

# Toward a political economy of World Heritage

Enrico E. Bertacchini · Donatella Saccone

Received: 6 February 2011 / Accepted: 24 April 2012 / Published online: 9 June 2012  
© Springer Science+Business Media New York 2012

**Abstract** The article explores the factors influencing the nomination and selection of heritage sites in the World Heritage List. Using country panel data and a unique dataset with individual site nominations, we provide evidence that the nomination of heritage sites to the List depends on the institutional and economic conditions of countries, and site selection is subject to rent-seeking by states and experts involved in the decision-making process. In particular, we test whether political factors, such as the involvement of countries in the World Heritage Committee, influence the inscription of national heritage sites in the List. The article contributes to the cultural economics literature by providing new insights into the political economy of conservation and promotion of heritage at the international level.

**Keywords** World Heritage sites · UNESCO · International political economy · Panel data

**JEL Codes** Z11 · C23 · F5

## 1 Introduction

Since the dawn of civilizations, humans have considered cultural heritage a valuable endowment, whose appreciation often goes beyond cultures and national borders. The seven wonders of the ancient world were acknowledged as unique monuments or representations of the genius of humankind regardless of the civilizations in which they originated. In a similar vein, the 1972 UNESCO

---

E. E. Bertacchini (✉) · D. Saccone  
Department of Economics “Cognetti De Martiis”, University of Torino, Via Po 53,  
10100 Torino, Italy  
e-mail: enrico.bertacchini@unito.it

Convention on World Heritage represents an international effort that seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. The World Heritage Convention is today the foremost international legal instrument for the protection of immovable heritage. It has since been ratified by 187 countries, which have placed 911 properties under its protection.

Arguably, from an economic viewpoint, World Heritage has global public good attributes because its benefits and values extend to all countries, peoples and generations (Kaul et al. 1999; Frey and Steiner 2011). However, the benefits to humankind accruing from the preservation of such treasures are strictly linked to the way in which World Heritage is defined and selected. As the process of inscription of World Heritage Sites is based on procedures and rules agreed by the Convention parties, these may be influenced by factors unrelated to the value of heritage which eventually favor some countries. For instance, many commentators have stressed the difficulty in defining the principle of outstanding universal value, as well as finding out proper criteria for site inclusion that are not culturally biased, notably toward western conceptions of heritage (Musitelli 2003). In addition, and more crucially, the initiative to submit new properties in the List lies with individual countries. Interestingly, this means that at any one time the pattern of World Heritage may be a reflection of economic, institutional and political factors of member states in the UNESCO Convention. As a result, some states may be more active or have more influence than others in the World Heritage selection process.

While cultural economics has often focused on the economic nature of heritage goods (Rizzo and Towse 2002; Peacock and Rizzo 2008), so far little research has been conducted on World Heritage and in particular on understanding the political and economic conditions influencing the process of Sites inscription. In the non-economic literature, Strasser (2002); Van der Aa (2005); Schmitt (2009) and Jokilehto (2011) extensively describe the factors affecting the World Heritage inscription process and the impacts of listing. Their analysis provides very interesting insights into the dynamics of the World Heritage nomination and selection process, but their contributions are mainly based on a qualitative approach or descriptive evidence. In the economic literature, only few works have addressed, directly or indirectly, the determinants influencing the composition of the World Heritage List. For instance, investigating the causal relationship between tourism specialization and economic growth of countries, Arezki et al. (2009) explore potential biases in the process of selection of the World Heritage List when introducing the number of world heritage sites as an instrument for tourism specialization. Their robustness analysis suggests that the number of heritage sites per 100,000 inhabitants is not correlated with level of income, as well as other measures of the quality of institutions in the modern period. Conversely, Frey et al. (2011), using both cross-section and panel data, analyze the influence of several factors on the actual number of World Heritage Sites per country. Their findings show that historical, cultural, and natural determinants are positively related to the presence of heritage endowment that deserves to be included in the List. More interestingly, political and economic factors unrelated to the value of heritage play a significant role in the capacity of countries in lobbying to obtain more World

Heritage Sites. Among these, rent-seeking factors include the importance of the tourist sector, the distribution of information via media and federalism. Further, income level, economic power and the influence in international organizations, such as the UN Security Council, represent other economic and political conditions which can foster the ability of a country to inscribe heritage sites in the List.

In order to deepen such evidence, our article aims to add new insights into the institutional and political determinants that potentially affect World Heritage listing. The analysis does not focus directly on the number of World Heritage Sites obtained by countries. Rather, we focus on the decision-making process of the World Heritage List by unveiling the political economy factors and potential biases behind their nomination activity and the selection process of World Heritage Sites. In particular, while it is generally recognized that heritage regulation and policy is a supply driven process dominated by experts' decisions (Frey and Oberholzer-Gee 1998; Mazza 2003; Rizzo and Throsby 2006; Benhamou 2011), we show how the designation of World Heritage Sites has also a strong demand-driven component, because of the role played by member states in the nomination and selection process. In this context, our work may be related to the literature concerning political influence in decision making within International Organizations (i.e., Dreher and Jensen 2007; Dreher et al. 2009).

To identify political and economic factors influencing the World Heritage inscription process, in a first set of results, we use panel data covering the whole period of activity of the World Heritage Convention and we examine the relationship between countries' characteristics and their nomination activity. In a second set of results, a unique dataset with the information on successes and failures of World Heritage nominations adds more insights into the ability of countries to inscribe national heritage in the List as well as on the role played by experts in the selection of sites. We use data on individual sites that have been included or failed to be included in the World Heritage List and we test whether conditions in the process leading to inscription, such as the country's direct involvement in the selection phase, influence the probability of inscribing national heritage sites. Finally, using panel data, we inspect whether there exist institutional and political economic imbalances across member states that may justify biases in the World Heritage decision-making process.

The article is divided as follows: Sect. 2 describes the World Heritage system, the process and the actors involved in sites selection as well as the main trends in the World Heritage List; Sect. 3 formalizes a simple theoretical framework to set hypotheses concerning the political economy factors affecting World Heritage Sites nominations and inscriptions; Sect. 4 illustrates the empirical strategy and provides the econometric results, while Sect. 5 concludes.

## 2 Unveiling the World Heritage decision-making process

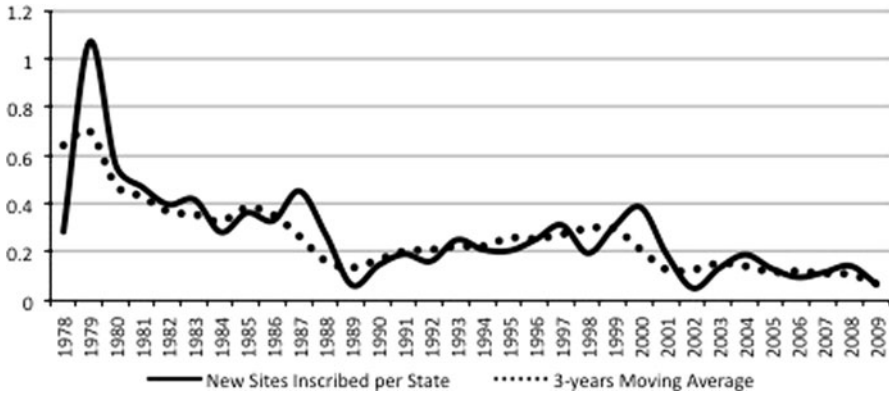
Originally, the UNESCO World Heritage Convention of 1972 is rooted in the international recognition that protection of cultural and natural heritage of outstanding universal interest often remains incomplete at the national level, as

countries lack the economic, scientific, and technological resources for preservation. The implementing mechanism adopted by the Convention for identifying heritage sites of world status and place them under its protection is based on the formulation of the World Heritage List.

