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HOW MUCH DIVERSE IS THE WORLD HERITAGE LIST?

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How Much Diverse Is The World Heritage List?

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Abstract

In 2005 UNESCO launched the Convention on the *Protection and Promotion of the Diversity of Cultural Expressions*. The aim of the Convention was to foster cultural diversity worldwide, having knowledge of the role of cultural diversity and cultural activities in promoting economic development. The World Heritage List can be considered a basic reference for the protection of cultural diversity as well. This requires that the properties in the List fairly represent the main expressions of the human activity, according to a harmonious development respectful of cultural diversity.

The aim of the paper is twofold. First, by using the Shannon-Weaver's index of diversity, we measure how much cultural diversity there has been in the World Heritage List since its beginning in 1978. In other words, we assess at which extent each culture is represented in the most important international system of cultural preservation and promotion. Second, we estimate the number of sites which guarantees the maximum level of cultural diversity and, then, we propose how to improve the World Heritage system by increasing the quality of the properties.

Results show that just after the first two years of activity, the cultural diversity attained a good level and kept this level high until now. Notwithstanding this general conclusion, we estimate that there is room for a further improvement in the diversity by increasing the number of sites filling the cultural categories not still represented. It will result in 371 additional sites.

Once attained the number of sites which guarantees the maximum of cultural diversity, the main policy left is to improve the World Heritage system by increasing the quality of the properties. The tool we select to launch this new strategy is a tournament model, according to which each property can be challenged by an external site belonging to the same cultural category. As a final result, there will be the substitution of lower-quality World Heritage properties with higher-quality properties. The model also takes into account risks related to political and lobby activities undermining the whole quality of the system and is used as a base to propose solutions.

JEL Codes: C02; F53; Z10.

Key Words: International Organizations; UNESCO; Cultural Diversity; Measures of Diversity; Tournament Model.

1. Introduction

The UNESCO *Convention Concerning the Protection of the World Cultural and Natural Heritage* is reaching 40 years in 2012. It will be an exciting anniversary because the Convention has achieved a worldwide success: ratified by almost all the nations of the UN system, its *World Heritage List* so far consists of 911 properties spread in all continents. Even in future it could be expected a growing attention by the national governments aiming to register on the List the long line of properties included into their *Tentative Lists*.

The main goal of the Convention has been “... *the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage...*” (art.4). A *World Heritage Centre* has been established for the operation of the Convention.

However, in the first 40 years of operation the Convention failed to address some main problems related to cultural heritage. Namely:

1. the *imbalance* among properties in terms of management, funding and, consequently, in the level of protection;
2. the attention to the *sustainable development* of properties;
3. the protection and support to the goal of *cultural diversity* among properties.

The first issue is still a real problem notwithstanding some tentative corrections, such as the launch of the *Periodic Reporting*, expected by the art. 29 of the Convention and operating since 2000. The main reason of the imbalance among properties is the lack of enforcement power by the World Heritage Centre headquarters. In fact, the only alerting measures are the *Delisting* and the *List of the Sites in Danger* (Bertacchini, Saccone and Santagata, 2010).

The second issue is now more sensible and has become a strategic goal of the UNESCO Culture Direction, mainly since the 2010 UNESCO Executive Board and the conference on “Culture and development: the role of culture for sustainable development and economic prosperity”, held in Paris 6-7 October 2010.

The third issue has been dealt with the Convention on the *Protection and Promotion of the Diversity of Cultural Expressions* approved by the UNESCO General Assembly in Paris on the 20 October 2005, aware of the role of cultural diversity and cultural activities in fostering economic development. The Convention on cultural diversity refers to the general UNESCO policy and not specifically to the World Heritage Centre activity. But at a closer view the system of properties could be considered a basic reference for the protection of cultural diversity as well. This requires that the properties in the List fairly represent the main expressions of the human activity, according to a harmonious development respectful of cultural diversity.

However some factors can reduce the acknowledgement of the cultural diversity within the World Heritage system (ICOMOS, 2005):

- i) the lack of legislation at the country level for the protection of monuments and sites, which is a prerequisite for inscription;
- ii) the lack of lists or inventory of cultural properties;
- iii) the lack in support of Tentative List;

iv) the lack of appropriate management systems.

