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Published online: 10 Feb 2021.

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Does Country Attractiveness Matter in International Competition? The Case of Countries' Bidding to Host Major Sports Events

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ABSTRACT

A country's attractiveness is a factor in its success in many areas of international competition, such as encouraging international investment, but its impact on international sporting events remains unexplored. Using various measurements of country attractiveness, statistical tests of the proposition that a country's economic, social, and environmental attractiveness are correlated with its success in bidding to host international sporting events were conducted using data on the results of competitions to host 54 world championships in Olympic sports/disciplines from 1990 to 2012. The results presented here affirm the impact of country attractiveness on the success of bids to host such events.

Introduction

The hosting of sporting events has, over the past several decades, become such a prevalent vehicle for furthering the various interests of cities, regions, and countries (Bason, 2019; Chappelet, 2019) that competition between them to win the right to host major sporting events has become increasingly fierce (Chappelet & Lee, 2016; Walters, 2011). Although the increasingly prevalent phenomenon of countries bidding to host major sporting events is a promising research topic in the field of international public administration, little effort has, to date, been devoted to understanding the phenomenon of bidding to host international sporting events. As sporting events are, in essence, "widely broadcast social events whose impact on their different audiences is linked to the result of the actions of the various participants, who are placed in a situation of achievement, performance or competition" (Ferrand, 1993), the "attractiveness" of a sporting event is crucial for its success. Therefore, it is important to investigate which countries tend to win this highly competitive race to "attract" international sports events.

Country attractiveness, which can be defined as "the degree to which a country is preferred to others in the eyes of its relevant stakeholders on the basis of certain criteria including tangible and intangible elements" (Lee, 2016), may play an important role in enhancing the success of countries in global competitions. For

instance, country attractiveness is a key factor in a country's success in many areas of international competition, such as attracting international investment in a specific industry/market (Choi, 1999) or enticing international tourists/migrants to visit a specific touristic or residential destination (Aminuddin, 2010; Hu & Ritchie, 1993). Given this context, the question of whether country attractiveness also plays a role in international competitions to host major sporting events arises.

Lee (2016) argues that the more relevant stakeholders, e.g., international investors/tourists/migrants, believe that a country will meet their needs by maximizing the benefits of investment/tourism/migration, the more attractive a country will seem as a host. As such, the hypotheses in this paper hold that the more event owners[1] as stakeholders relevant to international sport-event bidding (Chappelet, 2016) believe a bidding country will maintain a specific level of sustainable development, the more likely it will be to be chosen as a host.

Scholarly attention must be paid to one of the most obvious areas in which countries are directly and fiercely competing with one another when bidding to host major international non-recurring sporting events (Turner & McGillivray, 2018) because the attractiveness of a country as a form of "soft power" (Nye, 2004) may persuade sporting event owners to view a city/country as a favorable choice to host an event. Moreover, since

a bid is an overall offer from a city/country to a sport's governing body that is made to ensure consideration of it as a possible host for an event (Diaey et al., 2011), a country's attractiveness can be a useful signal (Spence, 1974) to an event's owner ("principal") because it conveys evaluative information about a bidding country's ("agent's") financial and organizational capacity to host a major sporting event successfully.

Thus, reflecting the perspective of sustainable development (World Commission on Environment and Development, 1987), this paper was written with a focus on the importance and impact of country attractiveness on the success of a country's bids to host international sporting events. The paper first includes a review of the landscape of previous literature on the importance and impact of country attractiveness on bids to win competitions to host international sporting events. Specifically, reflecting the integration of empirical evidence and related theories on signaling and soft power, research hypotheses are proposed and statistically tested using quantitative analytical methods. A discussion of the results follows, and, finally, the conclusion summarizes the findings and their implications.

Literature review

The importance of country attractiveness in international competitions to host major sporting events

The concept of country attractiveness, which has been developed in research on international business, tourism, and migration, can be integrated into the framework of sustainable development comprising economic, social, and environmental dimensions (Lee, 2016). The existing scholarship on the factors affecting the success of bids to host the Olympic Summer and Winter Games offers a possible clue regarding sporting event owners' main preoccupations regarding the economic, social, and environmental attractiveness of host countries. Thus, the purpose of writing this paper was to examine how country attractiveness affects international competitions to host international sporting events.