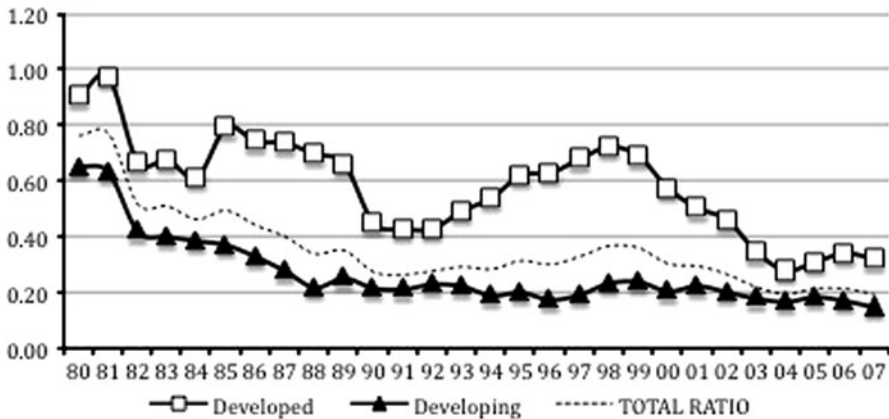
The List consists of cultural, natural, and mixed properties of “outstanding universal value” (OUV), which is defined in the Operational Guidelines of the Convention according to six criteria for cultural heritage and four criteria for natural heritage. The composition of the World Heritage List is the outcome of two different phases—nomination and selection—and of the interacting input of three different actors—States, Advisory Bodies and the World Heritage Committee (Strasser 2002). The nomination process relies on the initiative of the state parties, which submit proposals for their heritage sites to be included in the List. Experts of two advisory bodies, respectively, the International Council on Museums and Sites (ICOMOS) for cultural properties and the International Union for Conservation of Nature (IUCN) for natural properties, evaluate the nomination dossiers by examining sources proving the OUV of the heritage site and by a field mission to inspect its authenticity, integrity and level of protection. Once the evaluation is concluded, this is eventually sent to the World Heritage Committee, which is the final decision-making body for site inscription and comprises twenty-one rotating country representatives in charge for about four years. A site is inscribed if it meets at least one of the 10 criteria and additionally the conditions of uniqueness, authenticity and integrity. Rejection of the proposal is always taken by the World Heritage Committee and can occur because the site does not meet the outstanding universal value condition, lacks sufficient protection of the heritage site by the national authority, or there have been procedural reasons in the nomination process.

While individual member states are the only ones entitled to officially nominate sites to the List, it is not perfectly clear what are their incentives to join the Convention and to inscribe heritage sites. Having national heritage sites with World Heritage recognition does not guarantee greater protection of, or additional financial resources from UNESCO to, the enlisted properties. For instance, the World Heritage Fund does not exceed four million US\$ per year, a sum insufficient to cope with the growing needs and international assistance requests (Bertacchini et al. 2011). As a result, the protection of World Heritage properties mainly rests on national conservation programs and the benefits of having sites with world heritage status only accrue in forms similar to a club good (Buchanan 1965). Countries may benefit from World Heritage by signaling the quality of their cultural and natural properties, attracting further resources from international cooperation in heritage protection or marketing their world heritage sites as tourism destinations (Johnson and Barry 1995; Frey and Steiner 2011).

The choice to leave to States the initiative for proposing sites in the List has two main implications. First, the World Heritage is not a static collection of national properties of outstanding value. On the contrary, the number of World Heritage Sites has grown over time, as new countries have ratified at different stages the Convention and have brought new heritage sites worth of consideration. The inscription activity by member states has continued at a sustained pace, with an average of 30 sites inscribed every year, but at a decreasing marginal rate. As shown



**Fig. 1** Average number of sites inscribed per state



**Fig. 2** Average number of new sites proposed per member states according to Income level, 5-years moving average

in Fig. 1, the average number of new sites inscribed per country was 0.4 or greater in the first decade of the Convention, while it has decreased under 0.4 new sites per country from 1988 onward.

Second, as the preparation of nominations is a costly process that requires both financial resources and expertise in heritage conservation and management (Van der Aa 2005; Rao 2010), differences in countries’ conditions and consequently in their nomination capacity are likely to affect the number of sites inscribed in the List. As shown in Fig. 2, the yearly nomination activity of developed countries has always been greater than that of developing countries.

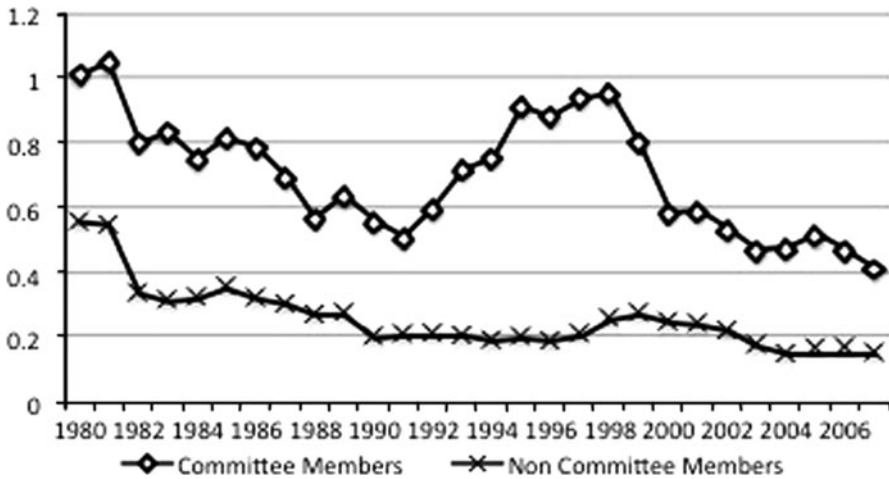
Turning on the selection of sites, the role played by the Advisory Bodies and the World Heritage Committee grounds the decision-making process on both a technical and a political level. The Advisory Bodies, as gatekeepers of technical and

scientific knowledge on heritage issues, have been actively involved since the beginning of the Convention in the definition of the selection criteria used to assess what site is considered to be of “outstanding universal value” (Pressouyre 1996; Titchen 1996). However, it is worth noticing that Advisory Bodies have developed different interpretations concerning their evaluation of individual nominations, so that IUCN’s approach seems to be more restrictive in the case of natural heritage sites, while ICOMOS’ way of evaluating is more inclusive, due to a more social constructivist approach of cultural heritage (Strasser 2002; Schmitt 2009).

As suggested in the economic literature concerning heritage regulation (Rizzo and Throsby 2006; Benhamou 2011), these two organizations of experts are likely to enjoy some form of discretionary power and asymmetrical information in the World Heritage decision-making process. For instance, one of the main criticisms of the formulation of the OUV concept has been the alleged bias in the design of selection criteria, which may have favored western definitions and conception of tangible heritage instead of others (Musitelli 2003; Rakic 2007). Likewise, changes in selection criteria and procedural rules are normally discussed in a relatively small circle, involving the World Heritage Committee and the Advisory Bodies. Although the results are integrated into the Operational Guidelines, in practice this information is not always properly understood at the local or even at state level, where the nominations are normally prepared (Jokilehto 2011).

This situation is likely to lead to rent-seeking behavior by experts. ICOMOS and IUCN are international NGOs made up of a network of experts who, within the organization, belong to different national branches (if established) and international committees dedicated to specific types of heritage. Committees may therefore act as interest groups favoring within the experts’ community the inclusion of properties more related to their expertise or geographical area. For instance, it is recognized that a country has more world heritage sites of a particular kind if it also has a national branch that represents that kind of heritage and there is anecdotal evidence that some ICOMOS committees have promoted the inclusion of their kind of heritage in the List (Pressouyre 1996; Van der Aa 2005).

The extent of the influence by experts in the decision-making process and in the selection of sites are, however, difficult to be effectively ascertained for several reasons. First, the contribution of the advisory bodies to the definition and modifications of the selection criteria is hard to be isolated as it has been in many cases the result of a informal process of negotiation between experts and states’ delegations. Second, prior to the finalization of each evaluation procedure, the communication between the parties remains confidential and even when the recommendation is finalized, information on the experts involved is not readily available. Third, experts’ recommendations are not only based on the quality of heritage sites as defined by the ten OUV criteria, but also based on other less subjective characteristics of the nomination procedure that are required in the WH Operational Guidelines. For instance, as noted by (Van der Aa 2005) only about 25 percent of the rejected sites did not meet the criterion of outstanding universal value. The other 75 percent were rejected on other grounds than quality, such as procedural reasons (i.e., incomplete nomination document or incorrect boundary definition) and lack of adequate protection.

