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CONSIDERATIONS ON BECOMING A WORLD HERITAGE SITE – A QUANTITATIVE APPROACH

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Abstract
The UNESCO World Heritage list has set as a primary goal since its creation in 1972 the protection of places with special cultural or physical significance. Nevertheless, the present list suffers from a lack of balance regarding the distribution of sites in countries and the five UNESCO regions (Europe and North America, Asia and the Pacific, Latin America and the Caribbean, the Arab States and Sub-Saharan Africa. The selection criteria that contribute to the designation of a place as a UNESCO World Heritage site reveal that the sites must be of outstanding universal value. However, the unevenness of the list across countries and regions may point to other factors that contribute to the inclusion of a site on the list. In 1994 the Global Strategy for a representative, balanced and credible World Heritage list was introduced in order to better reflect the full spectrum of world cultural and natural treasures.

The article explores the impact prior to and twenty years after the introduction of the Global Strategy and the influence of different economic and political determinants on the structure of the World Heritage list such as the membership in the World Heritage Committee and Convention.

Keywords: UNESCO world heritage, international institutions, cultural economy, international relations

JEL Classification: Z32, C51, C12

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Introduction

The UNESCO world heritage list is broadly recognized as remarkably conferring value to the world history by acknowledging cultural objectives and natural sites deserving preservation. The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted at the General Conference of UNESCO at its seventeenth session in Paris in November, 1972. The convention “seeks to encourage the identification, protection, and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity” (UNESCO, 2015).

Until May 2017, this convention was ratified by 191 State Parties, and there are currently 1052 world heritage sites included on the list, 814 (or 77 percent) being connected to culture, 203 to nature, and 35 being described as a mixture, linking cultural and natural heritage elements. A short review of different countries from the list is given in figure no. 1. The list has gained a lot of acclaim and most specialists see it as “the most effective international legal instrument for the protection of the cultural and natural heritage” (Strasser, 2002).

Along with the growing recognition of the list, more and more scientific research on UNESCO world heritage was carried on. Some studies focus on the impact that the designation of a site as part of the UNESCO world heritage has for the tourism sector. While it has been proved that the consequences of the inclusion at the list are positive for companies providing tourist services, accommodation and for restaurants, many researchers worry that the increasing abundance of tourists may alter the world heritage sites (Cochrane, 2006).
Being a nominee for inclusion on the UNESCO World Heritage list brings recognition and prestige which stimulates solicitations from many sites, potentially misrepresenting the criteria of the selection process, and eventually unbalancing the intent of the list. Scientific researchers recently focused on analyzing the factors that determine the inclusion in the list and their results show that political and economic contexts - independent from the value of the state's heritage - affect the configuration of the list (Bertacchini and Saccone, 2011). A study by Frey, Pamini and Steiner (2011) provides an econometrical analysis regarding the factors which influence the World Heritage list finding that some different economic variables have a positive and significant impact over the number of World Heritage sites per country. However, their study was developed in 2010. Due to the different political and social changes that took place between 2010 and 2016 and also taking into consideration the persistent imbalance of the WH list it is important that regular updated studies be conducted to determine the usefulness of the Global Strategy for a representative, balanced and credible World Heritage list, introduced in 1994, and the ways to overcome potential bias factors.

This article presents the research findings on the uneven distribution of World Heritage sites per country and the five UNESCO regions. While 48 percent of the sites are located in Europe and North America and 9 percent are found in Sub Saharan Africa. In addition, ten countries possess 20 or more sites, compared to a group of 28 other member countries of the convention that do not possess any sites on the list (UNESCO, 2015). The response to this unequal distribution was given in 1994, when the UNESCO World Heritage Committee initiated the Global Strategy for an even world heritage list, which aims to increase the participation of non-European sites on the list. Some researchers, however, underline that even with a more precise innovative strategy and determined action, “the benefits of these attempts are uncertain” (Strasser, 2002).