The reasons that the field of sports was chosen as the context for an examination of the multi-dimensional effects of country attractiveness, particularly in the case of countries bidding to host international sporting events, are two-fold: first, this area, as one of the most prominent international marketplaces, is roughly analogous to efforts to attract international investments in terms of the relationship between prospective host countries (i.e., event bidders) and foreign investors (i.e., event owners). In other words, the choice of a host city/country by an event owner (typically an International Federation) is comparable to an international investor's choice to locate its factories in a country. Indeed, a major event such as the FIFA World Cup or UEFA European Cup is the main "product/service" that is traded between an event owner and bidder in an international sporting event-bidding context, which tends to reflect "demand-supply" mechanisms through the owner's attempt to maximize revenue from broadcasting and sponsorship agreements. Thus, the concept of country attractiveness used in analyzing international business transactions may also be applied to the topic of this paper.

Second, bidding to host an international sporting event is different from a typical international investment in that it can be regarded as part of a market that does not simply operate according to the demand-supply mechanism but rather can be influenced by non-economic factors, such as the soft power of a country. In terms of the importance of the intangible (i.e., social and environmental) aspects of country attractiveness, bidding to host international sports events has a lot in common with international tourism and migration. This bidding system implies that an event owner can select the host country for international sporting events on the basis of the relative attractiveness of each country in social and environmental dimensions besides the economic one (i.e., "market attractiveness") because a potential host country must also be evaluated as a destination for international sporting events (i.e., "destination attractiveness"). Hence, this paper on bidding to host international sporting events is useful for validating the effects of a country's social and environmental attractiveness.

The impact of economic factors of country attractiveness: A hypothesis based on signaling theory

Due to the increased salience of economic motives for hosting sporting mega-events since the mid-1980s, no event owner today awards exclusive hosting rights without considering the economic interests or commercial logic of the global sporting marketplace, including the need to maximize the expected financial benefits and revenue from broadcasting rights (both on TV and the internet), official sponsorships, and other marketing programs (Poast, 2007; Toohey & Veal, 2007).

Assuming that event owners consider potential host countries profitable markets, signaling theory (Spence, 1973) can address how a bidding country signals its ability to host a successful event in terms of providing economic profits to event owners via observable information

regarding its economic achievements. This market-based explanation presumes a price mechanism of demand and supply in international sporting event markets, i.e., the selling and buying of hosting rights that takes place between event owners who choose host sites and event bidders who compete to host such events. Here, the quality of bids containing investment plans for sporting facilities and other organizational infrastructure is, in essence, difficult for event owners to assess because it cannot be known whether bidders will fully honor their initial promises. The competitive nature of the bidding process encourages bidders to make generous pledges with no ramifications and/or enforcement tools to ensure that such promises are honored. Thus, regardless of bidders' actual ability to successfully host such events, they have an incentive to exaggerate the attractiveness of their bids to defeat their competitors.

Moreover, as bidding processes for major international sporting events have become increasingly sophisticated and the bidding industry has become highly professionalized through the use of commercial bid consultants and companies,[2] the characteristics of candidates' bids have converged into a set of ideals or best practices. In the face of such homogenization of the quality of bid proposals, event owners, however, receive little information about the actual status of bidders' unobservable attributes regarding the sophisticated nuances of successful hosting, which may result in unfavorable selections by event owners due to large discrepancies between bidders' seemingly promising proposals and their actual capacity to host such events. This information asymmetry between event bidders and owners may raise a moral issue (Dowse & Flechter, 2018). In a so-called "market for lemons" (Akerlof, 1970), it is paramount for event owners to assess "who" is bidding, instead of only considering bid offers that have been tactfully deployed to attract event owners, to evaluate the reliability and feasibility of bidders' promises.

Thus, just as international investors evaluate potential host countries for FDI, a bidding country's economic records, based on information including market size (GDP – Gross Domestic Product), market growth (GDP growth rate), and purchasing power (GDP per capita), can be useful signals for event owners when deciding which are the most promising host venues in terms of financial revenue. In other words, because international sporting event owners may choose a host country based on signals of its economic viability to maximize the financial profits of holding major sporting events, countries that have large national economies, fast economic growth, strong purchasing power, and relatively open market environments may use their substantial tangible resources to strategically market their bids

by promising economically successful games to event owners. Therefore, based on signaling theory (Spence, 1973), the first hypothesis is formulated as follows:

H1: *If event owners choose hosts based on the signaling of bidding countries' economic attractiveness, they will be more likely to award permission to host their events to countries that perform well economically.*

The impact of the social and environmental factors of country attractiveness: A hypothesis based on soft power theory

While the Olympics were politicized by participating countries as a vehicle to demonstrate the superiority of their political regimes during the Cold War, it has been observed that, in the post-Cold War era, a country's social and political advantages, known as "soft power" (Nye, 2004), can affect the results of bidding competitions because the values of Olympism rest on its core elements (Lee, 2017; Lee & Chappelet, 2012).