Even if cultural diversity is a strategic goal, the measurement of it is very difficult and in some sense dependent on the methodology used (Benhamou and Peltier, 2007). In the present empirical investigation the Shannon Index has been used and its main traits will be discussed below.

Actually the aim of this paper is to measure the time evolution of cultural diversity expressed by the World Heritage List. While the List includes both cultural and natural properties, only the former will be considered. Two scenarios are possible. The first one considers the evolution of the List as oriented by political, institutional and geographic rules, which go beyond the issue of the cultural diversity and are not concerned with its achievement. The focus of this analysis is the econometric explanation of the disparity in the number of properties per countries (Bertacchini and Saccone, 2011a and 2011b). The second scenario can prospect an increase in cultural diversity through an appropriate representation of the properties. In this case the focus of the analysis is on the qualitative evolution of the sites and the prevailing presence of a nucleus of dominant cultures. Unfortunately, as will be shown, this is the case conducive to a decline in the cultural diversity of UNESCO properties.

The paper is organized as follows. Paragraph 2 aims to define cultural diversity in theory and practice. Paragraph 3 describes data and methodology on which our work is based. Paragraph 4 presents the main results of our empirical analysis. In the light of empirical results, in paragraph 5 we draw some policy suggestions. Conclusions are presented in the last paragraph.

2. Defining cultural diversity

In 2005 UNESCO General Conference declared the importance of preserving cultural diversity in the *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*. However, the concept of cultural diversity is still far from to have a clear and unambiguous definition. If at a first look this concept seems to be understandable by all people, problems arise when we try to trace a clear-cut definition and, above all, to measure cultural diversity. The aim of this paragraph is to describe how this concept originated and imposed its relevance in the UNESCO principles. Moreover, recent efforts of defining and measuring this concept will be presented.

Lévy-Strauss and the original principles inspiring UNESCO proposals

Although Claude Lévi-Strauss and UNESCO collaborated in various circumstances, it is worth mentioning at least two important situations in which the thought of the anthropologist enriched the UNESCO principles with regard to the importance of preserving cultural diversity. In 1952, as a reaction to Nazism racist crimes, UNESCO published a series of short dissertations to address the problem of racial prejudice and, among them, Claude Lévi-Strauss's essay "Race and History". Moreover, in 1971, called upon by UNESCO, he gave the lecture "Race et culture" to open the International Year of Struggle Against Racism (Stoczkowski, 2008); in 2005 the concepts expressed in this speech were reaffirmed on the occasion of the sixtieth anniversary of the Organization.

In his speeches Lévi-Strauss coped with the concept of diversity among cultures, affirming that “on an vient à se demander si les sociétés humaines ne se définissent pas, in égard à leurs relations mutuelles, par un certain optimum de diversité au-delà duquel elles ne sauraient aller, mais en dessous duquel elles ne peuvent, non plus, descendre sans danger”. In particular, he showed that there are no criteria on the basis of which a culture can be judged superior to another one. For this reason, we have to preserve all the cultures and, then, the cultural diversity, without exception.

We base our analysis on this view, considering each human expression worth being preserved and equally represented. In other words, we start from the assumption that every time a culture is underrepresented in the World Heritage list it is not due to its minor cultural value but to other exogenous factors or to the quality of each sites (Bertacchini and Saccone, 2011a). The definition of diversity (or heterogeneity) itself refers to the quality of being diverse and not comparable in kind; not comparable, hence neither better or worse. Of course, the World Heritage Convention established six criteria according to which a cultural site should be included on the List, first of all to be of outstanding universal value. None of them, however, favoured a culture rather than another. Sites of all cultures have then the possibilities to be represented on the World Heritage list, provided that they are a masterpiece of creative genius.

