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Comparing the 2012 UEFA Championships with the 2012 Olympics

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Abstract

We examine the value of sporting success to the German population at two major sport events in 2012, the European Championships in football and the London Olympic Games. Using the contingent valuation method (CVM), this study is the first to compare the value of sporting success between two events. The results show a higher average willingness-to-pay (WTP) for winning the European title in football (€47.31) than for Germany being ranked first in the Olympic medal table (€37.06). Aggregated WTP amounts to €3.3 billion (football) respectively €2.6 billion (Olympics). We can also determine significant drivers of WTP for sporting success.

JEL-Codes: D12, D61, D62, H41, H43, L83

Der Wert von sportlichem Erfolg für Deutsche

Ein Vergleich zwischen der Euro 2012 und den Olympischen Spielen 2012

Zusammenfassung

Wir untersuchen, wie viel sportliche Erfolge bei zwei großen Sportveranstaltungen, der Fußballeuropameisterschaft 2012 und den Olympischen Sommerspiele 2012, der deutschen Bevölkerung wert sind. Diese Studie ist die erste, die den Wert von sportlichen Erfolgen bei zwei Sportveranstaltungen vergleicht. Dafür wird die *Contingent Valuation Method* angewandt. Die Ergebnisse zeigen, dass die durchschnittliche Zahlungsbereitschaft für den Gewinn des Europameisterschaftstitels (47,31 Euro) höher ist als die durchschnittliche Zahlungsbereitschaft für den ersten Platz im Medaillenspiegel bei den Olympischen Sommerspielen (37,06 Euro). Eine Hochrechnung der gesamten Zahlungsbereitschaft für die deutsche Bevölkerung kommt zu einem Betrag von 3,3 Mrd. Euro (Fußball) beziehungsweise 2,6 Mrd. Euro (Olympia). Darüber hinaus ermittelt die Studie signifikante Einflussfaktoren der Zahlungsbereitschaft für sportliche Erfolge.

Im Internet unter:

http://www.wiwi.uni-muenster.de/io/forschen/downloads/DP-IO_11_2013.pdf

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The Value of Sporting Success

Comparing the 2012 UEFA Championships with the 2012 Olympics*

1. Introduction

2012 has been a year of major sport events in Europe: In June and July, the UEFA European Championships in football took place in Poland and the Ukraine reaching millions of spectators in stadiums, at home, and at public viewing places. From 27th of July to 12th of August, the Olympic Summer Games were held in London and the British fans showed strong and enthusiastic support for their team. Crowds cheered for athletes and fans from all over the world celebrated the Games on the street. Thus, sport events and sporting success create what economists call positive externalities and public goods (see Johnson 2008; Wicker/Prinz/von Hanau 2012). Compared with other types of goods like private goods (e.g., running shoes), the main characteristics of public goods are that there is no rivalry in consumption and that nobody can be excluded from consumption (see Downward/Dawson/Dejonghe 2009). In the context of sport events, this means that nobody can be excluded from talking about the events, from cheering for athletes, and from celebrating a country's sporting success.

Generally speaking, the effects of sport events can be divided into a tangible and an intangible component. The tangible component refers to aspects like physically attending the event, sitting in the stands, travelling to the destination, and spending money in the city. This component has been investigated in abundance in previous economic impact studies (see e.g. Gratton/Shibli/Coleman 2006), mainly to justify government spending on such events. However, researchers have suggested looking beyond direct economic impact (see Walker/ Mondello, 2007). The intangible component captures all the above mentioned aspects like talking about the event and cheering, i.e., the created public goods. Previous research has stressed the importance of intangible and social effects of sport events (see e.g. Süssmuth/ Heyne/Maennig 2010). In fact, it has been documented that the intangible component is of higher value to people than the tangible component (see Castellanos/García/Sánchez 2011; Johnson/Groothuis/Whitehead 2001). This means that people put more value on celebrating sporting success and talking about sport than on the actual sport consumption of sitting in the stadium.

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This notion should be of interest to policy makers given the discussion that has evolved after the Games in many countries which did not collect as many medals as expected. For example, in Germany a discussion came up after the German Olympic Sports Confederation had to release their initial medal targets. With the 44 medals (11 gold medals) the German team clearly missed the medal target of 86 medals (28 gold medals; Der Spiegel, 2012). While this medal target was considered unreasonable, it was also discussed whether countries would need sporting success and whether they should define themselves over medals and titles (see Terbuyken 2012). Nevertheless, it was acknowledged that governments attribute importance to sporting success (see Green/Houlihan 2005). Although a bit overshadowed by the discussion regarding the Olympic Games, the Germans are still disappointed because they did not win the title at the UEFA European Championships. The German national coach still has to defend himself and his strategy for the lost semi-final against Italy. These examples raise the question how important sporting success is to a nation.