The fundamental principles governing the Olympic system include transparency, democracy, accountability, autonomy, and social responsibility (Chappelet & Kübler-Mabbott, 2008), and "Any person or organisation belonging in any capacity whatsoever to the Olympic Movement is bound by the provisions of the Olympic Charter and shall abide by the decisions of the IOC (International Olympic Committee)" (International Olympic Committee (IOC), 2011, p. 14). Thus, one can posit that in bidding to host Olympic events, the bidding countries' social conditions, as the main components of soft power, can be assessed by their level of human development, transparency, and sporting success.

Moreover, according to Nye (2004), a country's soft power comes not merely from its domestic policies or bilateral relations with foreign countries but also from its participation in international treaties/agreements and global institutions, including observance of environmental norms, rules, and obligations regarding global warming (e.g., the Kyoto Protocol) (Li, 2009, p. 225). Several scholars have highlighted the importance of environmental responsibility in hosting sporting events (Cantelon & Letters, 2000; Chappelet, 2008; Chernushenko, 1994; Leonardsen, 2007; Peiser & Reilly, 2004; Pentifallo & VanWynsberghe, 2012).

Today, sports organizations are beginning to embrace the belief that environmental issues are intertwined with social/cultural and socioeconomic issues (Ferrand & McCarthy, 2009, p. 51). Chappelet (2008) argues that the IOC's official concerns about environmental protection, which have been fully integrated into Olympic rules

and ideology, are not simply a sign of the times but have also become a positive, non-material legacy of the Olympic Winter Games since the 1990s, and the ecological components of the Olympic tradition as well as notions of sustainability through Olympism are applied at both the Summer and Winter Olympic Games today. In this regard, Lee and Jean-Loup (2012) have noted that environmental factors (e.g., air pollutant emission reduction) can also be one of core elements of soft power.

Thus, sporting event owners, who strive to remain legitimate in the eyes of stakeholders, and, more generally, "society," have, since the 1990s, emphasized the ecological legacy of their sporting events as the third dimension of Olympism (Chappelet, 2008). Thus, bidding countries have also followed the ecological guidelines set by event owners, although their observance of such environmental principles is seemingly unprofitable from an economic point of view.

For instance, event owners concerned about a country's environmental sustainability can advertise their concern about environmental protection to achieve organizational legitimacy in the global public sphere by incorporating environmentally sound practices into their statutes and policies and awarding permission to host their events to countries making efforts to address environmental issues rather than to those that allow the emission of harmful pollutants.

In turn, to encourage event owners to choose them as hosts, bidding countries must strive to attain legitimacy regarding environmental issues by demonstrating "desirable" behaviors and holding "Green Games" (i.e., eco-friendly sporting events). Accordingly, the better a country's environmental record becomes (e.g., by producing fewer greenhouse gas/air pollutants emissions or more renewable energy, etc.), the more attractive it becomes to event owners, who tend to gain legitimacy by expressing concern for the environment. Therefore, based on soft power theory (Nye, 2004), the second hypothesis is formulated as follows:

H2: *If event owners choose hosts on the basis of the soft power stemming from their social and environmental attractiveness, they will be more likely to award permission to host their sporting events to countries that have good social and environmental records.*

Research design

Econometric model specification

The hypotheses presented in the previous chapter are tested using quantitative methods that analyze country-level aggregate data. In order to examine the effects and relative influence of country-level factors on international sporting event-bidding success, the proposed predicative model specification was constructed as follows:

$$
\begin{aligned}
Bid\ Wins_{it} =\ & \beta_0 + \beta_1 GDP_{it-1} + \beta_2 GDP\ Growth_{it-1} \\
& + \beta_3 GDP\ per\ Capita_{it-1} \\
& + \beta_4 MarketOpenness_{it-1} \\
& + \beta_5 Human\ Development_{it-1} \\
& + \beta_6 Sporting\ Success_{it} \\
& + \beta_7 Transparency_{it-1} + \beta_8 High \\
& Temperature_{it-1} + \beta_9 CO_2 Emissions_{it-1} \\
& + \beta_{10} Renewable\ Energy_{it-1} \\
& + \beta_{11} PM_{10} Emissions_{it-1} + \beta_{12} \\
& Military\ Expenditure_{it-1} + \varepsilon_{it}
\end{aligned}
$$

Where the subscripts in the equation above denote each bidding country i in time t, which is the number representing the year when the event owner's choice of the host country was made. Independent variables receive values from the year prior (t-1) to when host selections were made given a time difference assumption that the event owners' decisions during election years were based on candidate countries' status during the previous year; ε, which is the unexplained part of the statistical estimation representing the stochastic error term, captures the effects of other remaining influencing factors (e.g., lobbying or improving the quality of a bid proposal by suggesting good technical solutions for the event).