Cultural diversity in practice

Moving from theory to practice, a series of efforts have been done to concretely define and measure cultural diversity in many fields, ranging from biology to economics (see Benhamou and Peltier 2007 for a review). First of all, it has been recognized that a systematic definition is needed to measure cultural diversity and its evolution (Ranaivoson, 2007). In his essay *On the Economics and Analysis of Diversity*, Stirling (1998) adopts the definition of diversity as the nature or degree of apportionment of a quantity to a set of well defined categories. The first problem is then to understand which and how many categories have to be considered. The number of categories into which the quantity in question can be divided is defined *variety*. The higher the variety of a system, the higher the level of diversity. A second problem relates to the degree of appointment for each category. Should each category be equally represented or should some species be more represented? This problem has been addressed also by the literature about income distribution and is partially related to the concept of inequality. Stirling defines this dimension as *balance*. Provided that each category is worth being equally represented, the more equal are the shares, the higher is the diversity. Third, in order to define the concept of diversity we should have clear “the nature and degree to which the categories themselves are different from each other... for two systems of identical variety and balance, the system which is seen to include the more disparate options will be regarded as the more diverse.” (Stirling, 1998, p. 40). This third dimension is called *disparity* and refers to the dissimilarities between the analyzed types. The higher is the difference between every pair of types, the higher is the diversity. Once categories are defined and the shares of types by category are known, it is quite simple to quantitatively measure variety and balance. Problems arise when we deal with the concept of disparity. Stirling recognizes by his own that it is difficult –in some cases impossible– to practically characterize disparity without recursing to a formal taxonomy or classificatory schemes.

Given this difficulty, especially when the subject is culture, we define a system promoting cultural diversity as a system in which the number of represented cultures is as higher as possible (*variety*) and each culture is equally represented (*balance*). Moreover, we stress also the importance of the concept of *entropy* and order in

defining cultural diversity as a system. It is not a case that many indexes of diversity or inequality belong to the family of entropy measures. In other words, the promotion of cultural diversity in the context of the World Heritage requires that the system evolves in a well-ordered and organized representation, in which the selection of the sites meets a series of diversity criteria rather than other exogenous and arbitrary factors. The analysis we present aims to understand how cultural diversity has been promoted by UNESCO World Heritage over time and to identify new criteria of sites selection to foster cultural diversity. If the aim of preserving cultural diversity has been achieved, the action of World Heritage should appear to be as neutral as possible in the process of sites selection. In other words, it should follow Kant's principle of "I think", according to which an object cannot be thought without using categories. The "I think" is the supreme principle of the human knowledge and should act not as the creator of the reality but as the one who orders it.

3. Data and Methodology

Our analysis aims to measure the evolution of cultural diversity in the World Heritage system. In the light of previous considerations, we have to address three main problems. First, which and how many categories to identify. Second, which weight to assign to each category. Third, how to empirically quantify cultural diversity.

The ICOMOS report compiled in 2005 (ICOMOS, 2005) deals with the issue of identifying a series of categories to classify the World Heritage sites and qualitatively study potential unbalances. Authors proposed three different kinds of categorization. The first is a typological framework, a first approximation which identifies 14 general categories ranging from archeological heritage to religious properties and historic towns. Authors themselves recognize that it is too general to give satisfactory results. The second is a thematic framework which identifies people's responses to their cultural environment, as cultural associations in society, expressions of creativity in the design of the built environment, response to spiritual needs, the utilization of natural resources, movement of peoples and the development of technologies (ICOMOS, 2005, p. 72). Although highly varied, this classification does not match our focus on world cultural expressions in historical and regional perspective. For this reason, we choose to adopt the third kind of ICOMOS categorization, which is a chronological-regional framework classifying cultural heritage in terms of time and space. For each region of the world, it identifies with a good degree of completeness which cultures and civilizations have emerged and developed (ICOMOS, 2005, p. 48). A description of every category is presented in Appendix A. Since World Heritage sites were classified in these categories up to 2002, we update the framework by classifying sites nominated from 2003 to 2010. In the complex, our study analyzes 704 cultural sites divided up in 50 ICOMOS categories and measures the evolution of cultural diversity from 1978 to 2010. Since we adopt Lévi-Stauss's view, according to which there are no criteria on the basis of which a culture can be judged superior to another one, we choose to assign equal weight to each category. In other words, cultural diversity is maximized when the share of World Heritage sites is equal for each category.