The purpose of this study is to examine the value of sporting success to the German population by comparing the 2012 UEFA European Championships and the 2012 London Olympic Games. In detail, this study advances the following two main research questions: 1) what value does the German population attribute to sporting success at the UEFA European Championships and the London Olympic Games? And 2) what factors determine the value of sporting success? The contingent valuation method (CVM) is used to assess the value of sporting success. Primary data is collected using a nationwide online survey of the German population (n=359). This study is the first to compare the value of sporting success between two events. It contributes to the body of research on the value of sporting success.

2. Conceptual Framework and Literature Review

2.1. Consumer's Utility and Willingness-to-Pay

Several studies have shown that national sporting success is associated with positive effects for the population. For example, it was reported that sporting success can create a general feel-good factor among the population (see Forrest/Simmons 2003) as well as feelings of national and civic pride (see Allison/Monnington 2002). Moreover, it has a unifying component because it can foster local and national unity and social cohesion (see Castellanos et al. 2011; Johnson 2008; Süssmuth et al. 2010). Previous research has shown that sporting success can contribute to individual happiness and that people find it important for the reputation of their country (see Wicker/Hallmann/Breuer/Feiler 2012). It was also

documented that seemingly irrelevant events like sport events and sporting success have an impact on people's life satisfaction: People were significantly more satisfied with their personal economic situation and the economic situation of their country after the German national team had won a match at the 2006 Football World Cup (see Dohmen/Falk/ Hoffman/Sunde 2006). Yet, it must be stressed that the effects of sporting success in terms of increased wellbeing and national pride would be rather short term and small (see Elling/von Hilvoorde/van den Dool 2012).

Although not all studies could provide evidence of a positive effect of sporting success on individual happiness (see Kavetsos/Szymanski 2008), the findings from the research stated above suggest that consumers may derive some utility from national sporting success. Since the utility is based on the experience of watching sport, it is referred to as experienced utility (see Frey 2008). It is assumed that the experienced utility is subjective since the importance of sporting success differs among consumers: While sporting success may be very important to some consumers who are desperate when their team or athlete did not win, it may be less important to others.

A consumer's utility can be expressed in his/her WTP (see Becker/DeGroot/Marschak 1964). The higher an individual's subjective utility from sporting success, the higher should be his/her WTP. In addition to individual differences in experienced utility and resulting WTP, the type of sporting success, i.e., the actual sporting result, may influence utility as well. For example, consumers may experience a higher utility if their favorite athlete wins a gold medal than a silver medal. Similarly, consumers may have a higher utility when their team reaches the final than when it is eliminated in the quarter finals. Thus, the better the result, the higher is an individual's utility and the higher the resulting WTP. This assumption is supported by previous research on sporting success at the 2006 Football World Cup where the WTP increased from the quarter-final to the final (see Rätzel/Weimann 2006).

2.2. Measuring the Value of Sporting Success: The Contingent Valuation Method (CVM)

A few studies have tried to measure the value of sporting success. Recall that sporting success creates public goods; the common method to estimate the value of public goods is the CVM (see e.g. Johnson/Whitehead 2000). Applying CVM, the respondents are presented with a hypothetical scenario and are asked to state their WTP for the hypothetical outcome specified in the scenario (see Mitchell/Carson 1989). The CVM is a method used for placing monetary

value on goods that are not sold in the market place (see Carson 2000). The CVM has been used in many research areas like environmental services and national parks (for an overview see Walker/Mondello 2007). Recently, it has also been applied in the sport sector to estimate the value of sport teams (see e.g. Johnson/Whitehead 2000; Johnson et al. 2001), the value of hosting sport events (see e.g. Walton/Longo/Dawson 2008), the value of amateur sport programs (see e.g. Johnson/Whitehead/Mason/Walker 2007; Wicker 2011), and the value of sporting success (see e.g. Humphreys/Johnson/Mason/Whitehead 2011; Wicker/Prinz et al. 2012).

Despite its wide application, this method has been criticized with the main criticism relating to a hypothetical bias (see e.g. Walker/Mondello 2007). In the case of a hypothetical bias, respondents would tend to overestimate their WTP because of the hypothetical nature of the CVM scenario. This means they would state a higher WTP than when they had to purchase the product afterwards. Previous research showed mixed findings regarding the existence of a hypothetical bias: Some studies documented that the hypothetical WTP would exceed the actual WTP supporting the presence of a hypothetical bias (see e.g. Loomis/Brown/Lucero/ Peterson 1996). Other studies could not find a significant difference between stated and actual WTP (see e.g. Carlsson/Martinsson 2001). Altogether, the CVM was considered valid when comparing WTP statements resulting from different methods (see e.g. Miller/Hofstetter/ Krohmer/Zhang 2011). Consequently, the CVM can be considered an appropriate method to estimate the value of sporting success.