Therefore, within this article it is further appraised if this Global Strategy has accomplished its objective to diminish the uneven distribution in the share of sites per country and region. We tackle the procedure of nominating sites and the political influences concerned in the selection process. The current literature usually comments on the strategy for a more stable list and the strategy’s outputs but few studies contain relevant empirical confirmation - such as Strasser (2002), Bertacchini and Saccone (2011) or Frey, Pamini and Steiner (2011). This paper includes statistical evidence on the uneven distribution of sites across countries and regions.

1. Considerations regarding the selection process on the World Heritage list

The inclusion of sites on the list takes into consideration ten criteria, which are specified in detail in the Operational Guidelines for the Implementation of the World Heritage Convention (UNESCO, 2015). Sites which receive a nomination must contain a minimum of one of the ten criteria, which are implemented together with three overall characteristics: 1) uniqueness, 2) historical authenticity, and 3) integrity. The following first six criteria make reference to “cultural” sites while the last four point to “natural” sites:

- to represent a masterpiece of human creative genius;
- to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;
to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

- to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

- to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

- to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);

- to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

- to be outstanding examples representing major stages of earth’s history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

- to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

- to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation (UNESCO, 2015).

The list is set up with the input of three separate bodies: 1) the State Parties propose sites as candidates for the UNESCO recognition, 2) advisory boards assess the nominations and recommend some of the sites for inclusion, and 3) the committee officially enrolls the sites in the list. The World Heritage Committee establishes the sites to be listed as UNESCO World Heritage Sites. It is composed of 21 State Parties which are elected by the General Assembly of States Parties for a four-year term, which stands as a mandate. It is responsible for the implementation of the World Heritage Convention, defines the use of the World Heritage Fund and allocates financial assistance upon request from State Parties. In the end, member governments should make motions regarding the sites to be comprised on the list while the committee takes the final decision and it is worth mentioning that all concrete control is attributed to the Committee and not the general assembly.

2. Research methodology

The database created by the authors addresses the 165 countries which contain more than one site on the World Heritage list from the total of 191 who ratified the Convention Concerning the Protection of the World's Cultural and Natural Heritage.

This study uses a model dealing with a linear function of the independent variables plus a disturbance term (Mitrut and Serban, 2007), \( y = \beta_1 + \beta_2 x_2 + \ldots + \beta_n x_n + u \), developed for the dependent variable, the number of World Heritage sites (NS) and four predictors which
are: NMC, the number of mandates a country had within the World Heritage Committee (the organ which administers the World Heritage program and maintains the World Heritage list), NYC, the number of years since a country ratified the World Heritage Convention, IU, the number of Internet users per 100 people per country and GINI, the Gini coefficient of income distribution per country.

In order to build the database, the values for the variables had to be filled in for each country. For the variables: number of World Heritage sites (NS), the number years since a country ratified the World Heritage Convention (NYC) and the number of mandates a country had within the World Heritage Committee (NMC), the statistics section from the official World Heritage website was used. The data for the variable number of Internet users per 100 people per country and for the GINI coefficient variable of income distribution per country were gathered from the World Bank database. The following assumptions have been made, that the disturbance term has a mean of zero, the model is with a constant variance (the model is homoscedastic) and the independent variables are non-stochastic and not inter-correlated due to the fact that there is no significant linear relationship between the predictors. Also, statistical descriptors have been used as Gini coefficients.

The distribution of sites on the list according to regions is uneven, with 48 percent of the sites located on the European and North American continents. Europe and North America predominate more for cultural sites than for natural sites. In contrast, Sub-Saharan Africa holds 9 percent, the Arab countries, 8 percent, while the Latin America and Caribbean region and the Asia-Pacific region take a larger share with 13 percent and 23 percent, respectively (Figure no. 2).

