

## Article

# A Multidimensional Analysis of the Municipalities of the Italian Small Islands

Andrea Salustri

Department of Juridical and Economic Studies, Sapienza University of Rome, 00185 Rome, Italy; andrea.salustri@uniroma1.it

**Abstract:** The Italian small islands are characterized by high social and territorial distances from the mainland; however, on average, they do not seem affected by depopulation processes that, instead, characterize many other peripheral areas. On the other hand, the multifaceted nature and the tiny size of the Italian small islands call for political actions along multiple dimensions and pose unusual epistemological challenges. Against this background, a research gap is identified in the lack of a multidimensional analysis of the Italian small islands encompassing at least the main dimensions of local development. To narrow the gap, the research illustrates a multidimensional analysis based on the development of a composite index measuring the consistency of the territorial capital of the 33 insular municipalities located in the Italian small islands. The results suggest how the extreme heterogeneity of the insular municipalities and their social and economic vulnerabilities may negatively affect the digital transformation and the ecological transition of the Italian small islands. Consequently, the effectiveness of public policies may depend on the ability of policymakers to develop a transdisciplinary cognitive map of the local contexts and to codesign, with all local and external stakeholders, policies aimed at leaving (and keeping) no one behind.

**Keywords:** Italian small islands; insular municipalities; multidimensional analysis; territorial heterogeneity; sustainable tourism



**Citation:** Salustri, A. A.

Multidimensional Analysis of the Municipalities of the Italian Small Islands. *Sustainability* **2022**, *14*, 9871. <https://doi.org/10.3390/su14169871>

Academic Editors: Dario Musolino, Mariotti Ilaria, Rodrigo Kataishi and Mina Akhavan

Received: 6 July 2022

Accepted: 8 August 2022

Published: 10 August 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

The institutional literature defines islands as “territories smaller than continents, which can be inhabited or not, their main feature being that they are [ . . . ] surrounded by water. Therein, insular territories are regarded as individual units, while island groupings are referred to as archipelagos” [1] (p. 11). Furthermore, at the institutional level, the small islands are often seen as laboratories for experimenting with new patterns of development, but that requires turning their geographical disadvantages into new opportunities by means of dedicated strategies [2–4], focusing on place-based approaches [5], and recognizing the role of culture as an antidote to marginalization and isolation [6]. However, the institutional approach is not sufficient to qualify islands from the viewpoint of social and territorial sciences. In this perspective, insularity [7] often means vulnerability caused by economic specialization, continuous demographic change, and intense exposure to environmental risks [3,4,8] and climate change [9].

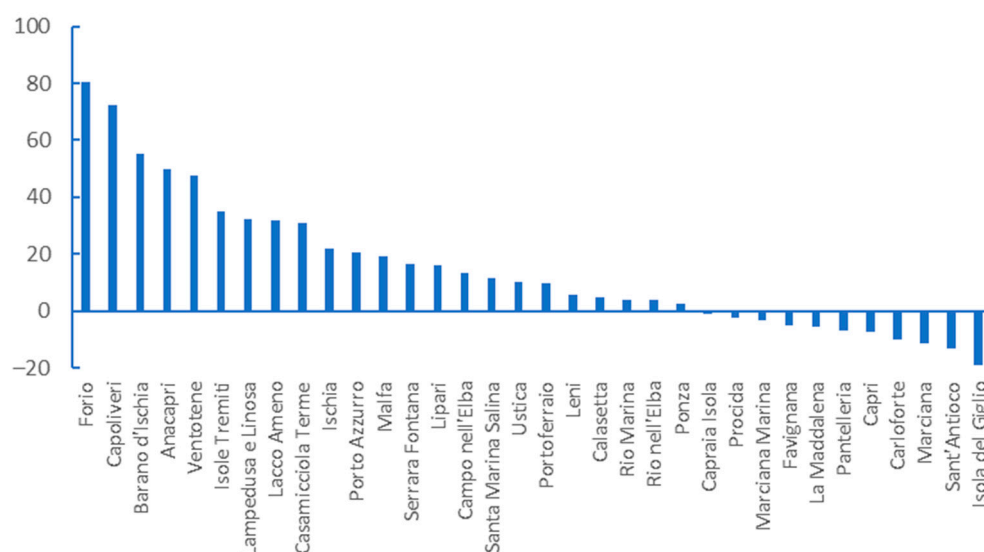
It is worth noting how this approach may be considered as a partial interpretation in the broader island studies (see, as an example, [10,11]), which focus on “islandness” and its possible or plausible influence and impact on ecology, human/species behavior, and any of the areas handled by traditional subject uni-disciplines (such as archaeology, economics or literature), subject multi-disciplines (such as political economy or biogeography) or policy foci/issues (such as governance, social capital, waste disposal, language extinction or sustainable tourism)” [10] (p. 9). However, since their recognition as an autonomous research field, island studies have focused on a global view of islands, encompassing issues such as warm and cold-water islands [11], the evaluation of smallness and islandness with