In order to empirically quantify cultural diversity over time, we use Shannon-Weaver's index of diversity (Shannon and Weaver, 1962). In our case, the use of Shannon-Weaver's index is proper for at least three reasons. First, it is a non-parametrical index and hence not dependent on a single theoretical framework.

Second, its non-parametrical character is appropriate when the analyzed system cannot be assumed to display particular structures or regularities (Stirling, 1998, p. 46). Third, it is a “dual concept” index, taking into account both *variety* and *balance*. The higher the number of categories, the higher the value of the index (*variety*). Likewise, the more equal the shares of sites per-category, the higher the value of the index. The index is defined as follows:

$$[1] \quad -\sum_{i=1}^N p_i \ln p_i,$$

where N is the number of categories (N=50) and p_i is the share of sites for the category i .

Since the Shannon-Weaver’s index has no a maximum value to be used as a benchmark, for each year we calculate two indexes. The first is the *real* index, calculated on actual data. It represents the degree of cultural diversity within the World Heritage system. The second is an *ideal* index, calculated *as if* every year the shares of sites per-category were equal. The difference between the two values represents the gap in cultural diversity in the World Heritage system. The value of the first index can change over time if the balance of sites distribution among the 50 categories varies. The second index remains constant aver time, since the number of categories is fixed *a priori*.

4. Results: fading cultural diversity

Using Shannon-Weaver’s index, it is possible to show the evolution of the cultural diversity among UNESCO properties. The main results are summed up in table 1, first column, and figure 1. The curve represents the evolution of the *real* index since 1978, showing a general trend towards an increase in cultural diversity in absolute terms. It can be further analyzed making reference to two sub-periods. Since 1978 to 1991 a significant and constant growth of diversity occurred all over the world. This result followed the efforts to establish the 1972 Convention applying it to a growing number of cultural categories in the world. However, in the second sub-period since 1991 to 2010 the positive trend shows a steady evolution indicating no significant increases in the degree of cultural diversity. This is due to the fact that, although the total number of cultural properties increased until to reach more than 800 sites, basically the new nominations have been dedicated to the same categories to detriment of the least represented cultures. Notwithstanding in 1994 the World Heritage Committee introduced some measures in order to limit the unbalances in the number of properties among countries, aiming to limit the dominant position of European countries, surprisingly the real trend didn’t significantly change, indicating the capability of European countries to continue to perform a dominant position.