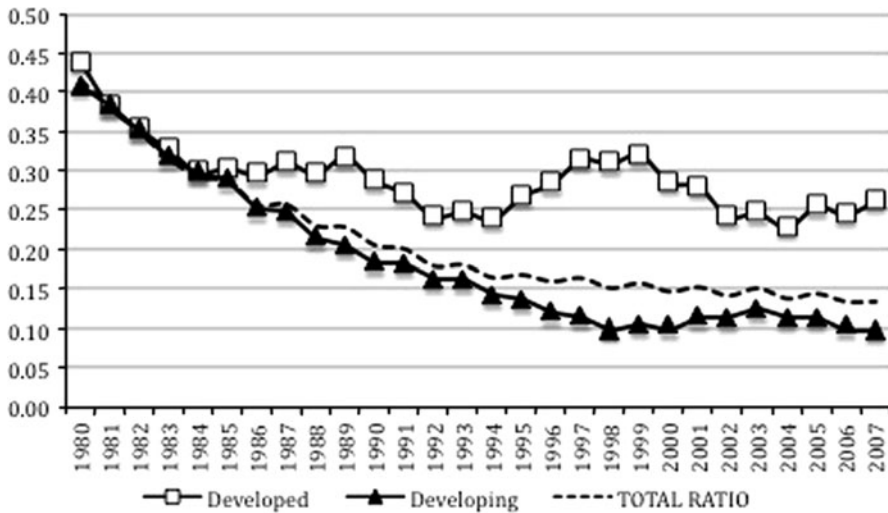


**Fig. 3** Average number of new sites proposed per member states according to membership to the committee, 5-years moving average

While experts from advisory bodies have undoubtedly a role in the definition of the concept of world heritage and in the evaluation of nominations, the final decision concerning the selection of world heritage sites rests on a political level and it is exerted by the member states in the World Heritage Committee. Some scholars have noticed that in many cases the World Heritage Committee has followed Advisory Bodies’ recommendations, implying experts’ main influence in the decision-making process (Pressouyre 1996; Van der Aa 2005). However, there is reason to believe that being member of the World Heritage Committee may nevertheless influence the nomination and selection of heritage sites. For example, Fig. 3 clearly shows that members of the World Heritage Committee have always proposed an average number of sites greater than those that were not members.

Further, from a political economy perspective, delegations in the World Heritage Committee are composed by political and bureaucratic representatives who often consider inscription of their national heritage a worthwhile goal from which they personally benefit and they may challenge the advisory bodies’ recommendations by consulting their own national experts. With this perspective, it has been noticed that in the last years, there has been an increasing politicization of the selection process by state parties, even though the Advisory Bodies evaluations were more and more detailed and precise in justifying the recommendations (Schmitt 2009). For instance, Jokilehto (2011) reports that since 1993 concerning nominations of cultural sites, there have been more than 40 sites inscribed by the World Heritage Committee that ICOMOS considered not eligible.

According to the text of the Convention, the composition of the Committee shall ensure an equitable representation of the different regions and cultures of the world. Arguably, this provision would help balancing the political power individual countries may have in decisions related to the World Heritage. However, albeit a secret ballot procedure, political and international relations factors seem to have



**Fig. 4** Probability for member states of being in the World Heritage Committee according to income level, 5-years moving average

prevailed, affecting the composition of the World Heritage Committee. As a result, countries that are willing to see their heritage represented in the List or want to actively participate in the decisions concerning World Heritage may achieve more effectively this goal by promoting their candidature to the Committee. In this context, Strasser (2002) points out that European countries have always had a relatively dominant position in terms of seats and states holding three or more mandates in the governing body. In addition, Fig. 4 shows that also economic conditions matter in the composition of the Committee. After the first period of coming into force of the Convention, the capacity of developed countries to have seats in the World Heritage Committee has greatly exceeded that of developing countries.

Such considerations ask for a deeper inspection of the political economic factors affecting the decision-making process of World Heritage listing. Institutional and economic conditions may influence the capacity of a country to participate in the World Heritage system and to have its heritage represented in the List. Political power may be used to lobby for inclusion of heritage sites, regardless any objective evaluation of the quality and outstanding universal value of heritage (Frey et al. 2011). Beyond this rent-seeking view, the development level of a country may be positively related to the number of Sites inscribed because arguably in the richest societies more resources can be devoted to heritage preservation. At the same time, from a political economy viewpoint, it is interesting to understand whether political or technical bodies have a major influence in the final decision concerning sites inscription.

All these facts and potential biases are, however, not totally new to the World Heritage community. However, they have not been usually addressed at the roots,



but rather as factors generating representativeness gaps in the World Heritage List. Indeed, the List has been long recognized to be unbalanced in the type of inscribed properties and in the geographical areas of the world that are represented. The great majority of inscriptions are cultural sites and most of world heritage is located in developed regions, in particular in Europe and North America (UNESCO 2007). In order to rectify some of the representativeness gaps, since 1994 UNESCO adopted the Global Strategy for a Balanced, Representative and Credible World Heritage List. In this context, the World Heritage Committee has suggested and implemented a number of measures to redirect in the future the existent imbalances. First, new categories of heritage have been added and criteria for sites selection have been modified in favor of unrepresented heritage expressions. Second, new measures have been implemented to limit both the nomination capacity of states and the number of examined proposals. From 2002 onwards, the World Heritage Committee would only examine one nomination dossier per State per year, exclusive of those referred or deferred at previous sessions, and up to a limit of thirty. Further, from 2005 onwards, States could submit up to two complete nominations, provided that at least one concerns a natural heritage site. The Committee can review up to forty-five nominations each year, inclusive of nominations deferred and referred by previous sessions, extensions, transnational nominations and nominations submitted on an emergency basis.

These actions are clearly to favor inscriptions of sites from unrepresented parts of the world, where the significance of places often lay not in monumental structures or heritage sites are younger as far as the date of construction is concerned (UNESCO 2007). Arguably, the trends highlighted in Figs. 2 and 3 show that since the time these measures have been implemented, imbalances in the nomination activity between developed and developing countries or between states within and outside the World Heritage Committee have lowered. However, it is too early to interpret how these measures will impact the composition of the World Heritage List in the long term. In addition, some commentators have also pointed out that the goal of a balanced and representative selection with the introduction of new heritage categories is far from having been achieved. For instance, considering the new categories of cultural landscapes, modern twentieth century heritage, industrial heritage, or prehistoric heritage, Europe still has benefited most from the opportunity to nominate sites in these categories (Van der Aa 2005).

### 3 A theoretical framework of World Heritage listing

In order to analyze World Heritage listing from a political economy perspective, we develop a theoretical framework based on simple assumptions that allows us to set hypotheses that can be tested using the data we have collected. Setting up the framework, it worth stressing that one of the main features of the World Heritage List is that such international regulation is not only based on a supply driven process dominated in heritage by experts' decisions, as generally recognized in turn to national heritage regulations and listing policies. Rather, the designation of World Heritage sites has also a strong demand-driven component, because of states'

behavior in proposing sites as well as for the role played by member states in the selection process.

Let assume country  $i$  owns a stock of heritage endowments and  $q_i$  denotes all the characteristics of heritage that are potentially observable by the evaluation bodies and used in the decision to include or reject a heritage site in the List. For expositional ease, we treat  $q$  as a one-dimensional variable. Heritage sites in the stock are distributed according to the variable  $q_i$ . Let  $\bar{q}$  be the threshold level defined by the ten criteria expressing the outstanding universal value (OUV) and the other requirements in the Operational Guidelines according to which a site is worth to be included in the List. Each state has to choose the level of nomination activity  $n_i$ , that is how many heritage sites to propose in the List. For simplicity, we assume that when a state proposes a site for inclusion it picks it from the stock without prior knowledge of its characteristics. Having a site inscribed in the List provides a payoff of  $B$ , which for simplicity is equal for all sites. On the contrary, if a proposed site is not inscribed the payoff is zero. Further, proposing sites to the List imposes a cost  $c(n_i)$  with  $c(0) = 0$ ,  $c' > 0$  and  $c'' > 0$ .

The utility function for a state  $i$  can be written as

$$U(n_i) = n_i p_i B - c(n_i) \quad (1)$$

where  $p_i = p(q_i > \bar{q}) = F(q_i - \bar{q})$  represent the probability that the characteristics of proposed sites satisfy the Operational Guidelines requirements. It is easy to see that  $p_i$  is decreasing in  $\bar{q}$ , meaning that the higher are the requirements for being selected the lower the probability that nominated sites are included in the List. A state chooses its optimal nomination activity  $n_i^*$  such that the expected benefits from nominating sites equal the cost of nomination

$$U'(n_i^*) = p_i B - c'(n_i^*) \quad (2)$$

The equation indicates that the lower the marginal cost the higher the nomination activity of the state and the higher the probability that heritage sites are accepted the higher the nomination activity by the state.