respect to institution building [12], fault lines within island studies [13], and the analysis of the World Archipelago [14,15]. Of particular interest to the scope of this research are early studies on the role of social capital in subnational island jurisdictions [16], on the comparative analysis of the MIRAB vs. PROFIT-SITE model of island development [17], and on the epistemological and methodological challenges of studying islands on their own terms [18]. Recent research on island studies that may be of interest to this analysis focuses on island mobilities and archipelagic diasporas [19], the relationship between “natives” and “foreigners” [20], and the role of tourism in the sustainable development of islands [21], smallness [22], and remoteness [23].

Within this broad and transdisciplinary perspective, the research focuses on an analysis of a subgroup of the Mediterranean small islands, which are warm water islands, mostly subnational jurisdictions, for which (mass) tourism is often the main sector of economic activity, as well as the main source of anthropic impacts on natural and social equilibria [24–27]. Within the broader category of the Mediterranean islands, the Italian small islands represent a peculiar case. The Italian small islands [25] are the small, inhabited islands that are part of the Italian territory (thus excluding Sicily and Sardinia). They are distributed among seven Italian regions (Campania, Lazio, Liguria, Apulia, Sicily, Sardinia, and Tuscany) and host 34 insular municipalities. The latter are permanently inhabited by approximately 200,000 inhabitants; however, during summer, the inhabitants become millions due to the occasional presence of tourists. From a relational point of view, the Italian small islands are ideal contexts for turning a constraint into an opportunity. Specifically, the “constraint” is the absence of geographic proximity with the rest of the national territory, which causes the absence of spatial and territorial externalities and the risk of “having little weight” in provincial and regional dynamics. These deficits can be compensated for by focusing on social, organizational, and cognitive proximity [28], i.e., by activating relations based on a mix of embeddedness and market relations (tourism performs this task very well) and by building a shared knowledge that would enhance diversity and complementarities.

However, from a positive point of view, the Italian small islands are intrinsically characterized by relatively high social and territorial distances, which generate non-negligible costs that, in turn, can trigger peripherality and exclusion [29,30]. Table A1, for instance, shows the average travel time expressed in minutes from each municipality to the reference pole of services. The same data were also reported for the typologies of areas considered by the Italian National Strategy of Inner Areas (SNAI) for 2020. A large heterogeneity is observed in the estimated values (ranging from 19.1 min needed to go from Sant’Antioco to Carbonia to 317.6 min needed to go from Lampedusa and Linosa to Agrigento), as well as a high number of municipalities (about 14) from which it takes more than an hour and a half to reach the pole of services.

Nevertheless, contrary to many inner areas (i.e., territories that are distant from the main regional and provincial poles of services, suffering from a lack of socioeconomic development and depopulation processes), on average, the Italian small islands are attractive territories. In fact, from 1980 to 2020, an average growth of about 11% was observed in the resident population of small island municipalities. However, population (or depopulation) trends are highly heterogeneous, ranging from the high population growth rate of Forio (+80.6% in forty years) and Capoliveri (+72.3%) to the consistent depopulation of Isola del Giglio (−19.0%) and Sant’Antioco (−13.2%) (see Figure 1). On the other hand, population levels in 1981 are not correlated with the demographic trends observed in the subsequent forty years (the correlation coefficient is rather weak, equal to  $-0.03$ ); hence, it seems more appropriate to look beyond demography for those elements that may have driven the demographic trends observed.