![Figure no. 2: Number of World Heritage properties by region and type for 2016](source: World Heritage Centre, 2016)

As seen in figure no. 1, the distribution of sites per countries is irregular. There are twenty sites or more in ten countries, while twenty-eight have no sites and some of these states have participated in the convention for a significant time. In order to represent the sites’ distribution, the Gini coefficient was used, which is one of the most commonly used measures of statistical dispersion of inequality. The Gini coefficient was measured for 2016.
with a value of 0.57052 and shows a medium skewed distribution using the following formula:

\[
G = \frac{n + 1}{n} - \frac{2 \sum_{i=1}^{n} (n + 1 - i)x_i}{n \sum_{i=1}^{n} x_i}
\]  

where \( n \) represents number of terms.

An even dispersion (each country is considered as having the same number of sites and therefore the Gini coefficient takes the null value) is backed by the idea that every state should have equal relevance when it comes to its contribution to the heritage of the humanity. This direction suggests that all states should be seen as equal through the eyes of an international organization like the UN or its agency UNESCO. However, this point of view has its shortcomings, because a country less rich in historical events and cultural life has less chances to create and to conserve sites of outstanding importance for the humanity.

Another significant factor for the list is the size of population per country and while analyzing the distribution of sites referencing the population, Europe and North America are in the first place with 44.97 sites per 100 million inhabitants succeeded by Latin America and the Caribbean, the Arab States and Sub-Saharan Africa with 21.97 sites, 17.86 sites and 10.14 sites per 100 million inhabitants respectively. The Asia-Pacific region possesses 5.87 sites per 100 million persons. These results are presented in figure no. 3.

![Figure no. 3: Number of World Heritage Sites per 100 million inhabitants for each region in 2016](image_url)

Source: own computation with data from World Heritage Centre, 2016

Researchers support the affirmation that if the size of the country is bigger, the probability to find sites, especially natural sites, on its surface with chances on getting on the list grows.
The classification of sites per million square kilometers depicted in figure no. 4 is also led by Europe and North America with 10.97 sites per million square kilometers, while Asia & Pacific holds 6.67 sites per million square kilometers, Latin America and the Caribbean has 6.52 sites, the Arab States, 6.29 sites and the last place is occupied by Africa with 3.96 sites per million square kilometers.

An uneven selection can hint that unsuitable approaches can be involved. UNESCO along with the World Heritage Commission have not made any official statement about this, but their continuous work in delivering a more balanced WH list also constitutes a reason for researching more about this theme.

Twenty-two years after the adoption of the convention in 1994, UNESCO pointed out the unbalances regarding the type of properties belonging to the list and the geographical regions represented. Three more objective criteria encouraging a more even list were created and these deal with the 1) the distribution in cultural versus natural sites, 2) the distribution referencing the country’s development and 3) the distribution according to the five UNESCO regions of the world. The operational guidelines mention that a balance in the number of cultural and natural sites should be gained. UNESCO further made observations about the imbalance concerning the character of sites. A global study developed by the International Council on Monuments and Sites (ICOMOS, 2004) from 1987 to 1993 indicated that, on one hand, in Europe, historic towns, religious monuments associated with Christianity, historical periods, and “elitist” architecture received overrepresentation and on the other hand all living cultures, especially traditional cultures, were disproportionately represented.

The Global Strategy is meant to diminish the imbalance, empower the representativeness and lower the European advantage. To achieve the goals of this research the results of the
Global Strategy need to be empirically assessed. A first indicator of the disproportion is the Gini coefficient as a criterion of statistical dispersion. Figure no. 5 presents the decreasing trend of the Gini coefficient of the distribution of sites per countries. From 1978 when it was 0.96217, to 2016 with a value of 0.57052. This is a first hint that the Global Strategy had some effect in evening the distribution of sites. However, the distribution of sites still remains concentrated in State Parties that already own multiple sites.

![Graph](image)

**Figure no. 5: The evolution of the concentration level of WH properties by countries 1978-2016**

The number of sites from the list grew during the time. On average thirty sites were added to the list per year. The increasing ratio has grown from 26 sites per year from 1978 until 1994 (until the introduction of the Global Strategy) to 36 sites per year after 1994 (after the introduction of the Global Strategy) according to the World heritage statistics.