2.3. Evidence on the Value of Sporting Success

Research into the value of sporting success has received increased academic attention over the last years. Two studies have been conducted in the context of Football World Cups (see Rätzel/Weimann 2006; Wicker/Prinz et al. 2012). Rätzel and Weimann (2006) have analyzed the WTP of the German population for winning the 2006 World Cup using CVM. The findings showed that the Germans were willing to pay on average €34.97 for winning the World Cup. Interestingly, people have also been asked for their willingness-to-accept a loss of the German team in the final, which was considerably higher (€255.34) than the WTP estimates. The authors concluded that there would be no substitute for a World Cup title and that an aggregate € 17 billion would be necessary to achieve collective indifference about the outcome of the World Cup final (see Rätzel/Weimann 2006). Another German study has looked at the value of sporting success in the context of the 2010 Football World Cup in South Africa (see Wicker/Prinz et al., 2012). The average WTP for the German team winning

the World Cup amounted to €25.79 on average. When considering only those respondents who stated a WTP higher than zero, average WTP was €56.67.

Another two studies examined the value of medal success at the 2010 Olympic Winter Games in Vancouver (see Humphreys et al. 2011) and the 2012 Olympic Summer Games in London (see Wicker/Hallmann et al., 2012). The context for the Canadian study was the Own the Podium program which was introduced by the Canadian government before the Vancouver Olympics to increase Canada's medal count (Canada had never won an Olympic gold medal on home soil). The respondents of a survey that was conducted before and after the Games were presented with a hypothetical scenario that related to a financial contribution of each household to finance this program. The results showed that the Pre-Olympics WTP per household amounted to $44.96 and was thus lower than the Post-Olympics WTP of $91.42. It was estimated that the aggregate value of the intangible benefits created by the Own the Podium program was between $719 million and $3.4 billion (see Humphreys et al. 2011).

A German study looked at the value of medal success at the 2012 London Olympic Games (see Wicker/Hallmann et al. 2012). The results showed that the average WTP for Germany being ranked first in the final medal table amounted to €6.13. The WTP for Germany winning a gold medal in track and field was €5.21 on average. The researchers acknowledged that the relatively low WTP estimates may be due to the fact that the study was conducted more than one year before the start of the Games and thus people may not have been too enthusiastic about the Games at that time (see Wicker/Hallmann et al. 2012). The above studies provided evidence that sporting success of national teams and athletes has a certain value to the population that can be measured using CVM. However, the question remains whether Olympic medals or football titles are of higher value to the population.

2.4. Determinants of Willingness-to-Pay

In accordance with the concept of subjective utility, the perceived value of sporting success, which is measured by an individual's WTP, differs among individuals. Several factors may be used to explain differences in WTP among individuals. These factors can be summarized into consumption-related factors, expectations, and intangible factors.

First, it is assumed that the consumption of sport plays a role with regard to an individual's WTP. Based on the concept of consumption capital (see Stigler/Becker 1977), it is suggested that individuals increase their consumption capital through the repetitive consumption of

similar products. Applied to the sport context, this means that individuals increase their sport-specific consumption capital through the consumption of sport. On the one hand, this can be achieved through active sport consumption. For example, individuals can improve their technical skills, tactics, endurance, etc. through playing sport themselves. On the other hand, consumption capital can also be increased through passive sport consumption. For instance, individuals who watch sport in the stadium or on television improve their knowledge about players, teams, and rules (see Wicker/Prinz et al. 2012).

It is suggested that an increase in consumption capital is associated with increasing utility. The higher the consumption capital, the higher is the subjective utility. For example, individuals who have just started playing a sport like tennis may not derive a high utility from sport consumption when they are hardly able to hit the ball properly or to deliver a service. Utility from tennis consumption may increase with increasing number of tennis lessons because tennis skills get better and playing tennis is more enjoyable. The same applies to passive sport consumption. Subjective utility will be low when individuals do not know the rules of the game they watch or when they hardly know any players or teams. Utility will increase with increasing knowledge of rules and players which makes watching a game more enjoyable. At the point where individuals are more familiar with teams and players, it also matters more who wins, i.e., sporting success matters. Previous research has shown that interest in sport (see Rätzel/Weimann 2006) and active sport participation (see Wicker/Prinz et al. 2012) were positively associated with WTP for sporting success. Consequently, the value of sporting success should increase with increasing consumption capital.