**Figure 1.** Population changes (1981–2020) in the municipalities of the Italian small islands. Source: [31].

Due to their peculiarities and remoteness, the Italian small islands are the recipients of several national policies, ranging from a general acknowledgement of the difficulties related to the insularity to more applied initiatives. According to the Italian Senate, insularity creates disadvantages that call for measures aimed at restoring territorial continuity, i.e., measures designed to develop adequate connections among territories, especially in cases where the supply of transport services is inadequate [32]. On the basis of these considerations, a reform of article 119 of the Constitution has been proposed to recognize the specificities of the Islands and to promote measures to remove the disadvantages deriving from insularity. Considering their remoteness from the poles of services, in 2022, the 35 municipalities of the Italian small islands were included in the National Strategy for Inner Areas [33] and are now forming the 73rd project area of the strategy [34]. Lastly, in the ongoing process of recovery and resilience from the COVID-19 outbreak, the Italian National Recovery and Resilience Plan (NRRP) [35] includes two specific measures for the Italian small islands: the “Green islands” investment [36] and the action “Connected minor islands” [37].

Furthermore, at the national level, several policies focus on the needs of the Italian small islands. At the environmental level, the Italian Ministry of Ecological Transition (MiTE) is funding numerous policies concerning “energy efficiency interventions, sustainable mobility, and adaptation to climate change impacts in the small islands and in the territories of Italian marine protected areas [3]. Moreover, during the last few years, the Ministry of Economic Development (MiSE) and the municipalities of not interconnected Southern small islands signed seven protocols to promote energy efficiency measures in buildings and public infrastructures within the “Energy and Territorial Development Program 2014–2020” [3]. At the territorial level, since 2015, Law n. 221 established, for travelers landing on the Italian small islands, the obligation to pay a landing fee instead of the tourist tax normally applied by municipalities [8]. Additionally, a recent Governmental Decree regulates the criteria for allocating among 56 small islands (40 municipalities) the resources of the Investment Fund managed by the Department for Regional Affairs and Autonomies [8]. At the cultural level, to promote the culturally sustainable development of the Italian small islands, the Ministry of Culture (MiC) selected Procida as the Italian Capital of Culture 2022 [6]. The rationale is that “island culture is seen as a privileged tool for affirming identity and, at the same time, building ‘archipelagos of relations’ that help to strengthen the sense of insularity and to weaken that of isolation” [38] (p. 101).

In sum, because of their multifaceted nature, the Italian small islands call for political actions along multiple dimensions (environmental, territorial, economic, social, and cultural), and their tiny size poses unusual challenges on the epistemological side. Specifically, the effectiveness of public policies depends on the overall degree of “epistemic justice” [39], i.e., the ability of policymakers to develop a transdisciplinary cognitive map of the local contexts and to co-design, with all local and external stakeholders and value-holders, policies aimed at leaving (and keeping) no one behind [40,41]. As a prerequisite, this necessitates dismissing a “silos” approach and adopting an inclusive, participative, and integrated strategy of local, sustainable development. Furthermore, as small islands are often less exposed to global dynamics, disruptive innovations may overlook idiosyncratic forms of cultural, social, economic, and environmental unsustainability, putting social cohesion and people’s quality of life at risk. On the other hand, reforms are necessary to remove the numerous obstacles to the full participation of their inhabitants in the political, economic, and social life of the country.