Also the distribution of cultural sites contrasted with natural sites continues to be uneven (table no. 1). Today 77.7 percent of sites are cultural and 19.1 percent are natural while and 3.2 percent of sites are mixed. This imbalance favors European and North American states which have more opportunities in providing cultural sites than states belonging to other regions.

<table>
<thead>
<tr>
<th>Regions</th>
<th>Cultural</th>
<th>Natural</th>
<th>Mixed</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>48</td>
<td>37</td>
<td>4</td>
<td>89</td>
<td>9%</td>
</tr>
<tr>
<td>Arab States</td>
<td>73</td>
<td>4</td>
<td>2</td>
<td>79</td>
<td>8%</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td>168</td>
<td>59</td>
<td>11</td>
<td>238</td>
<td>23%</td>
</tr>
<tr>
<td>Europe and North America</td>
<td>420</td>
<td>61</td>
<td>10</td>
<td>491</td>
<td>48%</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>93</td>
<td>36</td>
<td>5</td>
<td>134</td>
<td>13%</td>
</tr>
<tr>
<td>Total</td>
<td>802</td>
<td>197</td>
<td>32</td>
<td>1031</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: World Heritage Centre, 2016*

The operational guidelines set the goal of achieving a uniform distribution of cultural and natural sites. However, the amount of cultural sites has extended much quicker than the number of natural sites and the increase took place even after starting to apply the Global Strategy.
3. Modelling the impact of the UNESCO Global Strategy

The next stage is to examine the impact of the Global Strategy on the share of sites by checking different factors in the same time. The study attempts to concentrate on two elements stipulated in the Global Strategy for a representative, balanced and credible World Heritage list: 1) the European hegemony of the list and 2) the impact of the development level of a state on the number of sites.

Two similar models were formulated, for 1994 and 2016 where the dependent variable is the total number of sites a state had previously the Global Strategy was started (1994) and the number it had twenty-two years later, in 2016 with the scope of proving that only the conditions officially stipulated in the Global Strategy influence the process of nominating and including sites on the World Heritage list, all the other factors being of insignificant impact.

The following two hypotheses were tested. The first hypothesis states that the introduction of the Global Strategy for a representative, balanced and credible World Heritage list by the UNESCO World Heritage Committee in 1994 was justified by a disproportionate distribution of sites across countries, selection criteria favoring countries that recorded higher values for some economic indicators. The second hypothesis states that in 2016, after 22 years after the introduction of the Global Strategy for a representative, balanced and credible World Heritage List by the UNESCO World Heritage Committee, the distribution of sites across countries was balanced taking into account the criteria set by the UNESCO World Heritage Convention, without being influenced by subjective factors.

The Global Strategy for a representative, balanced and credible World Heritage list was designed to identify and fill the major gaps in the World Heritage list by encouraging more countries to become States Parties to the Convention and to develop tentative lists and nominations of properties for inscription on the World Heritage list. It is advised within the Global Strategy for a representative, balanced and credible World Heritage list that states parties whose heritage of outstanding universal value is under-represented on the World Heritage list should give priority to the preparation of their tentative lists and nominations (Chapter 60, point a) and participate, as much as possible, in the sessions of the World Heritage Committee (Chapter 60, point d) (World Heritage Centre, 2013). These two measures are deeply connected with two of the four independent variables used in the hypotheses: the number years since a country ratified the World Heritage Convention (NYC) and the number of mandates a country had within the World Heritage Committee (NMC). The States Parties whose heritage of outstanding universal value is under-represented on the World Heritage list are requested within the Global Strategy to also initiate and consolidate partnerships at the regional level based on the exchange of technical expertise and to encourage bilateral and multilateral cooperation so as to increase their expertise and the technical capacities of institutions in charge of the protection, safeguarding and management of their heritage (World Heritage Centre, 2015 - Chapter 60, points b & c).