Dependent variable

Regarding the measurement of a country's success in bidding to host international sporting events, "success" may be defined as a country's number of winning bids. Thus, the dependent variable, *Bid Wins*, represents how many events each country has won per year from 1990[3] to 2012. The data cover all bids to host world championships in Olympic sports and disciplines[4] at the international level except tennis[5] and men's soccer.[6] Accordingly, the bidding results of 54 world championships at the highest level, owned by 31 International Federations and including 24 summer and 7 winter sports, were collected from the official website of each sport's governing body as well as the Olympic Library in Lausanne, Switzerland (Appendix I).

Independent variables

To evaluate the relative influence of a country's economic, social, and environmental attractiveness on its

bidding success in the context of major sporting events, the relevant independent variables may be measured by multiple indices with respect to the economic, social, and environmental dimensions of a bidding country. Considering the comparability and availability of the existing data, the author of this paper collected cross-nationally comparable official statistics, which have been published annually by international organizations since the 1990s and cover all bidding countries.

First, a country's economic conditions were measured using several economic indicators encompassing the internal and external market potential of a country: on the one hand, from a domestic market perspective, *GDP* (as a proxy of market size), *GDP growth* (as a proxy of market growth), and *GDP per capita* (as a proxy of a country's purchasing power to assess the weight of the population size and the quality of the market) were collected from the World Bank's World Development Indicator Database. On the other hand, from a foreign-market perspective, the *Market Openness* of a country was assessed using the KOF economic globalization index, which measures 207 countries' actual economic flow, as well as economic restrictions, during the period between 1970 and 2010 (Dreher, 2006).

Second, a bidding country's level of social development was captured using several socio-cultural indicators, the first of which is *Human development*, which refers to the level of a country's human development (life expectancy, education, and income) as measured by the Human Development Index (HDI) in the Human Development Report published since 1990 by the United Nations Development Programme (UNDP). Following the example of McClory (2010) as well as that of Lee and Jean-Loup (2012), *Sporting Success* represents each country's sporting power as measured by the number of Olympic gold medals (Hoffmann et al., 2002) won in the previous Summer and Winter Olympic Games based on data gathered from the IOC. Based on the example of Poast (2007) and Feddersen et al. (2008), *Transparency*, which refers to a country's soft power in terms of ethics and anti-corruption measures, was measured using the Corruption Perceptions Index (CPI) produced by Transparency International.

Third, the level of environmental concern of each bidding country was measured using several environmental indices, one of which was *High Temperature*,[7] a dummy variable based on the categorization of countries into two groups and taking a value of 1 if a country was located in a "hot" (i.e., tropical and/or dry) climate zone with a high temperature and 0 otherwise. This refers to the Köppen climate classification scheme, which is one of the most widely used climate classification systems and has been adopted in many climate studies and subsequent

publications (Kottek et al., 2006). Next, *CO₂ Emissions* and *PM₁₀ Emissions* measured a country's production of greenhouse gases and air pollutants such as CO_2 (carbon dioxide) and PM_{10} (particle material 10 micrometers or under in diameter, or particles small enough to be absorbed in the deepest part of the lung) relative to GDP, respectively. Conversely, as a proxy for efforts to achieve environmental sustainability, *Renewable Energy* measures a country's total renewable electricity net generation. The data were collected from the World Bank's World Development Indicator Database and the U.S. Energy Information Administration (EIA).

In addition, as a control variable, *Military Expenditure* was used as a proxy to measure each country's military power using its annual military expenditures based on data collected from the World Bank's World Development Indicator Database. This variable was included in the model to test the realism hypothesis of the "mainstream" realist school of thought in international relations theory, which can be expected to assume that a country's hard power, i.e., military force, might also affect event owners' choice of event hosts. Methodologically, to assess the impact of soft power on international competition to host major sporting events, both soft- and hard-power factors must be included in an analytical model so that, while one factor is controlled, the influence of the other can be estimated (Lee & Chappelet, 2012, p. 50). According to soft power theory, the effect of this variable can be expected to be insignificant or negative.

Analytical methods

This paper includes statistical analyses of panel datasets collected from each bidding country at several intervals between 1990–2011 (on bid wins, that is, a country's number of winning bids during a year). The estimation strategy of each regression method was chosen considering the characteristics of the data as well as the robustness checks of the estimation results.