Second, expectations about the outcome of sport events may influence an individual's WTP. Generally speaking, expectations are formed by previous experience (see Carman 1990). They are normative, i.e., they reflect the ideal standard of performance and the outcome that should be achieved (see Parasuraman/Berry/Zeithaml 1990). For example, individuals who have watched previous football championships or Olympic Games know about the strengths and weaknesses of the German team. Individual utility (and WTP) will increase with increasing expectations. If individuals have high expectations because they anticipate that their team will perform well, they also have a higher utility from sporting success, i.e., from seeing the team performing well. This assumption is supported by previous research documenting that expectations about future performances of athletes had a significant positive impact on WTP for medal success (see Humphreys et al. 2011). Consequently, it can be

assumed in this study that the higher the expectations, the higher the WTP for sporting success.

Third, it is suggested that intangible factors such as identification and importance of sporting success influence WTP. Previous research has shown that identification with the country and identification with the national team had a positive influence on WTP (see Wicker/Prinz et al. 2012). It was also reported that individuals consider sporting success important to their country and to themselves. In a survey that was conducted before the 2010 Vancouver Olympics, most Canadians stated that they find it important that Canadians win the most gold medals, that Canadians win more gold medals than US athletes, and that the medal count would be important to Canada's standing in the world. The latter also had a positive effect on WTP for medal success (see Humphreys et al. 2011). These findings are supported by a German study showing that the personal and national importance of sporting success are positively associated with WTP (see Wicker/Prinz et al. 2012). Thus, it is assumed in this study that identification with the country and the national team as well as personal and national importance of sporting success impact WTP positively.

3. Method

3.1. Data Collection

The data for the research into the value of sporting success were collected using an online survey from March 20 to June 7, 2012. Thus, the survey was finished the day before the 2012 UEFA European Championships had started. Before the link was published, a pre-test was conducted and the questionnaire was revised accordingly. The conduction of the pre-test ensured the adequacy of the length of the questionnaire and the clarity and understandability of questions (see Kuckartz/Ebert/Rädiker/Stefer 2009). The link of the survey was published in several social online networks (e.g., Facebook, Xing, Twitter) and in the newspaper of the University of Muenster, Germany. Altogether, the convenience sample consisted of n=359 people.

3.2. Measures and Variables

The survey started with a short introduction that informed participants about the topic of the survey, that the survey was anonymous, and that the data would be treated confidentially and only used for scientific purposes. Moreover, it was mentioned that there would be no right or wrong answers. The questionnaire consisted of 38 questions that were categorized in three

areas, i.e., football, Olympics, and socio-demographic information. The variables used in this study are summarized in Table 1.

The survey started with a set of football questions and four different hypothetical scenarios of sporting success at the 2012 UEFA European Championships. The WTP questions were asked as follows: “Hypothetically, assume it would be possible, what is the maximum amount you would be willing to pay that the German national team reaches the quarter-final at the 2012 UEFA European Championships?” (WTP_FOOT_QF). The same question was asked for the semi-final (WTP_FOOT_SF), final (WTP_FOOT_F), and winning the title (WTP_FOOT_WIN). The WTP for sporting success at the London Olympics was assessed similarly: “Hypothetically, assume it would be possible, what is the maximum amount you would be willing to pay that the German Olympic team reaches the third (second, first) place of the medals table at the 2012 London Olympic Games?”

Consumption capital was assessed with six questions. Respondents were asked to indicate whether they practice sports regularly, i.e., at least once per week (SPORTP). The participants’ level of interest in sport in general (INT_SPORT), in football (INT_FOOT), and in the Summer Olympics (INT_OL) was assessed with a five-point Likert scale (from 0=no interest at all to 4=very strong). In addition, respondents were asked whether they would watch the 2012 UEFA European Championships (WATCH_FOOT) and the 2012 London Olympic Games (WATCH_OL) on television, at the stadium, at public viewing places, or on the internet. They were also asked to state their expectations regarding the sporting success of the German team at the UEFA European Championships (EXP_FOOT) and at the London Olympics (EXP_OL; Table 1).

The questionnaire also contained questions about intangible factors. The respondents’ level of identification with Germany (ID_GER), with the German national football team (ID_FOOT), and with the German Olympic team (ID_OL) was assessed on five-point Likert scales. Moreover, they were asked to state how important they find it for the reputation of Germany that the football team (NATIMP_FOOT) and the Olympic team (NATIMP_OL) does well. Also, the personal importance of the German national football team (PERSIMP_FOOT) and the Olympics team (PERSIMP_OL) doing well was assessed. Furthermore, the survey asked for the socio-demographic characteristics of respondents (AGE, GENDER, EDU, and INC). Age squared (AGE2) is calculated to control for quadratic effects of age (Table 1).