In relation with these two points from chapter 60 of the operational guides of the implementation of the World Heritage Convention with reference on the Global Strategy for a representative, balanced and credible World Heritage list, the two other independent variables were taken into consideration: IU, the number of Internet users per 100 people per country and the Gini coefficient of income distribution per country.
The UNESCO World Heritage Committee’s decisions to select sites as World heritage designations might be influenced according to our first hypothesis by the four independent variables, depicting a decreasing intensity after the implementation of the Global Strategy. This hypothesis proved to be correct because the intensity of the correlation slightly diminished from 1994 (coefficient of correlation = 0.672) when it was a medium intensity level until 2016 when the coefficient of linear correlation reached 0.66.

The four variables selected explain less of the variation of number of sites designations in 2016, with an adjusted R square = 42% compared to an Adjusted R-square of 44% in 1994, which exhibits a low influence of the strategy over the selection process. For both years a multiple regression model was developed in order to determine the way the regressors influenced the designation process. The choice of regression, term introduced for the first time as a statistical concept in 1886 by the English statistician Francis Galton, in order to characterize the existing interdependencies between social economic variables, was determined by the objectives of identifying the shape function, measuring the intensity and characterizing the type of correlation between the variables at global level (Voineagu et al., 2016).

The general form of the model used was a linear function of four independent variables plus a disturbance term, \( y = \beta_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + u \), developed for the dependent variable, the number of sites (NS) and four predictors which are: the number years since a country ratified the World Heritage Convention (NYC) the number of mandates a country had within the World Heritage Committee (NMC), the number of Internet users per 100 people per country and the Gini coefficient of income distribution per country.

The estimated equation for 1994 was:

\[
NS = 0.099 + 0.083\text{NYC} + 1.866\text{NMC} + 0.005\text{GINI} + 0.383\text{IU} + u \tag{2}
\]

\[
\begin{array}{cccc}
\text{T} & 0.221 & 2.330 & 7.769 & -0.446 & 1.447 \\
\text{Prob} & 0.825 & 0.021 & 0.000 & 0.656 & 0.150 \\
\end{array}
\]

The function shows a positive correlation between the number of years since a country ratified the World Heritage Convention, NYC and the number of mandates a country had within the World Heritage Committee NMC over the number of sites and a negative correlation between the GINI coefficient of income distribution per country and the number of sites, see table no. 2.

One additional year in the convention induces a supplementary 0.08 number of sites designated for a country meaning there was a low level of correlation justified also by the coefficient of linear correlation which is 0.2 in the simple model.

One additional mandate in the World Heritage Committee is determining almost two additional sites (1.866 sites to be precise – see coefficient of NMC variable from the 1994 model equation) chosen as World Heritage properties meaning that this predictor has the strongest influence.
Considerations on Becoming a World Heritage Site – A Quantitative Approach

Table no. 2: Model Summary for 1994

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Stand. Coeff.</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.099</td>
<td>0.447</td>
<td>0.221</td>
<td>0.825</td>
<td>-0.784</td>
<td>0.982</td>
</tr>
<tr>
<td>Number of years in Convention in 1994</td>
<td>0.083</td>
<td>0.036</td>
<td>0.166</td>
<td>2.330</td>
<td>0.021</td>
<td>0.153</td>
</tr>
<tr>
<td>Number of mandates in the WH Committee</td>
<td>1.866</td>
<td>0.240</td>
<td>0.555</td>
<td>7.769</td>
<td>0.000</td>
<td>1.391</td>
</tr>
<tr>
<td>GINI distribution of income 1994</td>
<td>-0.005</td>
<td>0.012</td>
<td>-0.028</td>
<td>-0.446</td>
<td>0.656</td>
<td>-0.029</td>
</tr>
<tr>
<td>Internet users (per 100 people) 1994</td>
<td>0.383</td>
<td>0.264</td>
<td>0.090</td>
<td>1.447</td>
<td>0.150</td>
<td>-0.140</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Nr of WH sites in each State (1994)

In 1994 the Internet spread is positively correlated with the number of sites (with a coefficient of correlation = 0.383) for any additional 100 people connected to the internet in a country we have a third site additional sites (with a 0.18 correlation coefficient within the simple model). The only factor of influence negatively correlated is the Gini coefficient for the distribution of income showing that the inclusion of sites on the World Heritage list does not take into account the concentration of the income in a country. This correlation cannot be extended to all countries which were member in 1994.