This simple theoretical framework allows us to draw interesting implications and hypotheses about states' behavior within the World Heritage system. First, the nomination activity by states is affected by the marginal cost of proposing sites, even if the stocks and characteristics of heritage are equal. If  $c'_i < c'_j$  then  $n_i^* > n_j^*$ . Arguably, differences in the cost of nomination depend on several conditions. For instance, richest countries may devote more resources to preserving heritage and preparing nominations or poorer countries may face a higher opportunity cost in assigning to sites heritage status. At the same time, the length and level of participation in the World Heritage system may lower the cost of nomination because the inherent learning process improves the ability of countries in dealing with the nomination procedures. These arguments lead to the following hypothesis:

*H1a Given an equal stock of heritage endowments and equal characteristics of heritage sites, richer countries have a greater nomination activity than poorer ones;*

*H1b The longer the membership of a country to the World Heritage Convention and the greater its participation to the World Heritage system the higher its nomination activity.*

Second, the present framework assumes that the quality threshold level  $\bar{q}$  is exogenously defined for states. However, as we noticed before, the evaluation of the quality of heritage may be influenced by both states and experts from advisory bodies. States may use their political power to lobby for inclusion of their own site. In particular, when states sit in the World Heritage Committee they may enjoy asymmetric information concerning selection procedures, which allow them to prepare higher quality nominations, or they may even bring pressure on other Committee members to relax the quality requirements  $\bar{q}$  for their heritage endowments. If  $p_i^C = p(q_i > \bar{q}_C)$  is the probability of having a site inscribed in the List when the state seats in the Committee and  $\bar{q}_C < \bar{q}$ , then the probability of having accepted sites in List will increase ( $p_i^C > p_i$ ) and consequently the optimal level of nomination activity ( $n_{iC}^* > n_i^*$ ). This leads to the following hypothesis:

*H2a Given an equal stock of heritage endowments and equal characteristics of heritage sites, countries represented in the World Heritage Committee have both a higher probability of having accepted sites in the List and a higher nomination activity.*

In a similar vein, advisory bodies may use their technical knowledge and expertise to set quality threshold level  $\bar{q}$  so to favor some countries' heritage endowments. At the same time, experts from national branches of the advisory bodies may lobby the international experts' community for a more positive evaluation on the quality  $q_i$  of a country heritage endowment. As a result, if  $p_i^{AB} = p(q_i^{AB} > \bar{q})$  is the probability of having a site inscribed in the List when a national branch of the advisory body is established and  $q_i^{AB} > q_i$ , then the probability of having accepted sites in List will increase ( $p_i^{AB} > p_i$ ).

However, as the role and activity of advisory bodies is separated by that of states in the World Heritage system, we expect that the increase in the probability is not perceived by countries in the nomination process, but only affects the selection phase. This leads to the following hypothesis:

*H2b Given an equal stock of heritage endowments and equal characteristics of heritage sites, States holding an advisory body national branch have a higher probability of having accepted sites in the List.*

#### 4 Econometric analysis

In this section, we test the hypotheses on the economic and political determinants affecting the nomination and selection process of World Heritage Sites. First, we test whether economic and institutional factors influence the nomination capacity of member states. Second, we use information on successes and failures of World Heritage nominations to detect potential differences among countries and biases in

the selection process. Finally, we analyze if economic and institutional factors affect the likelihood of countries being in the World Heritage Committee, which represents the final decision-making body for the inclusion of heritage sites in the List.

#### 4.1 Nomination process

To analyze the nomination capacity by countries, we combine information on the number of sites proposed each year by member states with information on their economic conditions and institutional factors within the World Heritage system ‘Data Appendix’. The first set of results uses an unbalanced panel data of 131 countries covering the period 1978–2008. One of the main challenges in estimating the determinants of nomination activity is to isolate the effect of the size and quality of heritage endowment within each country’s borders, which arguably may affect the capacity of states to nominate heritage sites in the List. Unlike the cross-country estimation, the panel data form allows us to indirectly take into account the heritage endowment of each country. Since this is difficult to measure and to model as an independent variable, we typify its effect by considering it an unobserved variable differing between-country but constant within-country. As a result, we use as a main approach fixed effects estimations so that the effects of the regressors are considered keeping constant cultural and natural endowments. We estimate:

$$y_{it} = X_{it}\beta + \gamma C_{it} + \delta \text{Member}_{it} + \lambda \text{Member}_{it}^2 + \theta \text{Member}_{i,t-1} + \alpha_i + \varepsilon_{it} \quad (3)$$

where  $y_{it}$  is the number of sites proposed by state  $i$  at time  $t$ .  $C_{it}$  is the dummy variable of country  $i$  being in the World Heritage Committee at time  $t$ .  $X_{it}$  is a set of time-varying controls at the country level, namely the GDP per capita and Population at time  $t$ . These variable address the economic power of countries.  $\text{Member}_{it}$  indicate the number of years a country has been member of the World Heritage Convention and we use a quadratic relation in order to detect either decreasing marginal effects or increasing ones caused by the non linearity of learning process expressed by this covariate. Further,  $\text{WH}_{i,t-1}$  is a set of additional variables which measures at time  $t - 1$  other dimensions of the activity of a country in the World Heritage system and may affect the nomination capacity at time  $t$ . We choose, respectively, the number of sites inscribed in the previous year ( $\text{SitesInscr}_{i,t-1}$ ) and the total number of sites inscribed by state  $i$  ( $\text{WH Sites}_{i,t-1}$ ).

Because the dependent variable only takes natural numbers, we use as appropriate technique count data models, namely the negative binomial regression, which additionally copes with overdispersion of data<sup>1</sup>.

Table 1 presents this first set of results. Considering Total Nominations by countries as dependent variable (Eq. 1–5), both the coefficients of GDP per capita and Population are positive and highly significant, confirming Hypothesis H1a. The size of the coefficients can be interpreted by exponentiating the estimated

<sup>1</sup> As for count data models, we tested also Poisson regression. However, a comparison of the residuals, suggests a variance greater than the expected value, which the Poisson model is not able to take into account.

coefficient to get the so-called incidence rate ratio (IRR), that is, the factor change in the expected count of Sites nominated for a unit increase in the independent variable. In estimate (1), GDP per capita has, for instance, an  $IRR = e^{0.057} = 1.0586$ , which means that an increase of 1.000 USD in GDP per capita (i.e., one unit in our scale) leads to a relative increase of the expected number of Sites nominated of  $IRR - 1 = 5.86$  percent. As a result, countries with a greater economic size could have greater nomination capacity. At the same time, the resources available for the preservation and promotion of heritage could be larger.

More interestingly, being in the World Heritage Committee greatly affects the nomination activity of a country. The coefficients for this variable are highly significant and vary between 0.292 (Eq. 1) and 0.519 (Eq. 5). This means that being in the World Heritage Commission increases the nomination activity by a range from 33.9 to 68 percent. By contrast, the results for the length of membership to the World Heritage Convention are more ambiguous. The coefficients show a negative effect that seems to reject hypothesis H1b. However, the estimates for this covariate are in many cases not significant, providing no clear evidence for learning processes through this channel.

If we consider the number of sites inscribed up to the previous year by a country ( $WHsites_{it-1}$ ), we find that this variable is negatively related to the number of sites nominated in a given year. As one could expect, the stock of heritage endowment owned by a state is finite and the more Sites have already been included in the List, the less the nomination capacity of a country. Conversely, controlling for the number of sites successfully inscribed in the previous year ( $SitesInscr_{it-1}$ ), the coefficient is positive and highly significant. This means that the nomination activity of a state increases if other sites of its heritage were already accepted in the previous year. This counterintuitive result may be explained by considering that position in the World Heritage Committee lasts 4 years. For instance, a deeper inspection of data shows that states tend to cluster successful nominations in their terms within the Committee.

Finally, we test also the interaction between Committee and the level of GDP per capita in order to detect divergent effects of income level within and outside the governing body. As shown in Eqs. 4 and 5, the coefficients for the interaction term is negative (ranging from  $-0.016$  to  $-0.014$ ) while the coefficient for Committee increases (0.519). This result clearly indicates that being in the Committee has a far greater importance for nominating sites. While income level is still important for states outside of the World Heritage Committee, differences in income level are leveraged out for countries in the Committee.