Variable	Description	Scale
WTP_FOOT_QF	WTP that Germany reaches the quarter-final (in €)	Metric
WTP_FOOT_SF	WTP that Germany reaches the semi-final (in €)	Metric
WTP_FOOT_F	WTP that Germany reaches the final (in €)	Metric
WTP_FOOT_WIN	WTP that Germany becomes European Champion (in €)	Metric
WTP_OL_3	Stated WTP that Germany takes the first place in the medal table at the London Olympics (in €)	Metric
WTP_OL_2	Stated WTP that Germany takes the first place in the medal table at the London Olympics (in €)	Metric
WTP_OL_1	Stated WTP that Germany takes the first place in the medal table at the London Olympics (in €)	Metric
SPORTP	Regular sport participation (at least once per week; 1=yes)	Dummy
INT_SPORT	Interest in sport in general (from 0=no interest at all to 4=very strong)	Ordinal
INT_FOOT	Interest in football (from 0=no interest at all to 4=very strong)	Ordinal
INT_OL	Interest in Summer Olympics (from 0=no interest at all to 4=very strong)	Ordinal
WATCH_FOOT	Watching the European Championships (1=yes)	Dummy
WATCH_OL	Watching the 2012 London Olympic Games (1=yes)	Dummy
EXP_FOOT	Expectation of German result (from 0=eliminated after preliminary to 4=win)	Ordinal
EXP_OL	Expectation of rank of Germany in final medal table	Ordinal
ID_GER	Identification with Germany (from 0=not at all to 4=very strong)	Ordinal
ID_FOOT	Identification with German national football team (from 0=not at all to 4=very strong)	Ordinal
ID_OL	Identification with German Olympic team (from 0=not at all to 4=very strong)	Ordinal
NATIMP_FOOT	Importance to country that the football team does well (from 0=not at all to 4=very important)	Ordinal
NATIMP_OL	Importance to country that the Olympic team does well (from 0=not at all to 4=very important)	Ordinal
PERSIMP_FOOT	Personal importance that the football team does well (from 0=not at all to 4=very important)	Ordinal
PERSIMP_OL	Personal importance that the Olympic team does well (from 0=not at all to 4=very important)	Ordinal
AGE	Age (in years)	Metric
AGE2	Age squared	Metric
GENDER	Gender of the respondent (0=male, 1=female)	Dummy
EDU	Highest educational level attained from 1=no secondary education to 7=university degree)	Dummy
INC	Personal monthly net income (from 1=up to €500 to 9=over €4,000)	Ordinal
DAY_EURO	Number of days before the European Championships	Metric
DAY_OL	Number of days before the London Olympic Games	Metric

Table 1: Overview of Variables

3.3. Sample Structure

The sample characteristics are presented in Table 2. Respondents are on average 29.46 years old with age ranging from 16 to 81 years. The gender distribution shows that 45.54% of the respondents are females and 54.46% are males. Respondents are highly educated since most of them have a university degree or are currently going for it (61.56%). This high percentage is also reflected in the mean value for education of 6.08 (6 is equivalent to university of applied sciences). The average net income (M=4.02) indicates that respondents have between €1,500 and €2,000 at their disposal every month.

With regard to consumption capital, 80.13% of the respondents regularly participate in sport. On average, the respondents' interest in sports is higher than their interest in football and in the Summer Olympics. 90.10% of respondents say that they watch the European Championships, while 69.21% watch the London Olympics. On average, the level of identification with Germany (M=2.55) is higher than the level of identification with the German national football team (M=2.40) and the German Olympic team (M=1.48). The personal importance of the German team doing well is higher than the perceived national importance for football, but not for the Olympics. On average, the respondents expect the German Olympic team to reach the fifth place (M=4.83) in the final medal table and the German national football team to reach the final (M=3.98).

3.4. Data Analysis

The data analysis consisted of three main steps. First, the data were checked for content validity and plausibility. Specifically, the WTP data were checked for plausibility by looking at the stated WTP value and an individual's income, because WTP was assessed with open questions. There are several ways in dealing with implausible data. We decided for excluding the implausible cases (see Kuckartz et al. 2009). In fact, all the participants who answered that they would spend more than €500 were considered more precisely and then in due consideration of their net income it was decided whether to exclude the cases from the sample or not. This step was taken in order to reduce hypothetical bias. According to this regulation we excluded 44 cases (12.26%). Second, extrapolations of average WTP are performed to answer the first research question. They provide information about the value of sporting success to the German population. The extrapolations are based on the total number of people in each age group in the German population (see Federal Statistical Office 2011).