The inference or the extension of results to all countries is possible for the number years since a country ratified the World Heritage Convention (NYC) and for the number of mandates a country had within the World Heritage Committee (NMC) because only these two regression coefficients are significantly different from zero in a 95% confidence interval. The probability for the coefficient of the number of sites (NS) determined by NYC to be zero in the total population of countries is 2.1% less than 5% - the chosen significance level and the probability for the coefficient of additional number of sites induced by NMC to be zero is zero. Any additional mandate will add between 1.40 and 2.34 additional sites.

The way the relationship is developed in 2016 shows a lower correlation between the number years since a country ratified the World Heritage Convention NYC and NS compared to 1994. This predictor does not permit the inference on the number of sites in 2016 because there is a 95% chance for the slope to be near zero (the 95% confidence class is -0.15, 0.17). The strategy had the positive impact because the seniority as member of the WH convention associated with a longer financial contribution period does not influence the number of sites appointed as being part of the World Heritage list, see table no. 3.

The only predictor with a significant double influence compared to 1994 is the number of mandates a country had within the World Heritage Committee (NMC) which determines for one additional mandate from 3.1 to 5.2 World Heritage sites included in the World Heritage list.
Table no. 3: Model Summary for 2016

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Stand. Coeff.</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-3.120</td>
<td>2.576</td>
<td>-1.221</td>
<td>0.228</td>
<td>-8.211</td>
<td>1.970</td>
</tr>
<tr>
<td>Number of years in Convention in 1994</td>
<td>0.010</td>
<td>0.081</td>
<td>0.009</td>
<td>0.119</td>
<td>0.906</td>
<td>-0.151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.170</td>
<td>0.656</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.673</td>
<td>1.524</td>
</tr>
<tr>
<td>Number of mandates in the WH Committee</td>
<td>4.193</td>
<td>0.544</td>
<td>0.579</td>
<td>7.710</td>
<td>0.000</td>
<td>3.119</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.268</td>
<td>0.663</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.894</td>
<td>1.119</td>
</tr>
<tr>
<td>GINI distribution of income 1994</td>
<td>0.063</td>
<td>0.021</td>
<td>0.199</td>
<td>3.078</td>
<td>0.002</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.104</td>
<td>0.894</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.119</td>
<td>1.093</td>
</tr>
<tr>
<td>Internet users (per 100 people) 1994</td>
<td>0.066</td>
<td>0.039</td>
<td>0.109</td>
<td>1.706</td>
<td>0.090</td>
<td>-0.010</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.143</td>
<td>0.915</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.093</td>
<td></td>
</tr>
<tr>
<td>a. Dependent Variable: Nr of WH sites in each State (2016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The estimated equation valid in 2016 is:

\[ NS = -3.12 + 0.1NYC + 4.1NMC + 0.063GINI + 0.066IU + u \]  

\( (3) \)

\( (2.57) \) 0.081  \((0.54)\) \((0.021)\) \((0.039)\)

\[ T = -1.211 \]

\[ Prob = 0.228 \]

Besides the number of mandates a country had within the World Heritage Committee, the only second significant predictor is the Internet user per 100 people correlation justified by the increasing popularity and use of internet. The number of mandates a country had within the World Heritage Committee (NMC) is a sensitive factor of influence justifying the ongoing process of improving the strategy.