The distribution of the dependent variable (*Bid Wins*) in the histogram in Figure 1, shown above, appears similar to the Poisson probability distribution that is appropriate to use on count data models[8] (i.e., one that uses integers that are non-negative and discrete), such as the Poisson regression model (Cameron & Trivedi, 2009; Hilbe, 2011; SCOTT & Jeremy, 2006).

Figure 1 also shows that a value of zero cannot occur in the dataset of *Bid Wins* because countries that did not have any winning bids, by definition, cannot be counted according to this dependent variable; thus, in such data, the values begin with 1 without the possibility of a value of 0. This dataset that has no value of 0 because
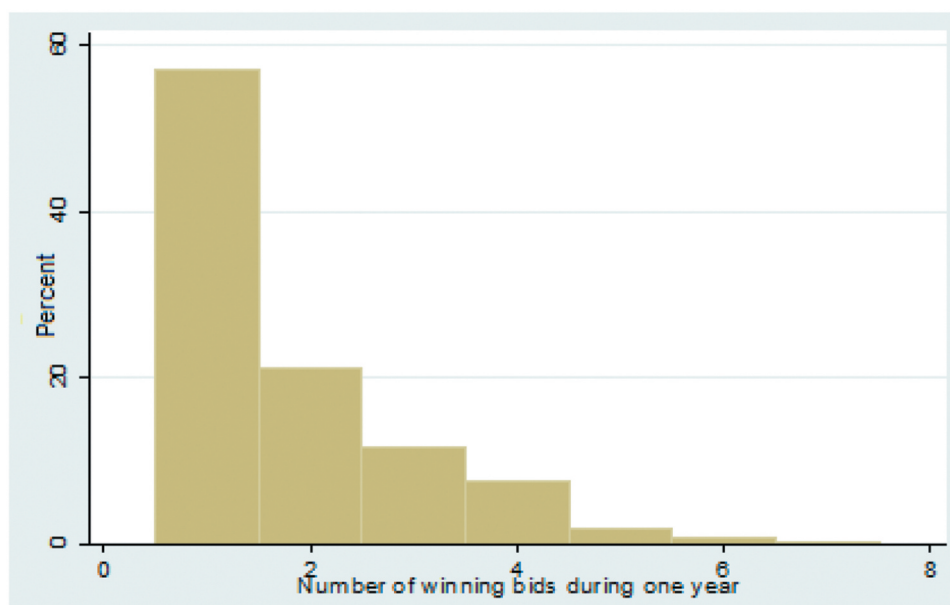
Figure 1. Histogram of winning bids.

observations enter the sample only after the first bid is won,[9] which suggests that a model for truncated counts, such as the "zero-truncated" Poisson regression (SCOTT & Jeremy, 2006), should be used. Considering the possibility of several underlying assumptions, such as "overdispersion"[10] relative to the Poisson distribution and the nature of panel data, both a zero-truncated negative binomial model (Hilbe, 2011) and random-effects[11] panel Poisson model (Cameron & Trivedi, 2009) were also employed.

Thus, to construct three distinct data models that could be compared to one another, suitable regression analyses using various econometric methods, such as the zero-truncated Poisson, zero-truncated negative binomial, and panel Poisson (random-effects model) methods, were used. Calculations and statistical tests were performed using STATA SE version 11.0 software.

Empirical results

Table 1 shows the results obtained using the three regression methods mentioned above, including the zero-truncated Poisson, zero-truncated negative binomial, and random-effects panel Poisson regression.[12] In all models, which were stepwisely regressed (Models 1–16), almost all independent variables associated with country attractiveness were significant and reflected the expected signs of their directions. Regarding a country's economic attractiveness, *GDP* was positively significant at 0.1%~10% significance levels, and *GDP per Capita* as well as *Market Openness* were also significant and positive at 1%~10% significance levels. However, *GDP*

Growth Rate was not significant at a conventional significance level. With respect to the social attractiveness of a country, *Sporting Success* was positively significant at 0.1%~5% significance levels, as were *Human Development, Transparency*, and *Political Stability* at 0.1%~10% significance levels. Concerning a country's climatic attractiveness, *Tropics* showed negative effects on the dependent variable at a 5% significance level. CO_2 *Emissions* and *Particle Emissions* were significant and negative at 1%~10%, while *Renewable Energy* was positively significant at 0.1%~10% significance levels. *Military Expenditure* as a control variable was negatively significant at 0.1%~5% significance levels. These results confirm the statistically significant effects of country attractiveness on SEHS success in major sports events (i.e., 54 world championships in Olympic sports).

Discussion and conclusion

The results obtained using various model specifications and measures constitute empirical evidence that confirms this paper's main hypotheses regarding the significant effects of country attractiveness on international sporting event-bidding success.