Within this perspective, the research contributes to the ongoing debate on the challenges and opportunities of the digital transformation and of the ecological transition of the Italian small islands accelerated by the COVID-19 outbreak. Considering that the aggregate of the Italian small islands encompasses heterogeneous contexts, it is, therefore, necessary to identify those generalizations that may be useful to improve the knowledge of their resources for development without ignoring the specificities of the place [38]. Against this background, a research gap was identified in the lack of a quantitative, multidimensional analysis of the Italian small islands encompassing at least the main dimensions of local development (specifically, demography, welfare, socioeconomic development, and environmental and territorial issues) (for a qualitative and normative analysis, instead, see [26]). In general, there seems to be a research gap concerning the multidimensional analysis of insular subnational jurisdictions; consequently, this research may be of particular interest, as the approach adopted could be replicated in other subnational (insular) contexts and provide a general framework for evaluating the effectiveness of public policies in the localities. Recent international research on the multidimensional analysis of small insular states includes, as an example, that developed by Scandurra et al. [9] for the Small Insular Developing States or, more qualitatively, that developed by Mohan [21] on sustainable islands tourism in Tobago. However, in the first study, the subnational dimension was not considered in the analysis, whereas, in the second study, multidimensional analysis was only qualitative. Furthermore, recent research focused on the environmental dimension of the Italian small islands includes [2–4]. However, a multidimensional analysis of the municipalities of the Italian small islands has not yet been implemented, and this research may provide a first attempt. On the basis of these premises, the aim of this research was threefold: (i) to evaluate through a multidimensional analysis the relevance of the territorial capital of the 33 municipalities located on Italian small islands; (ii) to separately evaluate each dimension included in the analysis and to assess its relevance for the overall judgement; (iii) to test the relevance of the relationship between the small island municipalities and their poles of services [33]. The screening exercise involved five dimensions: administrative relevance, demographic structure, socioeconomic development, welfare policies, and environmental risks; for each dimension, an overall score was calculated by aggregating the elementary scores computed for a set of elementary indices.

Lying on these premises, Section 2 illustrates the methodology used to design the composite index used to implement the screening exercise. Section 3 presents the results of the multidimensional analysis and then sketches a regression analysis as a function of the scores computed. Section 4 discusses the statistical evidence built, presenting several opportunities for further research. Section 5 summarizes the main conclusions.

## 2. Materials and Methods

The Italian small islands are part of a territorial “mosaic” [42,43] that cannot be regarded as a homogeneous region. Consequently, for a multidimensional analysis of the

34 municipalities of the Italian small islands (33, considering that Rio nell' Elba and Rio Marina were merged to become the municipality of Rio in 2017), it is essential to examine at least the following elements: the geographical specificities (naturalistic, territorial, social, and cultural), the dualism between local populations and external actors, which, over time, has determined the predominance of market activities over local productions [25], the characteristics and the effectiveness of local welfare systems, the level of development of tourism activities and related tertiary activities (local administration, commerce, etc.), the level of infrastructural development, and the risks of environmental degradation related to over-tourism [4–6].

On the basis of these premises, this section illustrates some methodological issues related to the construction of the territorial capital index (*TCI*) and the calculation of scores related to the 33 insular municipalities included in the analysis. The *TCI* is aimed at measuring the consistency of the territorial capital through a system of elementary indices associated with five dimensions of nonfinancial value. In its first version, the *TCI* is the result of static analysis, i.e., it aggregates the scores computed on 32 elementary indices for a single year. Specifically, the statistical analysis is based on a cross-country dataset, i.e., an  $n \times k$  matrix (say, matrix  $X$ ), with  $n = 33$  observations and  $k = 32$  variables. Specifically, we collect data for the 33 insular municipalities of the Italian small islands to investigate what assets and what vulnerabilities should be considered in the development of a (tourism-related) local development strategy. Table A2 briefly summarizes the selection of the elementary indices and the variables used to compute the scores of the *TCI*.

Data were collected by the Italian Statistical Atlas of Municipalities published by ISTAT [44], referring to different years ranging from 2014 to 2020. The lack of updated data is an indicator of the peripherality of the insular territories or at least of the peripherality of the local scale (the only one that allows for the representation of insular specificities) compared to more aggregate scales, for which more updated data are available. Therefore, despite improvements, there are still large data gaps in terms of geographical coverage, timeliness, and the required level of disaggregation, and efforts to fill these gaps need to be intensified to have at least a blurred image of the specificities of the Italian small islands.

