicity we only report the results of the final models (i. e., those that include only the variables which were significant at 5% level) for the total sample without protest zeros.

[Insert Table 4]

As it can be seen, the econometric estimates reveal that in both models all the variables coefficients have the expected sign according to the predictions of the theory. Moreover, the significant variables remain virtually the same. Therefore, irrespective of the sample, the results are quite robust and it may be said that the bid function is very stable.

Regarding the factors influencing the WTP, this variable increases with individuals' income and the level of consumption both private and public (matches attended in the stadium or watched on television and consumption of public goods index). Moreover, there is a positive relationship between the WTP and the respondents' belief that the team disappearance would worsen the quality of life in the city. This relationship is more clear in the Tobit model and for the 2012 sample. The main differences between results for 2003 and 2012 have to do with the influence of gender and age in the Tobit model. Gender is not relevant and age emerges as a variable showing a negative relationship with WTP.

4.3. Use and non-use values

As noted previously, the WTP can be decomposed into use and non-use values. In order to quantify these values, the non-use value is estimated by the amount of money the respondents who have not attended any game at the stadium would be willing to pay. This monetary value is determined equating to zero the regressor referring to the private consumption relative to the soccer team in the expressions used to derive the average WTP from the equations estimated with logit and Tobit models. The use value is obtained by difference between the WTP and the non-use value. The results are reported in Table 5.

[Insert Table 5]

A particularly important result emerges from our analysis based on the estimates. If we examine Table 5, we can see that the most significant changes occur in the relative weight of the non-use value into the total WTP when the estimation is performed by means of a logit model.

The non-use values are behind the public goods generated by the existence of a football team. In essence, most of the human needs that satisfy the consumption of these goods

would be placed on the top of Maslow's pyramid. For instance, among this kind of needs we could include all that have to do with interpersonal relations, feelings of belongingness, the need to have self-esteem, etc. Maslow's theory suggests that the most basic level of needs must be met before the individual focuses motivation upon higher level needs (Maslow, 1943). In the absence of economic safety – mainly due to economic crisis and lack of work opportunities – these safety needs are revealed by ways such as a preference for job security, savings accounts, insurance policies, reasonable disability accommodations, etc. That is, people are more worried about the satisfaction of basic or material needs.

From the economic analysis point of view, the economic value of a good is closely related to the concept of opportunity cost. A good has economic value if an individual is willing to renounce to another good with the aim of obtaining a certain amount of the first. Our results suggest that in an environment of economic crisis people have a lower willingness to sacrifice themselves for consuming public goods generated by a football team.

So the changes regarding the relative importance of use and non-use values could be partially explained by modifications in the hierarchy of needs due to changes in circumstances, particularly, the country economic situation. In a economic crisis environment, the value of the football team is more closely linked to the direct and/or indirect use. On the contrary, the values more dependent on altruistic motivations decrease in a context of severe economic crisis.

5.- Conclusions

In this paper we quantify the value of the intangible benefits (non-marketable goods) associated with the existence of a professional football club (Deportivo) in a Spanish city (A Coruña). Two contingent valuation surveys were used to estimate and compare the willingness to pay (WTP) for avoiding a loss (team relegation) in two different contexts: one in which the team got an important sporting success and the general economic conditions were quite favourable (year 2003) and other in which sport team performance was poorer and the economic situation was unfavourable (year 2012).

The comparisons between the results derived from two surveys conducted in 2003 and 2012 respectively provide interesting insights into the factors determining the value that residents assign to a local football team in different contexts. Particularly, the two scenarios in which the surveys were conducted provide us the opportunity of verifying to what extent factors such as general economic conditions and the plausibility of a hypothetical football team disappearance have influence over both the consumption of public goods generated by the team and the value that city residents assign to them.

More specifically, the main findings of this study can be summarized as follows:

1. The WTP (the measure of the welfare change associated with team relegation) is affected by two factors: the lower sport success of *Deportivo* and the worsening of global economic situation in Spain. We can identify the negative sign of the joint effect on the WTP of both factors but, from an empirical point of view, with the available information is not possible to disentangle the individual effect of each of them.

2. The decrease in the mean of the WTP observed in the 2012 sample with respect to the one of 2003 is partly consequence of the increase in the number of respondents who were unwilling to pay anything for avoiding the team relegation in the context of both an economic crisis and a lower sport performance. In this regard it should be noted that the percentage of protest zeros increased, but the percentage of genuine zeros (due to budget constraints) rose in a much higher proportion.

3. The consumption of public goods generated by the local football team (Deportivo) is relatively inelastic to the level of sport success and the Spanish economic situation, but the value assigned by residents to those goods depends on the plausibility of the team disappearance and the general economic conjuncture.

4. Of the two components of the WTP, the non-use value is especially sensitive to changes both in the general economic conditions and in the quality of the public goods associated with the existence of the football team. In fact, the lower values of the WTP in an unfavourable economic environment mainly are a consequence of the strong decrease in non-use values. In 2003 the non-use value was more relevant than the use value; however this situation was completely reversed in 2012.

5. Finally, and in relation with previous findings, the empirical evidence is consistent with the existence of the reference point effect in a contingent valuation setting. The status quo defined in terms of residents' current endowment of public goods generated by the team was very different in 2003 and 2012 and these differences can become crucial for individuals' preferences formation. In the first year, individuals enjoyed the goods generated by a winner team getting important sporting success and the contingency of the team disappearance seemed unlikely for them. By contrast, in 2012, after several years of poor sport performance, the risk of relegation and eventually disappearance was more plausible and this makes people more aware of the loss of welfare associated with this contingency. In fact, it is not surprising that the value assigned by users in the last year increased, because they would be the most affected by a loss of welfare as a result of the change derived from the possible club disappearance.