Specifically, countries had greater bidding success when they had larger market sizes (measured by *GDP*) and stronger purchasing power (*GDP per Capita*) as well as relatively open markets.[13] This finding on the effect of the economic attractiveness of a bidding country suggests that international sporting event-bidding can be regarded as a sort of international sports market in which Olympic hosting rights, as well as Olympic brands

Table 1. Count data model regression results.

All WCs (except FIFA)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic Attractiveness	GDP	0.00*** (3.45)	0.00† (1.81)	0.00* (2.17)	0.00* (1.98)	0.00† (1.75)	0.00** (3.25)	0.00† (1.82)	0.00* (2.20)
	GDP Growth	-0.01 (-0.41)	-0.01 (-0.42)	-0.01 (-0.75)	0.01 (0.72)	-0.01 (-0.72)	-0.01 (-0.38)	-0.01 (-0.38)	-0.01 (-0.70)
	GDP per Capita	0.00* (2.04)					0.00† (1.82)		
	Market Openness			0.01† (1.75)					0.01† (1.75)
Social Attractiveness	Sporting Success		0.02** (3.26)	0.02** (2.93)	0.02*** (3.69)	0.02*** (3.72)		0.02** (3.02)	0.02** (2.73)
	Human Development				4.77*** (5.03)				
	Transparency		0.10*** (3.85)			0.10*** (3.76)			
Environmental Attractiveness	High Temperature	-0.89* (-2.24)	-0.73** (-2.66)	-0.49 (-1.59)	-0.38 (-1.34)	-0.54 (-1.93)	-0.92* (-2.22)	-0.78* (-2.51)	-0.50 (-1.47)
	CO$_2$ Emissions	-0.13 (-0.41)					-0.16 (-0.46)		
	Renewable Energy	0.00*** (3.53)	0.00*** (3.23)	0.00** (2.94)	0.00*** (3.79)	0.00** (2.89)	0.00** (3.27)	0.00** (3.13)	0.00** (2.88)
	PM$_{10}$ Emissions	-0.01 (-1.14)	-0.01* (-2.42)	-0.01† (-1.80)			-0.01 (-1.09)	-0.01* (-2.13)	-0.01 (-1.51)
Control Variable	Military Expenditure	-0.00*** (-3.62)	-0.00** (-3.06)	-0.00** (-3.23)	-0.00*** (-3.55)	-0.00** (-3.06)	-0.00*** (-3.42)	-0.00** (-2.96)	-0.00** (-3.14)
	Constant	-0.18 (-0.50)	0.46*** (3.85)	-0.35 (-0.73)	-4.37*** (-4.63)	-0.59* (-2.21)	-0.28 (-0.70)	0.32* (1.99)	-0.59 (-1.07)
Model		Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial
N		437	437	437	438	438	437	437	437

All WCs (except FIFA)		(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Economic Attractiveness	GDP	0.00† (1.92)	0.00† (1.75)	0.00*** (3.63)	0.00* (2.09)	0.00*** (3.68)	0.00† (1.86)	0.00† (1.69)	0.00† (1.79)
	GDP Growth	0.01 (0.67)	-0.01 (-0.64)	-0.00 (-0.11)	-0.00 (-0.43)	-0.00 (-0.15)	-0.01 (-0.69)	0.00 (0.39)	-0.00 (-0.44)
	GDP per Capita			0.00** (2.76)					
	Market Openness						0.01† (1.87)		0.00 (0.60)
Social Attractiveness	Sporting Success	0.02*** (3.52)	0.02*** (3.49)				0.01* (2.29)	0.01* (2.22)	0.01* (2.20)
	Human Development	4.81*** (4.81)						1.81** (3.20)	
	Transparency		0.10*** (3.48)						0.04† (1.72)
Environmental Attractiveness	High Temperature				-0.39* (-2.40)				
	CO$_2$ Emissions	-0.39	-0.58†	0.11	-0.28†	-0.07	-0.23	-0.14	-0.15†
Model		Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Poisson	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial
N		437	437	437	438	437	437	437	437

(Continued)

Table 1. (Continued).