Third, regression analyses are estimated to identify determinants of WTP (and to answer the second research question). Tobit regressions were chosen because of the high share of zeros and the remaining positive values (see Wooldridge 2006). Altogether, seven Tobit models were estimated; four for the UEFA European Championships and three for the London Olympics. The four WTP_FOOT variables serve as the dependent variables in the first set of models and the three WTP_OL variables represent the dependent variables in the second set of models. The respective football and Olympics variables as well as the socio-demographic characteristics (Table 1) were entered as independent variables. The models also control for the days between completion of the questionnaire and the first day of the 2012 UEFA European Championships respectively the London Olympics because respondents may receive more information about the event due to increased media attention the closer it gets.

4. Results and Discussion

The descriptive statistics (Table 2) show that 37.01% of the respondents stated a WTP for reaching the quarter-final, 42.00% for reaching the semi-final, 48.23% for reaching the final, and 55.83% for the title. In the case of the London Olympics 24.06% of the respondents stated a WTP for the third place in the medals table, 25.09% for the second place, and 31.09% for the first place. The relatively low percentages of people stating a WTP>0 are in accordance with previous studies (see Wicker/Prinz et al. 2012; Wicker/Hallmann et al. 2012).

Regarding absolute WTP, respondents were willing to pay on average €7.69 for Germany reaching the quarter-final at the UEFA European Championships, €13.17 for the semi-final, €20.74 for the final, and €35.33 for the title. A comparison with previous research (see Wicker/Prinz et al. 2012; M=€25.79) shows that WTP has increased since the 2010 Football World Cup. One explanation could be that the German population has been waiting for an international title of the football national team for many years, in fact since 1996. Similar to previous research (see Rätzel/Weimann 2006), WTP increases with increasing level of sporting success.

Concerning the London Olympics, people were willing to pay on average €7.35 for the third place, €10.31 for the second place, and €15.26 for the first place. A comparison with previous research (see Wicker/Hallmann et al. 2012; M=€6.13) shows that the WTP for being ranked first in the medal table at the London Olympics is higher in this study. One explanation for this difference could be that the survey of this study was conducted only a few months before

the Olympics started, whereas the other survey took place one year before the Olympics. Thus, people may have been more informed and excited about the Games due to increased media attention. When relating the WTP values for both events, correlation analyses show significant positive, but weak correlations (r<.4). One explanation for this could be that respondents who are interested in football are not necessarily interested in the Olympic Games to the same extent and vice versa.

Metric/ordinal variables	Obs.	Mean	SD	Min	Max
WTP_FOOT_QF	281	7.69	19.75	0	200
WTP_FOOT_SF	281	13.17	31.45	0	300
WTP_FOOT_F	282	20.74	49.94	0	500
WTP_FOOT_WIN	283	35.33	77.92	0	500
WTP_OL_3	266	7.35	36.65	0	500
WTP_OL_2	267	10.31	42.35	0	500
WTP_OL_1	267	15.26	53.13	0	500
INT_SPORT	313	2.55	1.01	0	4
INT_FOOT	256	2.47	1.24	0	4
INT_OL	291	1.77	1.08	0	4
EXP_FOOT	308	3.98	1.12	1	5
EXP_OL	256	4.83	2.34	1	17
ID_GER	314	2.55	0.81	0	4
ID_FOOT	308	2.40	1.12	0	4
ID_OL	300	1.48	1.05	0	4
NATIMP_FOOT	313	1.81	1.05	0	4
NATIMP_OL	302	1.45	0.80	0	4
PERSIMP_FOOT	312	2.17	1.24	0	4
PERSIMP_OL	302	1.31	1.09	0	4
AGE	310	29.46	10.36	16	81
AGE2	310	974.72	872.97	256	6561
EDU	307	6.08	1.35	2	7
INC	271	3.18	2.09	1	9
DAY_EURO	315	42.22	17.69	1	72
DAY_OL	315	89.22	17.69	48	119
Dummy variables		% of respondents			
SPORTP	307	80.13			
WATCH_FOOT	313	90.10			
WATCH_OL	302	69.21			
GENDER (1=female)	314	45.54			

Table 2: Descriptive Statistics

The extrapolations of WTP are displayed in Table 3. The results show that the aggregated WTP of the German population is €750,543,646 for Germany reaching the quarter-final, €1,385,356,609 for reaching semi-final, €2,062,380,989, and €3,321,136,849 for the title. In case of the London Olympics the aggregated WTP of the German population is

€1,264,409,364 for the third place, €1,859,447,283 for the second place, and €2,601,723,200 for the first place. A comparison of both events shows that the German population was willing to pay more for winning the European Championships title than for the first place in the medals table at the Olympic Games. The same result can be observed for a comparison between the second (third) place in the medals table and reaching the final (semi-final). One reason for the lower aggregated WTP for the London Olympics could be that the first place in a medals table is not a real title as one will not receive a real prize for it. Another explanation could be that football was the most popular sport in television in 2012 in Germany (see Sport + Markt 2012).