The main results discussed for the total number of nominations hold even taking into account the nomination of cultural and natural properties separately (from Eq. 6 to 9), except for the effect of Population, which is no longer significant. In the same vein, the effect of being in the World Heritage Committee and the number of sites inscribed in the previous year on the nominations of Natural sites are still positive but less or completely not significant as compared with the previous settings.

In a last step, we use random effects specification with county-specific and time-invariant variables, namely the size of the country and its respective stock of cultural and natural heritage endowments. This estimation is useful to test the

**Table 1** Panel estimation on the determinants of World Heritage nomination activity by states

Dependent variable	(1) Total Nominations, FE	(2)	(3)	(4)	(5)	(6) Cultural, FE	(7)
GDP per capita (1.000 USD)	0.057*** (0.011)	0.046*** (0.012)	0.037*** (0.011)	0.040*** (0.011)	0.054*** (0.013)	0.044*** (0.015)	0.052*** (0.015)
Population (1 million)	0.008** (0.004)	0.012** (0.005)	0.007* (0.004)	0.007*** (0.004)	0.010** (0.004)	0.005 (0.005)	0.004 (0.005)
Memberyear	-0.03* (0.017)	-0.023 (0.018)	-0.029* (0.018)	-0.029* (0.017)	-0.018 (0.018)	-0.029 (0.020)	-0.027 (0.020)
Memberyear sq.	-0.0003 (0.0006)	0.0002 (0.0006)	0.0003 (0.0006)	0.0002 (0.0006)	0.0002 (0.0006)	0.0009 (0.0006)	0.0008 (0.0006)
Committee	0.292*** (0.100)	0.295*** (0.100)	0.262*** (0.100)	0.519*** (0.166)	0.519*** (0.167)	0.240** (0.112)	0.604*** (0.194)
WH Sites lagged		-0.015* (-0.158)			-0.023** (0.010)	-0.024** (0.011)	-0.031*** (0.011)
Sites inscribed lagged			0.120*** (0.034)		0.133*** (0.034)	0.130*** (0.041)	0.132*** (0.042)
Committee x GDP per capita				-0.014* (0.008)	-0.016* (0.008)		-0.022** (0.009)
Size (1 million sq. Km)							
CultEndow							
NatEndow							
Constant	-0.0527** (0.0225)	-0.601*** (0.230)	-0.591*** (0.224)	-0.563** (0.228)	-0.747*** (0.232)	-0.421 (0.296)	-0.488 (0.302)
Observations	3129	3129	3129	3129	3129	2671	2671
Log likelihood	-1673.40	-1672.07	-1668.21	-1671.97	-1664.12	-1300.69	-1298.08
Dependent variable	(8) Natural, FE	(9)	(10) Cultural, RE	(11)	(12) Natural, RE	(13)	
GDP per capita (1.000 USD)	0.113*** (0.026)	0.118*** (0.026)	0.035*** (0.007)	0.039*** (0.007)	0.021*** (0.008)	0.025*** (0.008)	
Population (1 million)	0.006 (0.007)	0.005 (0.007)	0.004 (0.004)	0.003 (0.004)	0.001 (0.004)	0.0005 (0.005)	
Memberyear	0.006 (0.034)	0.006 (0.034)	-0.028 (0.020)	-0.026 (0.020)	-0.019 (0.031)	-0.020 (0.032)	
Memberyear sq.	0.00007 (0.001)	0.00009 (0.001)	0.0004 (0.0006)	0.0004 (0.0006)	0.0007 (0.001)	0.0008 (0.001)	
Committee	0.283 (0.185)	0.541* (0.283)	0.225** (0.107)	0.501*** (0.179)	0.421** (0.170)	0.613** (0.253)	
WH Sites lagged	-0.323*** (0.071)	-0.326*** (0.071)	-0.006 (0.010)	-0.008 (0.010)	-0.109* (0.052)	-0.105** (0.052)	
Sites inscribed lagged	0.172 (0.194)	0.169 (0.194)	0.142*** (0.038)	0.145*** (0.038)	0.262 (0.173)	0.260 (0.173)	

**Table 1** continued

Dependent variable	(8) Natural, FE	(9)	(10) Cultural, RE	(11)	(12) Natural, RE	(13)
Committee x GDP per capita		−0.018 (0.015)		−0.017* (0.009)		−0.014 (0.014)
Size (1 million sq. Km)			0.041 (0.030)	0.043 (0.030)	0.010*** (0.039)	0.010*** (0.039)
CultEndow			0.245*** (0.041)	0.245*** (0.042)		
NatEndow					0.189*** (0.069)	0.190*** (0.069)
Constant	−1.431*** (0.402)	−1.453*** (0.409)	−1.386*** (0.231)	−1.430*** (0.234)	−1.855*** (0.351)	−1.881*** (0.353)
Observations	2086	2086	3380	3380	3380	3380
Log likelihood	−602.84	−602.14	−1666.47	−1164.66	−858.80	−858.29

Standard errors in parentheses: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Panel data refer to countries of the World Heritage Convention for the period 1978–2008. Source: <http://whc.unesco.org/en/list>, accessed on 30.8.2010. GDP per capita is expressed in PPP at 2005 constant prices. Source: World Bank Development Indicators. When using samples on cultural and natural sites the variables WH Sites and Sites inscribed refer to the respective subsets

robustness of the proposed fixed effects specification as a suitable method for capturing constant differences in heritage endowments across countries. To measure the cultural heritage endowment of a country, we use the chronological-regional framework developed by ICOMOS (ICOMOS 2004) to identify the most relevant civilizations according to regions and historic timeline. The variable CultEndow reflects the number of historical cultures a country has been a part of. In turn, to measure the natural heritage endowment of a country, we adopt the WWF Global 200 classification system, which identifies worldwide a set of ecoregions with exceptional levels of biodiversity and worth for conservation<sup>2</sup>. Also in this case, the variable NatEndow reflects the number of ecoregions a country is part of. As shown in Eqs. 10–13, the coefficients of both CultEndow and NatEndow have a significant and positive effect, suggesting that the features of the heritage endowment of a country positively influence the nomination activity. As one could expect, the size of a country is also positively and significantly correlated to nomination activity, but only for natural heritage sites. As in the previous regressions, the political and economic determinants are still relevant as the capacity to nominate either cultural or natural properties by a country are affected by its income level and by being part of the World Heritage Committee.

#### 4.2 Selection process

After having explored the nomination activity, we turn on the selection process and the probability for proposed heritage sites of being successfully inscribed. For this

<sup>2</sup> Although such classification system has not been developed by IUCN, it is used together with others to identify Natural World Heritage sites. See (IUCN 2004)

second set of results, we use a specific dataset that combines information on all the individual nominations made by countries for the period 1978–2009, the success or failure of the proposed sites as to being inserted in the List and other information on the economic and institutional conditions of the proponent country. This part of the analysis is useful to detect what factors influence the selection process. Given our theoretical framework, when proposing heritage sites, states do not exactly know the probability of having their properties accepted in the List. However, political economic and institutional conditions may affect the likelihood of having a site inscribed. In this case, we estimate:

$$y_{jit} = X_{it}\beta + \gamma C_{it} + \delta \text{Member}_{it} + \lambda \text{Member}_{it}^2 + \theta \text{NewSites}_t + \mu \text{SitesNom}_{it} + \varepsilon_{it} \quad (4)$$

where  $y_{jit}$  is a dichotomic variable expressing whether site  $j$  proposed by country  $i$  at time  $t$  has been successfully inscribed or not in the List. In addition to  $X_{it}$ ,  $C_{it}$  and  $\text{Member}_{it}$ , which are specified as in Eq. 3, we consider four other control variables. First,  $\text{NewSites}_t$  denotes the total number of heritage sites included in the World Heritage List at year  $t$ . Second,  $\text{SitesNom}_{it}$  is the total number of sites nominated by country  $i$  at time  $t$ . As the number of new sites added each year to the List is not fixed, we expect that the greater the total number of sites accepted in the List in a given year, the higher the relative probability for site  $j$  to be inscribed. At the same time, the number of sites proposed each year by country  $i$  may negatively affect the likelihood of having its sites inscribed. Although for the sake of simplicity we have not considered in the theoretical framework a potential negative relation between  $n_i$  and  $p_i$ , it is quite easy to introduce it maintaining the main hypotheses we are testing in the empirical part<sup>3</sup>. Indeed, as the nomination and selection process is based on a lobbying activity, proposing too many sites for inclusion in the same period risks to be a not credible or acceptable strategy for the other constituents. In order to understand whether the features of heritage affect the decisions to select sites, we include as before the variables  $\text{CultEndow}$  and  $\text{NatEndow}$ . Because it is more difficult to have a comparable measure of the quality of individual heritage nominations (and especially for those rejected there is less documentation), these variables are intended as proxies of the average quality of nominated heritage sites per country. Finally, to shed some lights on the role of experts from advisory bodies, we use the variables  $\text{ICOMOS}$  and  $\text{IUCN}$ , which account for the presence of a national branch of the advisory body in country  $i$  at year  $t$ . As a general policy of the advisory bodies, national experts do not have a direct involvement in the evaluation of sites in their countries. However, we expect that the presence of an experts' community in a country may have a positive influence in the technical evaluation by the concerned advisory body and in the final decision for inclusion of the site in the List.