All WCs (except FIFA)		(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		(-1.31)	(-1.89)	(0.59)	(-1.91)	(-0.44)	(-1.28)	(-0.83)	(-0.79)
Renewable Energy		0.00***	0.00**		0.00*		0.00*	0.00*	0.00†
		(3.61)	(2.78)		(2.50)		(2.17)	(2.50)	(1.95)
PM_{10} Emissions						-0.00†			-0.00
						(-1.87)			(-0.21)
Control Variable	Military Expenditure	-0.00***	-0.00**	-0.00**	-0.00*	-0.00*	-0.00*	-0.00**	-0.00*
		(-3.41)	(-2.95)	(-2.71)	(-1.99)	(-2.45)	(-2.56)	(-2.59)	(-2.55)
	Constant	-4.45***	-0.71*	0.08	0.58***	0.60***	0.05	-1.19*	0.06
		(-4.47)	(-2.35)	(0.47)	(7.13)	(6.31)	(0.19)	(-2.15)	(0.19)
	Model	Zero-Truncated Negative Binomial	Zero-Truncated Negative Binomial	Random Effects Panel Poisson	Random Effects Panel Poisson	Random Effects Panel Poisson	Random Effects Panel Poisson	Random Effects Panel Poisson	Random Effects Panel Poisson
	N	438	438	438	438	437	438	438	437

Note: the t-statistics are in parentheses; legend: † $p < .1$; * $p < .05$; ** $p < .01$; *** $p < 0.001$; the Hausman (1978) specification test was performed to confirm the estimation results of the random-effects panel Poisson models at a 5% significance level.

and properties and other related products, are traded between sporting event owners and stakeholders (Billings & Eastman, 1998; Brown, 2000; Ferrand et al., 2012; McAuley & Sutton, 1999; Parent & Chappelet, 2016; Shoval, 2002; Tomlinson, 2005). In this market, most international sporting event owners tend to consider the financial interests of their commercial stakeholders, such as global broadcasting companies or sponsors. Accordingly, event owners tend to choose hosts based on the signaling of bidding countries' economic viability to maximize the financial profits of holding major sporting events. That is, they are most likely to award permission to host their events to countries that are economically attractive (Maennig & Vierhaus, 2017). As a result, countries that are economically attractive may use their substantial tangible resources as part of marketing strategies for bids by promising economically profitable games to event owners.

Another finding of this paper is that economic and tangible factors are not the sole determinants of whether countries win permission to host major sporting events. More concretely, countries had greater success in international sporting event-bidding when they had high levels of human development and transparency as well as great sporting success. By contrast, countries were chosen to host such events less often when they had climates with high temperatures or generated a lot of air pollutants, such as CO_2 or tiny particulate matter, in addition to generating little renewable energy. These results suggest that bidding to host international sporting events can be considered a global political arena embedded in a global society in which soft power factors, such as countries' socio-cultural and political characteristics, can affect bidding results via their relationship with Olympism (Lee & Chappelet, 2012). In this context of soft power politics, event owners' choice of host countries can be influenced by non-economic factors or political motives. In other words, whether a bidding country has a good record regarding sustainable human development can be a key criterion when choosing a host site. Thus, event owners may choose hosts by considering the philosophy and principles of Olympism as they relate to the soft power of a bidding country to enhance their organizational legitimacy. Furthermore, event owners in Olympic sports, who are full-fledged members of the Olympic Movement in accordance with the Olympic Charter and must comply with the IOC guidelines on environmental protection and sustainable development as they relate to leaving a "green legacy" and making a positive social impact, may take into account the environmental record of a bidding country. As a result, they are more likely to award permission to host their sporting events to countries that are socially and environmentally

attractive. In other words, countries that are socially and environmentally attractive may promote positive images of themselves as socio-culturally, politically, and environmentally advanced in marketing strategies to showcase themselves as ideal hosts for realizing/spreading the aims of Olympism and the Olympic Movement.

From a theoretical perspective, the empirical evidence on the relationship between country attractiveness and international sporting event-bidding success that is presented in this paper supports the explanatory power of both signaling theory (Spence, 1973) and soft power theory (Nye, 2004) in the context of international sports: on the one hand, the "signaling effect" of a country's economic attractiveness was mostly supported by the empirical results. According to signaling theory, bidding countries with well-developed markets send signals that imply promises to host profitable events to event owners. In turn, event owners tend to choose the most promising offer, i.e., a bid from a country with a strong economy that can bear the cost of hosting such an event and maximize the event owner's financial benefits. On the other hand, the "soft power effect" of a country's social and environmental attractiveness was also identified. According to soft power theory, bidding countries can exert soft power that includes cultural Affinity, political values, and legitimate foreign policies to appeal to and/or persuade event owners to award them permission to host their events. In such cases, event owners may choose the bidding country that has the most soft power from among several candidate countries that have similar degrees of economic attractiveness.

Lastly, the empirical results of the analysis presented in this paper suggest managerial and marketing implications for the organization of sporting events as well as the importance of country attractiveness as a prerequisite for successful sporting-event bidding in an international context. In other words, without a basic level of economic, social, and environmental attractiveness, a bidding country is less likely to win permission to host major international sporting events. Therefore, prospective event bidders, before the bidding phase, must assess their home countries' strengths/weaknesses in each dimension of country attractiveness. During the bidding stage, bidding organizations may develop and implement a variety strategies to improve the quality of their bids, including using lobbying tactics and promotional techniques to promote images of their countries as economically, socially, and environmentally attractive.