Table 1: Shannon index

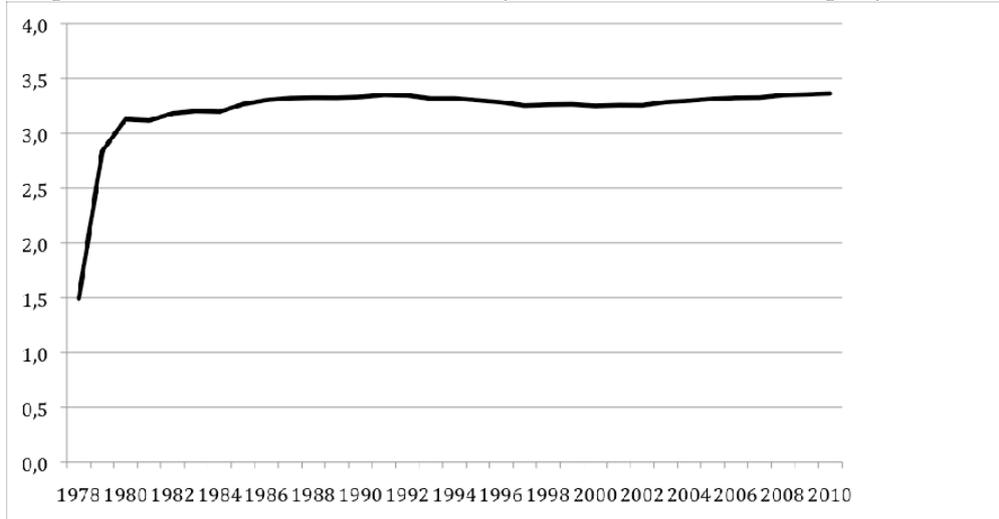
Year	Shannon Index-Real	Shannon Index-Ideal	Difference	% of filled diversity
1978	1.49	3.91	2.42	38.2
1979	2.84	3.91	1.07	72.5
1980	3.13	3.91	0.78	80.1
1981	3.12	3.91	0.79	79.8
1982	3.18	3.91	0.73	81.4
1983	3.20	3.91	0.71	81.9
1984	3.20	3.91	0.71	81.8
1985	3.27	3.91	0.64	83.6
1986	3.31	3.91	0.61	84.5
1987	3.32	3.91	0.59	85.0
1988	3.33	3.91	0.58	85.1
1989	3.33	3.91	0.59	85.0
1990	3.33	3.91	0.58	85.2
1991	3.35	3.91	0.56	85.7
1992	3.35	3.91	0.56	85.6
1993	3.32	3.91	0.59	84.9
1994	3.32	3.91	0.59	84.9
1995	3.30	3.91	0.61	84.4
1996	3.29	3.91	0.63	84.0
1997	3.26	3.91	0.66	83.2
1998	3.26	3.91	0.65	83.4
1999	3.27	3.91	0.65	83.5
2000	3.25	3.91	0.66	83.2
2001	3.26	3.91	0.65	83.3
2002	3.26	3.91	0.65	83.3
2003	3.29	3.91	0.62	84.0
2004	3.30	3.91	0.61	84.3
2005	3.32	3.91	0.60	84.8
2006	3.33	3.91	0.59	85.0
2007	3.33	3.91	0.58	85.1
2008	3.35	3.91	0.56	85.7
2009	3.36	3.91	0.55	85.8
2010	3.37	3.91	0.55	86.0
Year X	3.76	3.91	0.15	96.2

Source: our calculations based on World Heritage and ICOMOS (2005) data.
Individual data are available on request to the authors.

In figure 2, we plotted the value of the ideal index (Table1, column 3), calculated as described above, whose value is 3.91, against the values of the real index (Table 1, column 2). This represents the absolute difference between the maximum attainable level of cultural diversity and the real achieved diversity (Table 1, column 4). As we can see, the distance between the two values tends to be high and over 80% since 1982 (Table 1, column 5).

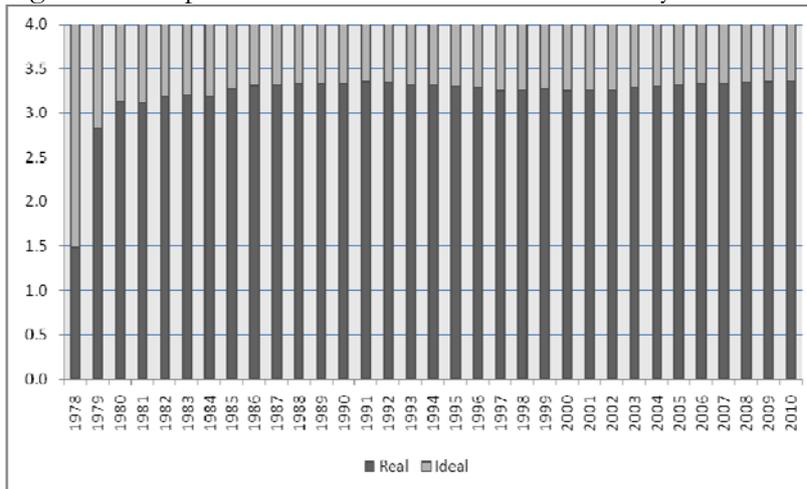
Even if in 2010 the percentage of covered diversity reaches its maximum, 86%, there is room for filling the remaining gap, which is equal to 14%. This calls for the necessity of a new phase in the selection process. New policies should be designed to fill the remaining gap and make the real curve approaching to the ideal one. In the next section, we develop a dedicated proposal.

Figure 1: Trend in real cultural diversity within the World Heritage System 1978-2010



Source: our calculations based on World Heritage and ICOMOS (2005) data. Individual data are available on request to the authors.