Initially, 50 variables were collected; then, after a preliminary analysis, 33 variables were selected for the screening exercise. Furthermore, 9 out of 33 variables were weighted by the inverse of population level in 2020 to improve the significance of the related indicators (the weighted variables are indicated with an asterisk in Table A1). Furthermore, as balanced populations are preferable to unbalanced ones, the elementary indices based on the female-to-male ratios ( $X04$  and  $X10$ ) were transformed according to the following formula:

$$x_i^* = 100 \times (x_i - 1)^2. \quad (1)$$

Finally, as only a few municipalities seem to have obstetrics services, the percentage of babies born alive in the same municipality/province of residence in 2018 was summed to obtain  $X05$ , providing a measure of the size of the “local society”.

It is worth noting how the  $k$  variables take values calculated with different measures; thus, the data were normalized to obtain dimensionless and comparable values. However, as summary statistics for matrix  $X$  highlighted the presence of outliers in some variables, they were replaced by the value of  $Q1$  minus 1.5 times the interquartile range (in the case of low values) or by the value of  $Q3$  plus 1.5 times the interquartile range (in the case of high values). Then, data were normalized using the standard min-max criteria for indices with positive and negative polarity [9,45,46], given by

$$y_{n,k} = \begin{cases} \frac{x_{n,k} - x_{\cdot,k}^{\min}}{x_{\cdot,k}^{\max} - x_{\cdot,k}^{\min}} & \text{if polarity}(y_{\cdot,k}) = + \\ \frac{x_{\cdot,k}^{\max} - x_{n,k}}{x_{\cdot,k}^{\max} - x_{\cdot,k}^{\min}} & \text{if polarity}(y_{\cdot,k}) = - \end{cases}. \quad (2)$$

The normalized scores obtained for the 33 elementary indices were aggregated into 5 domains (see Table A2). Specifically, items were aggregated in elementary indices through a weighted average, while elementary indices were aggregated into composite indices through simple averaging as follows:

$$y_n = \sum_i w_i x_i, \quad 0 < w_i \leq 1, \quad (3)$$

$$z_m = \frac{\sum_n y_n}{n}, \quad (4)$$

where  $y_n$  indicates the elementary indices, and  $z_m$  indicates the composite indicators. Finally, an aggregated score was obtained as the simple average of the scores computed for the five domains.

$$\widehat{TCI}_n = \frac{\sum_m z_m}{m}. \quad (5)$$

Calculations were performed using both R Studio and Microsoft Excel in order to check for the validity of the results. The final output of the multidimensional analysis was an  $n \times 1$  vector of  $TCI$  scores, where the generic element  $TCI_n$  represents the  $TCI$  score estimated for municipality  $n$ . It is worth noting that, given this structure, the  $TCI$  scores can vary from a minimum value of 0 to a maximum value of 1.

### 3. Results

In this section, the  $TCI$  scores computed for each municipality are reported (see Table 1) and briefly commented on using descriptive statistics.

It is worth noting how the  $TCI$  scores varied from a minimum value of 0.28 (Casamicciola Terme) to a maximum value of 0.66 (Portoferraio). Scores below 0.35 were also computed for Leni (0.31), Serrara Fontana (0.31), Barano d'Ischia (0.32), and Isole Tremiti (0.34), while scores higher than 0.55 were computed for La Maddalena (0.61) and Lipari (0.59). The coefficient of variation ( $CV$ ) computed for each municipality provides a useful measure of the dispersion of the scores associated with each domain. Specifically, low values of the  $CV$  indicate that the scores computed for each dimension are close to the  $TCI$  overall score and vice versa. It is worth noting how low  $CV$ s were computed for Campo nell'Elba (0.02), Capoliveri (0.02), Portoferraio (0.03), Anacapri (0.04), Marciana (0.04), and Procida (0.04), while high  $CV$ s were computed for Ustica (0.17), Isole Tremiti (0.15), and Lampedusa e Linosa (0.12), due to the low scores computed in the welfare domain.