Table 4 summarizes the determinants of WTP for sporting success at the 2012 UEFA European Championships. The variables EXP_FOOT, ID_GER and PERSIMP_FOOT influence WTP in all models significantly: The stronger the identification with Germany and the personal importance attached to the German football team doing well and the lower the expectation of the German result, the higher the stated WTP. The identified impact of the identification with Germany, the personal importance that the German football team does well, and the level of football interest are in accordance with previous research (see Wicker/Prinz et al. 2012). Moreover, INT_FOOT has a positive effect, while INT_SPORT displays a significant negative impact on WTP in all models for the European Championships. This result is not in accordance with previous research (see Wicker/Prinz et al. 2012). One reason for this finding could be that a high interest in football does not imply a high interest in sport in general and vice versa.

The determinants of WTP for sporting success at the 2012 London Olympic Games are presented in Table 5. Only the variable INT_SPORT has a significant impact on WTP; yet, the effect is negative. One explanation could be that the respondents thought of non-professional sports when asked in the survey or want to see the best athletes winning the medals even if they are not coming from Germany. Identification with the German Olympic team has a significant positive impact on the stated WTP in the model for the first rank in the medals table. This finding is in accordance with previous research (see Wicker/Prinz et al. 2012).

Age group	Number of people in population	WTP European Championships Football (in €)							
		QUARTER-FINAL		SEMI-FINAL		FINAL		WIN	
		Mean	Total	Mean	Total	Mean	Total	Mean	Total
16-24	8,233,587	5.46	44,955,385	7.79	64,139,643	12.92	106,377,944	31.13	256,311,563
25-34	9,933,506	7.62	75,693,316	13.60	135,095,681	21.58	214,365,059	32.45	322,342,269
35-44	12,567,927	12.09	151,946,237	19.18	241,052,839	29.27	367,863,223	50.87	639,330,446
45-54	12,140,985	12.22	148,362,837	22.22	269,772,686	38.33	465,363,955	73.33	890,298,430
55+	27,328,845	12.06	329,585,871	24.71	675,295,760	33.24	908,410,808	44.38	1,212,854,141
Total	70,204,850	10.69l	750,543,646	19.73	1,385,356,609	29.38	2,062,380,989	47.31	3,321,136,849

Age group	Number of people in population	WTP London Olympics (in €)					
		THIRD PLACE		SECOND PLACE		FIRST PLACE	
		Mean	Total	Mean	Total	Mean	Total
16-24	8,233,587	3.29	27,088,501	4.42	36,392,454	7.23	59,528,834
25-34	9,933,506	6.61	65,660,474	8.77	87,116,847	13.21	131,221,614
35-44	12,567,927	5.95	74,779,165	6.48	81,440,166	9.90	124,422,477
45-54	12,140,985	7.33	88,993,420	15.78	191,584,743	28.11	341,283,088
55+	27,328,845	36.88	1,007,887,804	53.53	1,462,913,073	71.18	1,945,267,187
Total	70,204,850	18.01	1,264,409,364	26.49	1,859,447,283	37.06	2,601,723,200

Table 3: Summary of Extrapolation Results

	WTP_FOOT_QF	WTP_FOOT_SF	WTP_FOOT_F	WTP_FOOT_WIN
Constant	-120.053 (-2.21)**	-210.230 (-2.90)***	-216.726 (-2.30)**	-187.476 (-1.28) +
INT_SPORT	-8.949 (-1.84)*	-14.799 (-2.35)**	-24.347 (-2.85)***	-30.668 (-2.27)**
SPORTP	2.934 (0.33)+	7.890 (0.68) +	15.726 (0.98) +	25.366 (1.00) +
INT_FOOT	7.159 (1.59) +	12.119 (2.08)**	16.445 (2.05)**	23.673 (1.87)*
WATCH_FOOT	29.181 (1.64) +	39.408 (1.62) +	42.192 (1.42) +	17.237 (0.41) +
EXP_FOOT	-7.010 (-2.02)**	-8.255 (-1.82)*	-15.964 (-2.58)**	-18.388 (-1.83)*
ID_GER	8.230 (1.73)*	15.849 (2.51)**	22.638 (2.63)***	23.365 (1.80)*
ID_FOOT	-6.985 (-1.31) +	-10.987 (-1.59) +	-8.886 (-0.96) +	-6.988 (-0.48) +
NATIMP_FOOT	-2.998 (-0.85) +	-1.439 (-0.31) +	2.454 (0.40) +	8.060 (0.79) +
PERSIMP_FOOT	14.030 (2.78)***	21.033 (3.21)***	25.701 (2.98)***	39.207 (2.92)***
AGE	8.126 (2.56)**	11.992 (2.95)***	12.616 (2.38)**	11.016 (1.24) +
AGE2	-0.103 (-2.47)**	-0.148 (-2.80)***	-0.155 (-2.25)**	-0.140 (-1.18) +
GENDER	-13.428 (-1.84)*	-20.233 (-2.14)**	-17.978 (-1.41) +	-8.962 (-0.44) +
EDU	-7.120 (-2.63)***	-7.127 (-1.99)**	-8.061 (-1.66)*	-12.241 (-1.53) +
INC	-1.328 (-0.63) +	-2.360 (-0.85) +	-4.658 (-1.23) +	-3.683 (-0.60) +
DAY_EURO	-0.186 (-1.05)+	-0.351 (-1.53)+	-0.271 (-0.88)+	-0.091 (-0.18)+
F	39.67***	52.43***	50.05***	38.10***
Pseudo R^2	0.054	0.059	0.047	0.028
No. of cases	177	177	178	180
Note. *p<.1; **p<.05; ***p<.01; +=not significant; displayed are the unstandardized coefficients, t-values in parentheses.				