Figure 2: Comparison between real and ideal diversity



Source: our calculations based on World Heritage and ICOMOS (2005) data. Individual data are available on request to the authors.

5. A policy proposal

Two Scenarios

Given the difference between the real and the ideal index, it is possible to identify two possible scenarios to attain the number of sites that approaches to the maximum of global cultural diversity. The first scenario, although based just on theoretical ideas, assumes that all categories have the same number of sites, as obtained in 2010 by the largest category, i.e. 93 sites per-category. Under this hypothetical scenario, the total of World Heritage properties would be 3833. Obviously, this is a hypothetical scenario that not only needs a too long time to be achieved, but also its very large number of properties could weaken the value of the UNESCO brand distinction. Increasing the number of sites, in fact, decreases the value of distinction and

exclusivity of the brand produced by UNESCO. The second scenario, which may be considered as a second-best, assumes that all categories contain at least the average number of sites registered in 2010 (which is 17 sites per category). In this case, the total number of sites should be 1188, of which 371 have to be still nominated and registered. This number, though not corresponding to the highest level of cultural diversity which can be obtained, however, can fill the gap between real and ideal diversity. In this case, the percentage of filled diversity would be 96%. At the same time it preserves the ability of the brand to function as a signal of high quality. Once attained the number of sites which guarantees the maximum of cultural diversity, the main policy left is to improve the UNESCO system by increasing the quality of the properties.

A Tournament Model

What happens when we would like to increase the quality of the UNESCO properties without go beyond the threshold defined before? One possibility is not to change the threshold number but to change the quality through a tournament system. A tournament means that each property can be challenged by an external site belonging to the same category, which supposes to be of higher quality. The general result of this system can allow to improve the quality of the all properties keeping constant the degree of cultural diversity and the differentiation power of the UNESCO brand. In fact, the tournament is an efficient way to make the best quality of each contestant to emerge.

The tournament can be modeled with two risk-averse contestants i and j belonging to the same cultural category. In this way the diversity index won't change but if the tournament succeed the quality of the system can increase. Tournaments have long been used as a resource allocation device. Our proposal allows UNESCO to launch periodical notices of challenge. In other words, the properties not in the list are invited to challenge those within the list and in the same category. At this point, after the experts' evaluation, if the property will be considered of superior quality will enter the list substituting the defied property. The number of sites per-category will stay equal but it will increase the average quality of the sites in that category. On the contrary, if the experts' evaluation will judge the quality of the challenger not enough high, nothing will change. Of course, to perform this procedure quality criteria will be needed to help the experts in the evaluation and the properties in their self-evaluation, but this is beyond the aims of this paper.

However, our proposal could suffer from a political limit, which means to make reference to the power of the lobbying activity. According to this approach, what counts is not the quality of the sites but external factors like power and economic influence, collusion and dominant position within the World Heritage Committee. As a result, a new unbalance could be reproduced at this unexpected level, if the selection policy will not be fair and exclusively focused on quality criteria.

The model

Our proposal can be theoretically modeled. The model we will propose is based on the current WH system of site selection, in order to understand how tournaments could make agents to maximize their effort and which risks can rise. In fact, even if the model was correctly applied to the reality, some corrections to the WH system would be necessary to guarantee a real increase in the average quality. We draw from

literature on rank-order tournament (Lazear and Rosen, 1981; Krakel, 2007; Frey et al., 2009). In a rank-order tournament at least two agents compete against each other given prizes (Krakel, 2007). In our case, agents are sites which compete to win or lose the status of World Heritage. For the sake of simplicity, we show a one by one competition, in which each site compare itself to another site. In our proposal, in fact, each site already belonging to the World Heritage list compares itself to the new proposed site which wants to enter the list. Analogously, it is realistic to suppose that the new site aspiring to enter the list compares itself to the lowest-quality site currently inscribed to the list.

Following the tournament model proposed by Lazear and Rosen (1981) and Krakel (2007), we assume that each agent is risk averse and has an observable performance q_i , resulting from the endogenous effort e_i , chosen to win, from the exogenous ability a_i of the agent, and from the exogenous noise ε_i .

$$q_i = e_i + a_i + \varepsilon_i \quad (i=1,2) \quad (1)$$

The effort to win has a cost described by the function $c(e_i)$, with $c(0)=0$, $c'(e_i)>0$ and $c''(e_i)>0$.