Below, the results obtained for each dimension are briefly illustrated. The territorial relevance ( $REL$ ) encompasses both an administrative dimension (that is more quantitative) and a demographic dimension (that is more qualitative). Overall, the most relevant Municipalities were Lipari (0.89), Sant'Antioco (0.87), Pantelleria (0.82), La Maddalena (0.75), and Portoferraio (0.70), while the less relevant were Ventotene (0.18), Lacco Ameno (0.21), and Isole Tremiti (0.23). It is worth noting how the selection of indicators included in this domain encompassed both quantitative and qualitative aspects. As an example, Forio and Ischia, despite having the largest demographic size, obtained the lowest scores for population density (they are too densely populated); consequently, they did not achieve a high score in this domain. Similarly, Ventotene and Isole Tremiti have a tiny size in terms of both population and territory, but they also have an unbalanced female-to-male ratio. It is worth noting that while the best in class was Lipari from a quantitative perspective, the top performer from a qualitative perspective was Calasetta (0.96).

The demographic dimension ( $DEM$ ) encompasses three subdimensions: the weight of the local identity, the degree of openness, and the vitality of family relations. The most interesting municipalities along this dimension were Forio (0.70), Lipari (0.67), and Ventotene (0.65); instead, the lowest scores were computed for Isole Tremiti (0.27) and Carloforte (0.29). Specifically, Forio, Lipari, and Ventotene were characterized by high scores for all three subdimensions (localism, openness, and family relations), while Isole Tremiti had the lowest score in family relations, and Carloforte had a low score in openness. It is worth noting that, while Ventotene was the best in class for the local identity, the top

performers in the other two subdimensions were Capoliveri for openness (0.83) and Santa Maria Salina for family relations (0.79).

**Table 1.** The structure of the territorial capital index: domains, indicators, items, and weights.

Municipality	REL	DEM	SEC	WEL	ENV	TCI	CV <sub>TCI</sub>
Anacapri	0.35	0.54	0.34	0.19	0.44	0.37	0.04
Barano d'Ischia	0.45	0.52	0.15	0.17	0.29	0.32	0.07
Calasetta	0.60	0.35	0.19	0.55	0.53	0.44	0.05
Campo nell'Elba	0.69	0.46	0.55	0.41	0.57	0.54	0.02
Capoliveri	0.64	0.62	0.55	0.37	0.58	0.55	0.02
Capraia Isola	0.30	0.46	0.48	0.10	0.72	0.41	0.10
Capri	0.35	0.60	0.56	0.20	0.39	0.42	0.05
Carloforte	0.69	0.29	0.25	0.28	0.55	0.41	0.08
Casamicciola Terme	0.34	0.41	0.20	0.11	0.37	0.28	0.04
Favignana	0.62	0.51	0.39	0.19	0.49	0.44	0.05
Forio	0.53	0.70	0.38	0.16	0.49	0.45	0.07
Ischia	0.52	0.56	0.40	0.14	0.58	0.44	0.06
Isola del Giglio	0.45	0.51	0.72	0.04	0.53	0.45	0.11
Isole Tremiti	0.23	0.27	0.49	0.02	0.68	0.34	0.15
La Maddalena	0.75	0.52	0.30	0.85	0.62	0.61	0.06
Lacco Ameno	0.27	0.54	0.20	0.40	0.58	0.40	0.05
Lampedusa e Linosa	0.54	0.35	0.27	0.03	0.60	0.36	0.12
Leni	0.49	0.39	0.13	0.04	0.50	0.31	0.11
Lipari	0.89	0.67	0.46	0.38	0.55	0.59	0.05
Malfa	0.51	0.54	0.37	0.12	0.63	0.43	0.07
Marciana	0.54	0.37	0.48	0.23	0.64	0.45	0.04
Marciana Marina	0.46	0.53	0.53	0.12	0.58	0.44	0.06
Pantelleria	0.82	0.53	0.29	0.28	0.46	0.48	0.08
Ponza	0.43	0.54	0.39	0.03	0.44	0.37	0.08
Porto Azzurro	0.48	0.47	0.47	0.08	0.54	0.41	0.07
Portoferraio	0.70	0.56	0.60	0.90	0.53	0.66	0.03
Procida	0.40	0.51	0.19	0.40	0.55	0.41	0.04
Rio	0.62	0.45	0.35	0.14	0.57	0.43	0.07
Santa Marina Salina	0.37	0.54	0.28	0.02	0.53	0.35	0.11
Sant'Antioco	0.87	0.36	0.27	0.37	0.52	0.48	0.09
Serrara Fontana	0.44	0.48	0.20	0.00	0.43	0.31	0.11
Ustica	0.50	0.56	0.25	0.02	0.81	0.43	0.17
Ventotene	0.18	0.65	0.50	0.27	0.48	0.42	0.07
Mean	0.52	0.50	0.37	0.23	0.54	0.43	
Median	0.50	0.52	0.37	0.17	0.54	0.43	
Min	0.18	0.27	0.13	0.00	0.29	0.28	
Max	0.89	0.70	0.72	0.90	0.81	0.66	