Table 2 presents the estimated marginal effects of the Probit model for the full sample and then for cultural and natural nominations. As shown in regression 14, it is more difficult to ascertain the impact of a country's economic power on the

<sup>3</sup> For instance, if  $p_i = p(q_i, \bar{q}, n_i)$  and  $\frac{\partial p_i}{\partial n_i} < 0$ , it is easy to show that the optimal level of nomination activity  $n_i^*$  decreases.



**Table 2** Probit estimation on the probability of having a site accepted in the World Heritage List

Dependent variable: site inscribed = 1, site not inscribed = 0

	(14) Total	(15) Cultural	(16) Natural	(17) Cultural	(18) Natural	(19) Cultural	(20) Natural	(21) Cultural 1978–93	(22) Cultural 1994–09	(23) Natural 1978–93	(24) Natural 1994–09
GDP percapita (1,000 USD)	5.48e-06*** (0.000)	3.42e-06** (0.000)	5.73e-06* (0.000)	9.41e-07 (0.000)	5.99e-06 (0.000)	2.55e-06 (0.000)	5.11e-06 (0.000)	-5.81e-06 (0.000)	3.30e-06 (0.000)	4.72e-06 (0.001)	6.86e-06 (0.000)
Population (1 million)	0.001*** (0.0006)	0.001* (0.0006)	0.002* (0.001)	0.0008*** (0.0007)	0.002* (0.001)	0.0009 (0.0007)	0.0008 (0.001)	0.001 (0.001)	0.0007 (0.0008)	0.001 (0.0176)	0.019** (0.008)
Memberyear	-0.026** (0.006)	-0.0210*** (0.007)	-0.016 (0.014)	-0.0207*** (0.007)	-0.016 (0.014)	-0.021*** (0.006)	-0.023 (0.014)	-0.061*** (0.019)	-0.011 (0.010)	-0.039 (0.020)	0.001 (0.028)
Memberyear sq.	0.0006*** (0.0002)	0.0006*** (0.0002)	0.0001 (0.0004)	0.0005*** (0.00023)	0.0001 (0.0004)	0.0005*** (0.0002)	0.0003 (0.0005)	0.002* (0.001)	0.0002 (0.0003)	0.0002 (0.0009)	-0.0004 (0.0008)
Committee	0.143*** (0.027)	0.1415*** (0.030)	0.096 (0.067)	0.135*** (0.0303)	0.096 (0.067)	0.121*** (0.032)	0.087 (0.067)	0.150*** (0.049)	0.124*** (0.040)	0.089 (0.107)	0.110 (0.100)
New sites	0.008*** (0.001)	0.0107*** (0.001)	0.049*** (0.013)	0.011*** (0.001)	0.049*** (0.013)	0.011*** (0.001)	0.045*** (0.013)	0.012*** (0.003)	0.007*** (0.001)	0.042 (0.025)	0.047*** (0.017)
Sites nominated	-0.035*** (0.008)	-0.030*** (0.009)	-0.081*** (0.029)	-0.030*** (0.009)	-0.0820*** (0.029)	-0.035*** (0.009)	-0.101*** (0.031)	-0.053*** (0.01607)	-0.016*** (0.012)	-0.081 (0.062)	-0.117*** (0.039)
ICOMOS				0.099** (0.047)				0.194** (0.080)	0.053 (0.057)		
IUCN			-0.016 (0.084)							0.236* (0.131)	-0.092 (0.100)
CultEndow				0.016** (0.008)							
NatEndow					0.039** (0.017)						
Observations	1062	772	257	772	257	772	257	331	441	99	148

**Table 2** continued

		Dependent variable: site inscribed = 1, site not inscribed = 0											
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)		
	Total	Cultural	Natural	Cultural	Natural	Cultural	Natural	Cultural	Cultural	Natural	Natural	Cultural	Natural
Log likelihood	-576.81	-384.33	-155.22	-381.92	-155.01	-382.32	-152.62	-173.84	-200.05	-58.09	-85.65		
Pseudo R2	0.075	0.083	0.100	0.089	0.102	0.088	0.115	0.115	0.086	0.0780	0.151		

Standard errors in parentheses: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Data refer to heritage sites and countries of the World Heritage Convention for the period 1978–2008. Source: <http://whc.unesco.org/en/list>, accessed on 30.8.2010. GDP per capita is expressed in PPP at 2005 constant prices. Source: World Bank Development Indicators. When using samples on cultural and natural sites, the variables WNew Sites and Sites Nominated refer to the respective subsets

likelihood of having a heritage site inscribed, as the coefficient of GDP per capita is now not significant and the marginal effect of Population has a significant but moderately positive effect. Conversely, the coefficients of Committee are positive and highly significant, confirming hypotheses H2, that is being in the Committee increases the probability of having sites inscribed in the List by 14 percent (Eq. 14). Further, the length of membership in the World Heritage Convention has a negative effect, meaning that the longer a country stays in the World Heritage System, the lower the probability of having a site included in the List. Such an unexpected result may be explained only considering that the majority of members states tend to submit more heritage sites that are worth of inclusion in the first years of membership in the World Heritage Convention. With regard to *NewSites* and *SitesNominated*, as expected, the coefficients are significant and have respectively a positive and negative value.

More interesting results can be found comparing the determinants affecting the selection of cultural and natural sites. Being in the Committee positively and significantly affect the probability of having cultural sites inscribed by about 14 percent (Eqs. 15, 17, 19), but not the selection of natural sites. Further, while the quality of heritage endowment (*CultEndow* and *NatEndow*) increases the likelihood of having respectively cultural and natural sites inscribed (Eqs. 19, 20), only for the selection of cultural sites the variable ICOMOS has a positive and significant marginal effect (9 %, Eq. 17). This result confirms hypothesis H2b with regard to cultural heritage and adds insight into rent-seeking behavior by experts, mainly because of the acknowledged ambiguities in the definition of cultural heritage of world status.

In the last set of regressions (Eqs. 21–24), we test the alleged politicization of the selection process. We divide the sample in two periods (1978–1993 and 1994–2009), as in the latter diverging positions in the final decisions of the World Heritage Committee and the recommendations of the Advisory Bodies have been reported (Jokilehto 2011). As for cultural sites, it is interesting to notice that in the first period the variable presence of the ICOMOS national branch in a country has a significant and greater effect (19 %) than that of having a seat in the World Heritage Committee (15 %). However, since 1994 to present, the variable ICOMOS is not significant but the effect of being in the World Heritage governing body remains significantly stable (12 %). We suggest to interpret such result as a potential evidence of the increased political pressure in the selection process for cultural sites exerted by delegations of states in the World Heritage Committee. Conversely, the regressions for the sample of natural sites do not provide significant evidence of such politicization trend.

#### 4.3 Determinants of being in the World Heritage Committee

So far, we have tested the hypotheses on the economic and political determinants affecting the World Heritage nomination and selection process. One of the most clear results is that being in the World Heritage Committee does affect both the nomination activity of states and the probability of having sites included in the List. This result, however, does not lead to argue about the existence of potential biases

in the nomination and selection process. Rather, it shows a common pattern by states taking advantage of their political power within the World Heritage system. Because the World Heritage Committee undertakes each year the final decision for the inclusion of heritage sites in the List, potential discrimination in the nomination and selection process may only come out if the participation in the World Heritage Committee is biased.