In our case, we can see the individual effort as the amount of monetary and human resources expended to improve the quality of the site, to valorize it and to prepare the nomination report. The exogenous ability depends above all on the cultural value of the site and, secondly, on the previous experience that the country in which the site is located has in proposing new World Heritage sites, on the availability of skills and human capital to preserve the site and to write the nomination report. Finally, the noise ε_i represents the exogenous shocks disturbing the probability to win. This probability depends in turn on the effort and the ability of the site. In the World Heritage system, the noise can be seen as the influence of institutional factors and lobbies activities (Bertacchini and Saccone, 2011b), disturbing the fairness of the competition. The principal, in our case the World Heritage experts, can observe the final performance q_i but none of its single components.

In the tournament, two sites, i and j , compete to win the World Heritage status WH. If $q_i > q_j$, the site i will enter (or remain) in the list, while the site j will exit (or will stay out) from the list. The utility function of each agent is then given by:

$$U_i(e_i) = p_i u_i(WH^1) + (1 - p_i) u_i(WH^0) - c(e_i) \quad (2)$$

$$U_j(e_j) = p_j u_j(WH^1) + (1 - p_j) u_j(WH^0) - c(e_j) \quad (3)$$

The probability of success is a cumulative distribution depending on the difference in the efforts and the difference in individual ability Δa :

$$p_i = F(e_i - e_j - \Delta a) \quad (4)$$

By assuming that $u_i(WH^0)=0$ and $u_i(WH^1)>0$, the first order conditions are:

$$f(e_i^* - e_j^* - \Delta a) u_i^1 - c'(e_i^*) = 0 \quad (5)$$

$$f(e_i^* - e_j^* - \Delta a) u_j^1 - c'(e_j^*) = 0 \quad (6)$$

In other words, we can see the equilibrium effort to obtain the WH status as a decision based on two factors:

- 1) The role of the effort and the ability on the probability to win. The flatter the density function $f(\cdot)$ (the higher the exogenous risk), the lower will be the equilibrium effort for a rational risk averse agent. In other words, the less the probability to succeed

depends on the effort and the ability and more on disturbing factors (country's institutional power and lobbies activities), the lower will be the effort.

- 2) The cost function. The higher the cost of increasing the effort, the lower will be the equilibrium effort.

This theoretical exercise can give rise to a series of practical considerations and suggest policy solutions. It is indeed based on the realistic assumption that what the WH experts observe is not the real cultural value of a site, but the final performance of the agents, depending not only on the cultural value of the site but also on exogenous factors influencing the shape of the probability to win and on the cost of efforts. As a consequence, a high-cultural value site could be discouraged to maximize its effort if the country in which it is located is excluded from institutional seats in the World Heritage Committee. At the same time, since the cost of the effort varies across countries, a high-cultural value site located in a poor country with high opportunity costs of effort (resources could be concentrated to other social priorities as education and health), in spite of all could have an effort approaching to zero. This increases the possibility to succeed of another site located in a country with lower costs of effort, even if it has a bit lower cultural-value. Therefore, this can undermine the whole quality of the World Heritage system. By taking into account this risk, the World Heritage system and its process of selection should be partially changed, by increasing the observability and the focus on the real cultural value and minimizing the role of exogenous institutional shocks (for example by favoring the turnover in the World Heritage Committee). Moreover, the local agencies of ICOMOS, ICCROM and IUCN should be more active in consulting and sustaining sites located in poor countries characterized by high costs of effort.

6. Conclusions

The first part of this paper aims to measure the existing cultural diversity among UNESCO properties by using the Shannon index of diversity. The main result shows that just after the first two years, the cultural diversity attained a good level and kept this level high until now. Notwithstanding this general conclusion, we estimate that there is room for a further improvement in the diversity by increasing the number of sites filling the categories not still represented. It will result in 371 more sites.