REL = territorial relevance; DEM = demography; SEC = socioeconomic development; WEL = welfare; ENV = environmental quality; TCI = territorial capital index; CV = coefficient of variation of the unidimensional scores.

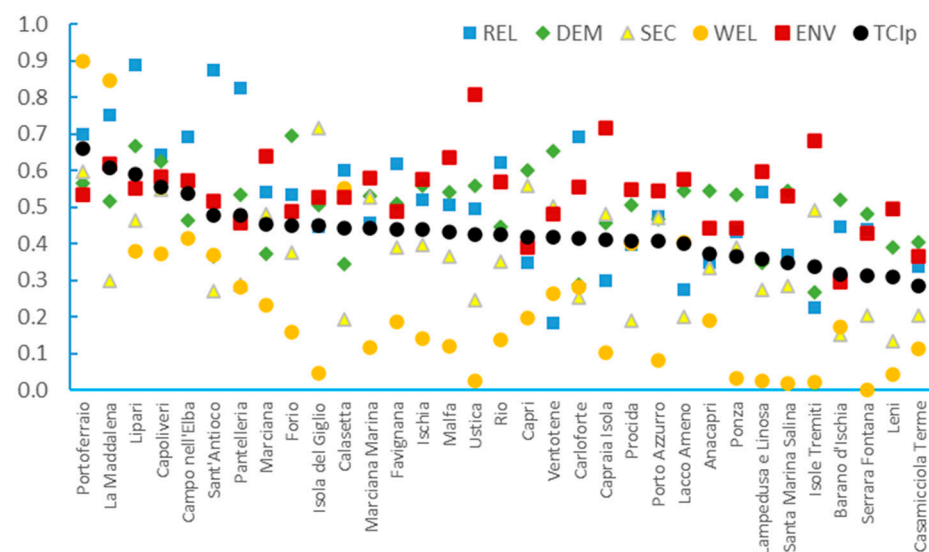
The socioeconomic dimension (SEC) encompasses five subdimensions: an analysis of income earners, the entrepreneurial structure, the labor force, the level of financial development, and the consistency of the tourism offer. The most developed municipalities along the socioeconomic dimension were Isola del Giglio (0.72), Portoferraio (0.60), and Capri (0.56), while the less developed were Leni (0.13), Barano d'Ischia (0.15), Procida (0.19), and Calasetta (0.19). It is worth noting that none of the best in their class had high scores in all subdimensions. For example, Isola del Giglio had high scores in the number of local units per inhabitants, in the presence of banks, and in the consistency of the tourism offered with respect to the overall number of local units, but relatively low scores in the other dimensions (income earners and employment). Portoferraio, instead, had high scores in the number of income earners and employees but low scores in the other subdimensions. Lastly, Capri had high scores in the number of employees, average scores for income earners and local units, and low scores in the other dimensions. Similarly, most of the worst performers had low scores in all subdimensions:

Leni had a relatively well-developed tourism offer, Barano d'Ischia had a relatively developed labor force, and Procida had a relatively high number of income earners and employees. Only Calasetta had low scores in all subdimensions.