The model validity was supported for both years, both P-values were zero, and can be used for prediction purpose because the disturbances are independent (DW=2.02 for 1994 and DW=2.2 for 2016), they are not highly correlated so the models are not affected by perfect collinearity and they are normally distributed (See figure no.6, normal probability plot).

After the results analysis, the first hypothesis supported the introduction of the Global Strategy being demonstrated by the influence of the number years since a country ratified the World Heritage Convention (NYC) and the number of mandates a country had within the World Heritage Committee (NMC) over the number of sites (NS) in 1994 (Table no. 4).
Considerations on Becoming a World Heritage Site – A Quantitative Approach

Figure no. 6: The normal probability plot for the number of WH Sites in 2016

Table no. 4: The testing of the hypotheses

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1277.943</td>
<td>4</td>
<td>319.486</td>
<td>30.747</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>1548.213</td>
<td>149</td>
<td>10.391</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2826.156</td>
<td>153</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Dependent Variable: Nr of WH sites in each State (1994)

bPredictors (Constant), Internet users (per 100 people) 1994, Number of years in Convention in 1994, GINI distribution of income 1994, Number of mandates in the WH Committee

Commenting the model for 2016, the Global Strategy had a partial impact, managing to eliminate the influence of the seniority over the number of sites but still the Global Strategy did not manage yet to eliminate the influence of the number of mandates a country had within the World Heritage Committee over the total number of WH sites. As a paradox this
influence increased very much. Therefore, the strategy had partially reached its goals, so the second hypothesis was not validated by the model.

As a positive aspect, the sites designation process does not take into account the economic power of the country and its infrastructure development, and the hypothesis that the more developed countries do not achieve a larger number of World Heritage sites on the list compared to less developed states was supported.

Conclusions

In 2016 being part of the World Heritage is considered an honor and nations lobby hard to get their buildings and historic ruins on the list, a stamp of approval that brings prestige, tourist income, public awareness, and, most important, a commitment to save irreplaceable monuments. In November, 1972 the United Nations Educational, Scientific and Cultural Organization (UNESCO) inaugurated the WH list by adopting a treaty known as the World Heritage Convention. Its continuing goal is to recruit the world community in identifying cultural and natural properties of outstanding universal value.

In order to balance the major unevenness of the list, in 1994 the World Heritage Committee launched the Global Strategy for a representative, balanced and credible World Heritage list. Some literature about the global strategy and the uneven distribution of sites has been published but empirical confirmations about the evolution of the imbalance, studies of the positive influence of the strategy are still in progress. This article aims to fill this void, and to show empirically that the Global Strategy did not manage to substantially eliminate factors of sites’ selection perceived as subjective and, therefore, reduce the uneven presence of European sites.

An idea that remains interesting to study within future research is to separate the sites according to their type: cultural, natural and mixed to see if the factors influencing their inclusion on the WH list differ because in this paper the sites are studied altogether not taking into account their type. Another potential future research goal would be to create a more complex econometric model of the determinants impacting the WH list eventually using dynamical systems concepts or data mining.

The ideas tackled within this research paper are aimed to raise the public’s perception and comprehension of the political and economic factors that have an influence over the composition of the World Heritage List. It may benefit the decision makers who have an authority regarding World Heritage issues to propose and to take measures to improve the selection of World Heritage Sites that really reflect “the cultural and natural heritage around the world considered to be of outstanding value to humanity” (UNESCO, 2015).

The results hint that the lack of balance of the list has not diminished once the Global Strategy has been put into practice, rather the contrary, it has extra amplified. We also briefly touch the subject of former efforts to revise the list.

Because of the practical and applied orientation of this research, it is necessary that such studies be carried out regularly in order to periodically monitor the effectiveness of the Global Strategy for a representative, balanced and credible World Heritage list and the additional measures taken along the way.
In conclusion, the World Heritage list has influenced global heritage protection. But the high inequality of the list reveals a preferential nomination process. This study aims to capture attention to the continued imbalance of the list, and it can become a starting point for future debates about plausible reforms for the global heritage protection.

References