For this reason, we test whether economic or political conditions characterizing the participation of countries in the World Heritage system have an impact in the likelihood of sitting on this body. For the likelihood of being in the World Heritage Committee, we estimate the following equation:

$$y_{it} = X_{it}\beta + \delta\text{Member} + \lambda\text{Member}_{it}^2 + \phi\text{WH Sites}_{i,t-1} + \gamma\text{States}_t + \mu\text{ComT}_{i,t-1} + \theta\text{UN}_{i,t-1} + \varepsilon_{it} \quad (5)$$

where  $y_{it}$  is the dummy variable of country  $i$  being in the World Heritage Committee at time  $t$ , while  $X_{it}$ ,  $\text{Member}_{it}$  and  $\text{WH Sites}_{it}$  are defined as in the other equations. In addition, we consider another set of variables. First,  $\text{States}$  represent the number of members belonging to the World Heritage Convention at time  $t$ . We expect that as the number of states participating in the World Heritage system increases, the probability of being in the Committee declines. Second,  $\text{ComT}$  expresses the number of years elapsed since the last time a state was elected in the Committee (or from its ratification to the Convention if it has never been elected before). This variable tries to capture the turn-over in the World Heritage governing body.

Finally, to detect potential political clout at international level affecting membership in the World Heritage Committee, we use the variable  $\text{UN}$ , which indicates whether the country has been in the UN Security Council at time  $t - 1$ . Additionally, we test also the cumulative numbers of years a state has been in the UN Security Council since it became a member of the World Heritage Convention ( $\text{UNYEAR}$ ). In this case, there is no clear evidence on the expected effects, mainly because of differences in the variables considered by previous researches. For instance, Arezki et al. (2009) do not find any correlation between World Heritage designations and voting coincidence of states with the G7 countries at the UN Security Council. By contrast, Frey et al. (2011) found that in cross-section regressions the number of years spent as member of the UN Security Council leads to a higher probability of having a larger number of Sites in the List. However, with Panel estimations, their results are more ambiguous as only being a rotating member in a given year significantly increases the number of sites inscribed.

Table 3 presents the results of panel Logit regressions with both Conditional Fixed Effects and Random Effects. The former specification allows to take into account constant specific country effects, but restricts the sample to countries which have been at least once in the Committee. The latter does not capture country fixed effects, but it allows us to consider the whole sample of observations of the member states<sup>4</sup>.

<sup>4</sup> For a discussion of the pros and cons using different binary choice models in panel data see Greene (2003), Chap. 21.

**Table 3** Fixed effect panel probit estimation on the probability of being member of the World Heritage Committee

	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
	Logit, FE (Conditional)	Logit, RE	Logit, FE (Conditional)	Logit, RE	Logit, FE (Conditional)	Logit, RE	Logit, FE (Conditional)	Logit, RE	Logit, FE (Conditional)	Logit, RE
GDP percapita (1,000 USD)	0.087*** (0.032)	0.050*** (0.015)			0.117*** (0.034)	0.071*** (0.012)	0.117*** (0.034)	0.069*** (0.012)	0.114*** (0.034)	0.067*** (0.011)
Population (1 million)			0.066*** (0.024)	0.022*** (0.004)	0.095*** (0.028)	0.033*** (0.004)	0.095*** (0.028)	0.032*** (0.004)	0.093*** (0.029)	0.031*** (0.005)
Memberyear	0.360*** (0.100)	0.209*** (0.062)	0.385*** (0.085)	0.134*** (0.034)	0.377*** (0.100)	0.190*** (0.042)	0.376*** (0.100)	0.189*** (0.042)	0.377*** (0.100)	0.194*** (0.042)
Memberyear sq.	-0.006*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.003*** (0.0008)	-0.007*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.005*** (0.001)
WH sites lagged	-0.021 (0.017)	-0.004 (0.015)	-0.015 (0.015)	0.006 (0.013)	-0.043** (0.018)	-0.012 (0.013)	-0.043** (0.018)	-0.014 (0.013)	-0.045** (0.019)	-0.018 (0.015)
States	-0.041*** (0.015)	-0.016* (0.009)	-0.050*** (0.012)	-0.010** (0.004)	-0.044*** (0.015)	-0.013** (0.005)	-0.044*** (0.015)	-0.013** (0.005)	-0.045*** (0.015)	-0.013*** (0.005)
ComT lagged	-0.076*** (0.012)	-0.125*** (0.017)	-0.078*** (0.011)	-0.127*** (0.012)	-0.074*** (0.012)	-0.127*** (0.013)	-0.074*** (0.012)	-0.128*** (0.013)	-0.074*** (0.012)	-0.127*** (0.013)
UNLAG							0.014 (0.202)	0.146 (0.186)		
UNYEAR									0.012 (0.032)	0.020 (0.020)
Constant		-1.049*** (0.651)		-0.881*** (0.277)		-1.510*** (0.389)		-1.527*** (0.385)		-1.453*** (0.388)
Observations	1587	3380	1587	3380	1587	3380	1587	3380	1587	3380
Log likelihood	-746.14	-1018.46	-917.02	-1231.96	-740.37	-1010.87	-740.37	-1010.57	-740.30	-1010.49

Standard errors in parentheses: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Panel data refer to countries of the World Heritage Convention for the period 1978–2008. Source <http://whc.unesco.org/en/list>, accessed on 30.8.2010. GDP per capita is expressed in PPP at 2005 constant prices. Source World Bank Development Indicators

The results suggest that the probability of sitting in the World Heritage Committee is strongly affected by economic and political factors within the World Heritage system. Both the coefficients of GDP per capita and Population are positive and highly significant, indicating that countries with greater economic resources and power have a higher probability to be elected in the World Heritage governing body. While the length of membership in the World Heritage Convention seemed to not lead to a significant impact in the nomination activity or even to a negative effect in the sites' selection process, now it has a clear-cut positive but decreasing marginal effect in the likelihood of being in the Committee. Conversely, the number of World Heritage Sites owned by a country ( $WH\ Sites_{i,t-1}$ ) has a negative coefficient, that is, nevertheless significant only with the conditional fixed effects model. Further, the variables States and ComT add insights on the political competition among countries to enter in the World Heritage Committee. As expected, the higher the number of member states, the tougher the competition and the lower the probability to have a seat in the governing body. However, the negative and significant coefficient of ComT implies that the level of turn-over among states in the Committee is low. As the value of the coefficients for this latter variable is always greater than the value of the coefficients of the former, this second effect is likely to be predominant, hindering turn-over and political competition among countries. Finally, both the covariates referring to states' involvement in the UN Security Council are not significant, leading to absence of evidence for international political clout affecting membership in the World Heritage Committee.

## 5 Conclusion

The article has analyzed the influence of economic and political conditions on the inscription of heritage sites in the World Heritage List. Using panel data on countries' activity within the World Heritage System and a unique dataset on individual sites that have been or failed to be included in the List, we have focused on both the nomination activity and on potential biases in the selection process of proposed sites. Our results suggest that there exist some crucial factors within the World Heritage system which affect the decision-making process in world heritage sites inscription. First, having a seat in the World Heritage Committee has a strong and significant impact in both the nomination activity by states and in the likelihood of having a site inscribed. In turn, participation in the Committee is strongly influenced by the economic and political power countries have at the international level as well as by the level of their involvement in the World Heritage Convention, expressed by years of membership. Second, economic power is relevant for the capacity of countries to propose heritage sites in the List, but not for the probability of having sites inscribed. Third, our results confirm that the more ambiguous definition of world heritage concerning cultural sites leaves room to more rent-seeking behavior by both experts and states in the selection of World Heritage sites,

As the article represents one of the first attempts to address under a political economy perspective the World Heritage system, much more theoretical and

empirical work is needed. Our theoretical framework and empirical strategy are mainly based on data at the country level, providing a macro explanation for the main patterns of the World Heritage decision-making process. However, there is reason to believe that the study of such phenomenon characterized by diplomacy and political factors within the international arena requires more detailed work using micro data on delegations and systematizing information from the documents sessions. This is particularly evident for investigating the role of experts in shaping World Heritage decisions and to better understand the role of states in the World Heritage Committee.

Moreover, as our analysis refers to the whole period of activity of the World Heritage Convention, the political and economic factors, we have highlighted may have affected the nomination and selection process with different magnitude since they come into force of the Convention. For this reason, a better investigation on different periods of the Convention should be carried out as the set of incentives and the preferences by the actors involved may have changed over time. Crucially, from 2003 onwards, after the Global Strategy for a Balanced, Representative and Credible World Heritage List, member states have agreed on a set of measures which limits both the nomination capacity of states and the number of examined proposals. While there are still few data available to provide a clear evidence on the effects of these measures, our analysis suggests that more attention should be given to the influence of states in the World Heritage Committee and to the rules which regulate the turn-over within this governing body.