Table 4: Summary of Regression Results for the 2012 UEFA European Championships (Tobit Models)

	WTP_OL_3	WTP_OL_2	WTP_OL_1
Constant	-228.002 (-1.59)$^{+}$	-201.638 (-1.30)$^{+}$	-196.056 (-1.29)$^{+}$
INT_SPORT	-30.126 (-2.13)**	-29.971 (-1.98)**	-37.903 (-2.60)***
SPORTP	7.167 (0.29)$^{+}$	2.232 (0.09)$^{+}$	23.310 (0.90) $^{+}$
INT_OL	20.424 (1.36)$^{+}$	23.722 (1.45)$^{+}$	23.799 (1.52) $^{+}$
WATCH_OL	31.356 (1.08)$^{+}$	34.839 (1.09)$^{+}$	27.867 (0.90) $^{+}$
EXP_OL	3.340 (0.81)$^{+}$	3.902 (0.87)$^{+}$	2.828 (0.63) $^{+}$
ID_GER	14.204 (1.11)$^{+}$	13.971 (1.00)$^{+}$	19.720 (1.46) $^{+}$
ID_OL	16.602 (1.18)$^{+}$	19.530 (1.27)$^{+}$	30.392 (1.96)*
NATIMP_OL	12.960 (1.17)$^{+}$	8.701 (0.73)$^{+}$	-3.662 (-0.31) $^{+}$
PERSIMP_OL	16.119 (1.22)$^{+}$	19.115 (1.33)$^{+}$	19.663 (1.44) $^{+}$
AGE	8.130 (1.06)$^{+}$	6.613 (0.80)$^{+}$	4.811 (0.61) $^{+}$
AGE2	-0.089 (-0.93)$^{+}$	-0.064 (-0.62)$^{+}$	-0.038 (-0.38) $^{+}$
GENDER	-7.164 (-0.37)$^{+}$	-8.575 (-0.40)$^{+}$	-18.768 (-0.92) $^{+}$
EDU	-5.208 (-0.73)$^{+}$	-8.567 (-1.11)$^{+}$	-6.010 (-0.77) $^{+}$
INC	-4.552 (-0.79)$^{+}$	-6.083 (-0.95)$^{+}$	-6.463 (-1.03) $^{+}$
DAY_OL	-0.587(-1.18)$^{+}$	-0.478 (-0.88)$^{+}$	-0.177 (-0.33)$^{+}$
F	31.35***	32.57***	38.90***
Pseudo R^2	0.051	0.050	0.046
No. of cases	187	187	187
Note. *p<.1; **p<.05; ***p<.01; +=not significant; displayed are the unstandardized coefficients, t-values in parentheses.			

Table 5: Summary of Regression Results for the 2012 London Olympics Games (Tobit Models)

5. Conclusion

This study examined the value of sporting success to the German population using a CVM approach and compared the outcomes between the 2012 European Championships and the 2012 Olympic Games. The results indicate that the German population is willing to pay more for a good result at the European Championships than for a high rank in the Olympic medal table. The extrapolated WTP values lead to an aggregated WTP of €3.3 billion for winning the European Championships in football and €2.6 billion for the first place in the medal table at the London Olympics.

This study has some limitations that represent avenues for future research. The relatively small convenience sample represents a limitation. Future research may consider drawing random samples and increase the sample size. Moreover, given that this study was limited to Germany, it would be interesting to examine the WTP for sporting success in other countries and in the context of other major sporting events.

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