Overall, it can be said that both the stability of the bid functions and the consistency of the estimates from the two samples provide evidence in favour of the usefulness and validity of the Contingent Valuation Method as an instrument for the assessment of intangible benefits in the field of sport.

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Table 1: Technical features of the surveys

Target population	Adult population living in A Coruña and metropolitan area.
Survey mode	In-home surveys.
Sample size	800 people in total: 600 in the municipality of A Coruña and 200 in the metropolitan area.
Sampling method	Disproportionate stratification in both subpopulations, with proportionate stratification between municipalities of metropolitan area. Disproportionate stratification by district and electoral section.
Sampling design	Multi-stage sampling: -Random selection of sections in each subpopultation -Random selection of starting points in each section. -Systematic selection of dwellings in routes generate from the former starting points. -Random selection of individuals in each dwelling
Sampling error	For a confidence level of 95.5 % the sampling errors would be the following: Stratum 1 (Coruña): +/- 4.08 % Stratum 2 (other municipalities): +/- 7.06 % Total (stratum 1 + stratum 2): +/- 3.54 %
Date	January 2003 and September 2012

Table 2. Distribution of the individuals with a WTP = 0 by reported reason for the zero response

Reasons	Total		Users		Non-users	
	2003	2012	2003	2012	2003	2012
Deportivo should generate enough resources to keep the club in the top division	160	216	50	66	110	150
Don't like football at all	45	15	0	2	45	13
Budget constraints	48	130	10	44	38	86
Other reasons	34	20	6	7	28	13
Don't know	5	1	3	1	2	0
Total	292	382	69	120	223	262

Table 3. Descriptive statistics

Variable	2003				2012			
	Min.	Max.	Mean	S.D.	Min.	Max.	Mean	S. D.
Annual contribution proposed (bid)	1	25	10.08	9.03	1	25	9.05	8.82
Household income (€)	18,030	60,101	21,467	6,698	18,000	60,000	25,821	9,704
Attendance at matches	0	1	0.38	0.49	0	1	0.48	0.5
No of games attended	0	27	3.82	7.31	0	27	5.81	9.5
No of games watched on TV	0	45	22.7	18.5	0	45	22	17.32
Reading of news about the club	0	1	0.64	0.48	0	1	0.78	0.41
Talking about the team	0	1	0.70	0.46	0	1	0.84	0.37
Concern for the team	0	1	0.77	0.42	0	1	0.89	0.32
Public goods consumption	0	4	2.11	1.12	0	4	2.51	0.9
Club's impact on quality of life	0	1	0.49	0.5	0	1	0.65	0.48
Celebration (championship/promotion)	0	1	0.48	0.5	0	1	0.37	0,48
Gender (Male = 1)	0	1	0.48	0.5	0	1	0.45	0.50
Age	18	91	43.91	18.69	18	90	49.16	17.68
Education	1	4	2.11	1.15	1	4	2.5	1.21

Table 4. Estimates of the Willingness to Pay models

Variables	Logit model		Tobit model	
	2003	2012	2003	2012
x_1 (Amount of the bid)	(–0.0660) ***	(–0.0428) ***		
x_2 (Household income)	$4.77 \cdot 10^{-5}$ **	$4.48 \cdot 10^{-5}$ ***	$3.4810 \cdot 10^{-4}$ ***	0.0003 **
x_4 (No of games attended)	0.0906 ***	0.0423 ***	0.5474 ***	0.5618 ***
x_5 (No of games watched on TV)	0.0216 ***	0.0151 **		0.1795 ***
x_6 (Consumption of public goods)	0.5020 ***	0.4117 ***	3.6196 ***	4.4336 **
x_{64} (Quality of life)		0.3814 *	2.5381 **	7.1495 ***
x_8 (Celebration of sport success)		0.5600 ***		
x_{10} (Gender)			3.7879 ***	
x_{11} (Age)				(–0.1979) ***
x_{12_2} (Vocational Training)			(–13,4353) ***	
x_{12_3} (University studies)	(–0.4983) *			
C (Constant)	(–1.372) *	(–2.365) ***		(–21.705) ***
R^2			0.1945	0.1230
Adjusted R^2			0.1860	0.1098
Mc Fadden's R^2	0.2140	0.1483		
Cox & Snell R^2	0.2158	0.1765		
Nagelkerke's R^2	0.3178	0.2416		
p-value of likelihood ratio test	0.0000	0.0000		
p-value of Hosmer-Lemeshow test	0.3827	0.1426		
Overall % success (Extended model)	78.65	70.81		
Overall % success (Constant-only models)	74.48	63.76		
AIC	0.9172	1.1422	7.3338	5.9170
Number of *outliers*	18 (3.13 %)	8 (1.34 %)		
Sample size	576	593	576	593

*** Significant at 1 % level, ** significant at 5 % level, * significant al 10% level

Table 5. Annual average WTP and use and non-use values

Survey	Tobit model			Logit model		
	WTP estimated	% use value	% non-use value	WTP estimated	% use value	% non-use value
2003	14.48	15.19	84.81	33.39	41.18	58.82
2012	10.18	37.32	62.28	25.02	63.11	36.89