**Acknowledgments** We would like to thank Walter Santagata, Leonardo Pejsachowicz, Giovanni Mastrobuoni, Jukka Jokilehto, Ana Paula Amendoiira and two anonymous referees for their useful comments.

## Data Appendix

Data referring to countries activity in the World Heritage Convention for the period 1978–2009 have been collected from the World Heritage Center Database (Source: <http://whc.unesco.org/en/list>, accessed on 30.8.2010). These include information on the sites nominated and inscribed, the type of property, the length of membership of a country in the World Heritage Convention and its participation to the World Heritage Committee.

Data on country GDP per capita expressed in PPP at 2005 constant prices, population and size have been collected from the World Bank Development Indicators Database.

To measure cultural and natural heritage endowment of each country, we have used two different sets of information. For the cultural heritage endowment, we have used the chronological-regional framework developed by ICOMOS (ICOMOS 2004) to identify the most relevant civilizations according to regions and historic timeline. The variable CultEndow reflects the number of historical cultures a country has been a part of. From ICOMOS chronological-regional framework, we have excluded only two periods which are mostly related to all regions, that is Early Evolution of Man (I) and the Modern World (IX). For the natural heritage

**Table 4** Summary statistics

Variable	Panel dataset				Dataset on individual nominations			
	Mean	SD	Min	Max	Mean	SD	Min	Max
GDP percapita (1,000 USD)	8.704	10.359	0,136	95.434	13.554	10.512	0.335	47.604
Population (1 million)	2.977	11.315	0.0013	132.685	10.713	25.402	0.0029	132.685
Committee	0.11	0.317	0	1	0.37	0.482	0	1
CultEndow	1.95	1.914	0	11	3.46	2.295	0	11
NatEndow	1.43	1.541	0	7	2.24	2.146	0	7
ICOMOS	0.28	0.449	0	1	0.68	0.465	0	1
IUCN	0.12	0.325	0	1	0.23	0.442	0	1
Sites nominated per year	0.22	0.735	0	11				
Sites inscribed/rejected					0.70	0.459	0	1

endowment of a country, we adopt the WWF Global 200 classification system (Source: <http://www.worldwildlife.org/science/ecoregions/global200.html>, accessed on 25.10.2011), which identifies worldwide a set of ecoregions with exceptional levels of biodiversity and worth for conservation. Also in this case, the variable NatEndow reflects the number of ecoregions a country is part of.

Data on national branches of ICOMOS and IUCN have been collected from the two Advisory Bodies websites. Using the year of establishment of a national branch we were able to construct time-varying dummy variables specific for each country.

In Table 4, we summarize the statistical properties of the main variables we use in both the Panel Data and in the Dataset which combines information on the success or failure to be inscribed for all the individual nominations.

Finally, Table 5 shows the correlation matrix for the same variables in the panel dataset.

**Table 5** Correlation matrix

	Nominations per year	GDP per capita (1,000 USD)	Population (1 million)	Committee	CultEndow	NatEndow	ICOMOS	IUCN
Nominations per year	1							
GDP percapita (1,000 USD)	0.152**	1						
Population (1 million)	0.209**	-0.35**	1					
Committee	0.242**	0.152**	0.185**	1				
CultEndow	0.237**	0.162**	0.313**	0.290**	1			
NatEndow	0.163**	-0.66**	0.476**	0.239**	0.198**	1		
ICOMOS	0.271**	0.521**	0.202**	0.287**	0.413**	0.212**	1	
IUCN	0.104**	0.214**	0.067**	0.159**	0.118	0.170**	0.307**	1

\*\* Correlation significant at 0.01 level (2-ties); \* Correlation significant at 0.05 level (2-ties)



## References

- Arezki, R., Cherif, R., & Piotrowski, J. (2009). Tourism specialization and economic development: Evidence from the UNESCO World Heritage List. IMF Working Paper 09/176.
- Benhamou, F. (2011). Heritage. In R. Towse (Ed.), *A handbook of cultural economics*. Edward Elgar Publishing, pp. 229–235.
- Bertacchini, E., Saccone, D., & Santagata, W. (2011). Embracing diversity, correcting inequalities: Towards a new global governance for the UNESCO World Heritage. *International Journal of Cultural Policy*, 17(3), 278–288.
- Buchanan, J. (1965). An economic theory of clubs. *Economica*, 32(1), 1–14.
- Dreher, A., & Jensen, N. M. (2007). Independent actor or agent? An empirical analysis of the impact of US interests on international monetary fund conditions. *Journal of Law and Economics*, 50(1), 105–124.
- Dreher, A., Sturm, J.-E., & Vreeland, J.R. (2009). Development aid and international politics: Does membership on the UN Security Council influence World Bank decisions. *Journal of Development Economics*, 88(1), 1–18.
- Frey, B. S., & Oberholzer-Gee, F. (1998). Public choice, cost-benefit analysis, and the evaluation of cultural heritage. In: A. Peacock (Ed.), *Does the past have a future? The political economy of heritage* (pp. 27–53) London: Institute of Economic Affairs.
- Frey, B. S., Pamini, P., & Steiner, L. (2011). *Explaining the World Heritage list: An empirical study*. University of Zurich, Department of Economics, mimeo.
- Frey, B. S., & Steiner, L. (2011). World Heritage List: Does it make sense?. *International Journal of Cultural Policy*, 17(5), 555–573.
- Greene, W. H. (2003). *Econometric Analysis*. New Jersey: Pearson Education.
- ICOMOS. (2004). *Filling the gaps—an action plan for the future of the World Heritage List*. Paris: ICOMOS.
- IUCN. (2004). ‘The World Heritage List: Future priorities for a credible and complete list of natural and mixed sites’, *IUCN Analysis of the World Heritage List and Tentative Lists and follow-up action plan* WHC-04/28.COM/INF.13B.
- Johnson, P., & Barry, T. (1995). Heritage as a business. In D. T. Herbert (Ed.), *Heritage, tourism and society*. Mansell Publishing, New York, NY.
- Jokilehto, J. (2011). World Heritage: Observations on decisions related to cultural heritage. *Journal of Cultural Heritage Management and Sustainable Development*, 1(1), 61–74.
- Kaul, I., Grunberg, I., & Stern, M. (1999). *Global public goods: International cooperation in the 21st century*. Oxford: Oxford University Press.
- Mazza, I. (2003). Public choice. In R. Towse (Ed.), *A handbook of cultural economics*. Cheltenham: Edward Elgar, pp. 379–388.
- Musitelli, J. (2003). World Heritage, between universalism and globalization. *International journal of cultural property*, 11(2), 323–336.
- Peacock, A., & Rizzo, I. (2008). *The heritage game. Economics, politics, and practice*. Oxford University Press: Oxford.
- Pressouyre, L. (1996). *The World Heritage convention, twenty years later*. Paris: Unesco Publishing .
- Rakic, T. (2007). World heritage: Issues and debates. *Tourism*, 55(2), 209–219.
- Rao, K. (2010). A new paradigm for the identification, nomination and inscription of properties on the World Heritage List. *International Journal of Heritage Studies*, 16(3), 161–172.
- Rizzo, I., & Throsby, D. (2006). Cultural heritage: economic analysis and public policy. In V. Ginsburgh & D. Throsby (Eds.), *Handbook of the Economics of Art and Culture*. North Holland.
- Rizzo, I., & Towse, R. (2002). *The economics of heritage*. Cheltenham: Edward Elgar Publishing.
- Schmitt, T. M. (2009). Global cultural governance. Decision-making concerning world heritage between politics and science. *Erdkunde*, 63(2), 103–121.
- Strasser, P. (2002). Putting reform into action” —thirty years of the World Heritage convention: How to reform a convention without changing its regulations. *International Journal of Cultural Property*, 11, 215–266.
- Titchen, S. M. (1996). On the construction of outstanding universal value. Some comments on the implementation of the 1972 UNESCO World Heritage Convention. *Conservation and Management of Archaeological Sites*, 1, 235–242.

- UNESCO (2007). *World Heritage: Millenium challenges*. Paris: World Heritage Centre.
- Van der Aa, B. (2005). *Preserving the Heritage of humanity? Obtaining World Heritage status and the impacts of listing*. Amsterdam: Netherlands Organization for Scientific Research.