Notes

1. As event owners, international sport governing bodies organize international competitions, such as world or continental championships, and they allocate the hosting rights and related protected properties to event bidders. Thus, in the field of international sport-event bidding, event owners can be regarded as relevant stakeholders who are "any group or individual who can affect or is affected by the achievement of the organization's objective" (Freeman, 1984, p. 25).

2. Many sport consulting companies became specialized in the bidding process, and such companies are in charge of preparing bidding files, assisting bidders with communication campaigns, and lobbying for votes from the governing bodies (Diaey et al., 2011).

3. To test the soft power theory, the dataset starts in 1990, the first bidding year after the 1989 fall of the Berlin Wall.

4. The IOC establishes a hierarchy of sports, disciplines, and events. Thus, the term "sport," by IOC definition, refers to all the events that are sanctioned by one international sport federation, and each sport is subdivided into multiple disciplines that comprise several events for which medals are actually awarded in each competition.

5. Among the 33 core Olympic sports in the 2012 London Olympic Games, tennis was excluded from the sample because it has no equivalent to a world championship or the relevant bidding procedures.

6. The world championships in men's soccer, or the Fédération Internationale de Football Association (FIFA) World Cup™, are excluded because bidding for mega-sports events, such as the Olympic Games and the FIFA World Cup, has different features from bidding for the other major (i.e., relatively smaller than mega) international sports events, such as the World Championships (Chappelet & Lee, 2016). It is commonly agreed that hosting "expensive" mega-events like the Olympics and the FIFA World Cup requires more resources in terms of time and space, such as the preparation period, size, scale, scope, and so on. (Chappelet, 1996). Additionally, competitive pressure in bidding for the two mega-events is much higher than that for other medium and large-scale world championships.

7. Because sporting activities are highly interlinked with the natural environment in which a sport is performed, suitable environmental conditions, such as a mild climate, non-extreme temperatures, or even significant snowfall (Arne & Maennig, 2012), are prerequisites for athletes to safely participate in sporting matches. As these events are tourism destinations that millions of spectators visit to experience vivid games, countries located in hot climates may be less likely to be selected as the hosts by event owners owing to heat-related problems in the venues.

8. Count data regression models in which the dependent variables are non-negative integers have been widely applied to various empirical fields (Hausman et al., 1984; Hellström & Nordström, 2008; Jaggia & Thosar, 1993; Nelson & Young, 2008; Van der Heijden et al., 2003; Yang, 2007).

9. A frequently illustrated example in the econometrics literature is length of hospital stay counts for patients staying for at least one day.

10. Although the most basic event count model (i.e., a Poisson regression) is premised on the assumption that the probability of an event occurring at any instant is constant in period i and is independent of all previous events during that observation period, this assumption

is not plausible when past events may affect the likelihood of additional events occurring during a period. According to Balla (2000, p. 641), this type of dependence in event counts, which is manifested through overdispersion or inflated variance, can be accounted for by a negative binomial regression.

11. The dataset in this study is assumed to be chosen from a population of all kinds of international sporting events, which can be regarded as "panel" data according to Beck and Katz (1995) and Beck (2001). Panel data can be analyzed with either a fixed effects or a random effects model to avoid omitted variable bias and endogeneity problems because some unobserved variables can be differenced out of the regression and, thus, need not be measured. Based on the results of Hausman's (1978) specification test, this study uses a random effects model.

12. Several independent variables have high correlations, suggesting possible multi-collinearity (Gujarati, 2003, pp. 341–386) in the regression models. Thus, this study applies stepwise methods when performing each regression analysis.

13. However, it is interesting to find that market growth (i.e., the GDP growth rate) has no significant effect on bidding for major international sporting events like world championships. Conversely, faster economic growth, representing an emerging market, is essential for winning sporting mega-events, such as the Olympic Games (Lee & Chappelet, 2012). This result suggests that event owners of relatively smaller world championships choose their host countries regardless of the level of economic growth, whereas mega-events owners, such as the IOC and FIFA, prefer countries with faster economic growth as hosts. One possibility explanation for event owners' different preferences for countries' economic standing relates to the need for the potential host of a mega-event to equip large-scale infrastructure and finance extensive budgetary support (Poast, 2007).

Acknowledgments

Funding

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Appendix I

Bid Wins of Countries in World Championships (1990-2012)