Once attained the number of sites which guarantees the maximum of cultural diversity, the main policy left is to improve the UNESCO system by increasing the quality of the properties. Thus, the second part of this paper is an attempt to define policies improving the quality of UNESCO properties. The tool we selected to launch this new strategy is a tournament model. A tournament means that each property can be challenged by an external site belonging to the same category, which supposes to be of higher quality. As a final result, there will be the substitution of lower-quality UNESCO properties with higher-quality properties. The model also takes into account risks related to political and lobby activities undermining the whole quality of the system and is used as a base to propose solutions.

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APPENDIX A

Chronological-regional framework – Description of the 50 categories

EARLY EVOLUTION OF MAN IN THE WORLD

1. Paleolithic period (Old Stone Age)
2. Mesolithic and Neolithic periods (Middle and New Stone Age)
3. Bronze Age and Iron Age

NEAR AND MIDDLE EAST AND NORTH AFRICA

4. Mesopotamia
5. Egypt
6. Ancient Anatolia
7. Phoenician civilization in the Mediterranean and Ancient North Africa
8. Near Eastern Kingdoms (Israel and Judah; Palestine, Syria, Aegean civilizations)
9. Ancient Iran
10. Persian Empires
11. Empire of Alexander the Great, Hellenistic period (Anatolia, Near and Middle East, Egypt)
12. Roman Empire
13. Byzantine Empire (Eastern Mediterranean, Anatolia)
14. Arabia and related states
15. Caliphates in the Near and Middle East and Egypt
16. The Maghreb
17. Seljuk Empire (1038-1279) (Anatolia, the Middle East, Central Asia)
18. Ottoman Empire (1300-1922) (Anatolia, Near East, Egypt, North Africa)

EUROPE

19. Aegean, Minoan and Mycenaean civilizations
20. Greek City States and Classical Greece (Athens, Corinth, Sparta, Thebes, South of Italy)
21. Empire of Alexander the Great and the Hellenistic period (Macedonia, Greece)
22. Early Non-Classical Europe (Iberians, Latins, Umbrians, Illyrians, Etruscans, Celts, Phoenicians, etc.)
23. Rome and Roman Empire (Rome, Roman Republic, Roman Empire; Early Christian art)
24. Byzantine Empire (Eastern Roman Empire) (4th century AD – 1453)
25. Eastern Medieval Europe
26. Southern Medieval Europe
27. Western and Northern Medieval Europe (Romanesque and Gothic Art and Architecture)
28. 15th – 16th centuries (Renaissance; Religious discords / Reformation; European colonization)
29. 17th – 18th centuries (Thirty-Year War, Absolutism, Age of Reason; Baroque, Rococo, Classicism)
30. Europe from the French Revolution to the First World War (1789-1914)

ASIA

- 31. Indian subcontinent
- 32. South-East Asia
- 33. East Asia (Far East)
- 34. Central Asia

OCEANIA AND AUSTRALASIA

- 35. Australia
- 36. New Zealand
- 37. Melanesia
- 38. Micronesia
- 39. Polynesia

SUB -SAHARAN AFRICA

- 40. West Africa
- 41. Nilotic Sudan and Ethiopia
- 42. East Africa and Madagascar
- 43. Central Africa
- 44. Southern Africa

THE AMERICAS

- 45. North America
- 46. Mesoamerica and the Caribbean (Mexico, Guatemala, El Salvador, Belize, Honduras, Nicaragua, Costa Rica, Panama)
- 47. Caribbean (Cuba, Jamaica, Haiti, Dominican Republic, Puerto Rico, Bahamas, Antigua and Barbuda, Dominica, St Lucia, St Vincent and The Grenadines, Barbados Grenada, Trinidad and Tobago)
- 48. South America (Venezuela, Guyana, Suriname, French Guiana, Brazil, Uruguay, Paraguay, Chile, Bolivia, Peru, Ecuador, Colombia)

THE MODERN WORLD (Europe , Americas , Arab World, Africa , Asia , Australia)

- 49. From World War I to World War II (Modern Movement in art and architecture)
- 50. Post-War era and Cold War (Industrial and Technical Revolutions, Space Travel); Cultural Diversity and Globalization