The welfare dimension (*WEL*) encompasses four subdimensions: local welfare (early childhood and social services), healthcare, and culture. The most advanced municipalities in terms of welfare were Portoferraio (0.90), La Maddalena (0.85), and Calasetta (0.55), while several municipalities were at the bottom of the ranking, e.g., Serrara Fontana (0.00), Ustica (0.02), Santa Maria Salina (0.02), Isole Tremiti (0.02), Lampedusa e Linosa (0.03), Leni (0.04), Isola del Giglio (0.04), and Porto Azzurro (0.08). The two best in their class had high scores in all subdimensions except local welfare social services, where their expenditure was relatively low because data were weighted by the inverse of population level (which was relatively high). The low performers, instead, had null scores in all but social services, except Serrara Fontana, which had low values in all dimensions.

Lastly, the environmental dimension (*ENV*) encompasses three subdimensions: landslide risk, sustainable mobility, and water supply networks. The most environmentally sustainable municipalities were Ustica (0.81), Capraia Isola (0.72), and Isole Tremiti (0.68), while the unsustainable municipalities were Barano d'Ischia (0.29), Casamicciola Terme (0.37), Capri (0.39), Serrara Fontana (0.43), Ponza (0.44), and Anacapri (0.44). It is worth noting that the best performers had high scores in all subdimensions, except Isole Tremiti, which had a low score in sustainable mobility (0.26). Instead, three of the worst performers had high scores in sustainable mobility (Anacapri, Ponza, and Serrara Fontana), whereas Capri had average scores in sustainable mobility and water supply but was penalized by a high landslide risk, as in the case of Serrara Fontana.

Figure 2 provides a snapshot of the dispersion of unidimensional scores around the average value of the *TCI*. In general, it seems that the welfare and socioeconomic scores were often lower than the *TCI* score, while the environmental and demographic scores were often higher. This result suggests how the effective bottlenecks in the local development of the Italian small islands may lie in social and economic sustainability rather than in environmental and demographic sustainability. Additionally, as the relevance of the municipalities is rather heterogeneous, homogeneous policies may not achieve the expected result of triggering a locally sustainable development. Instead, data suggest how targeted approaches may better fit the peculiarities of each municipality.



**Figure 2.** *TCI* aggregate and unidimensional scores for the insular municipalities of the Italian small islands. Source: our elaboration of [44].

Table 2 illustrates the correlation matrix of the *TCI* scores, the unidimensional scores, and the average distances reported in Table A1. It is worth noting how the average



distances of each municipality from the pole of service seem to be negatively associated with the demographic variety and the level of local welfare but positively associated with the environmental sustainability and the dispersion of unidimensional scores around the average value of the *TCI*. Therefore, the coefficient of variation (*CV*), the demographic dimension (*DEM*), the level of local welfare (*WEL*), and the environmental sustainability (*ENV*) were regressed over the average distance from the pole of services (*DIS*) and over a set of dummy variables representing each pole (the reference pole was Livorno).

**Table 2.** Correlation matrix of the *TCI* index and its main domains.

	<i>TCIp</i>	<i>CV</i>	<i>REL</i>	<i>DEM</i>	<i>SEC</i>	<i>WEL</i>	<i>ENV</i>	<i>DIS</i>
<i>TCIp</i>	1.00							
<i>CV</i>	−0.45	1.00						
<i>REL</i>	0.67	−0.23	1.00					
<i>DEM</i>	0.36	−0.30	−0.02	1.00				
<i>SEC</i>	0.50	−0.20	−0.01	0.29	1.00			
<i>WEL</i>	0.78	−0.58	0.48	0.13	0.08	1.00		
<i>ENV</i>	0.30	0.36	0.06	−0.17	0.20	0.03	1.00	
<i>DIS</i>	−0.04	0.26	0.03	−0.22	0.13	−0.24	0.31	1.00

Table 3 illustrates the output of the four regression models. It is worth noting that none of the dependent variables were seemingly significantly affected by the average distances from the poles of services. Instead, some poles of services seemingly had an influence on the regression output. Specifically, unidimensional results were seemingly more dispersed for those municipalities referring to the poles of Foggia and Palermo (Isole Tremiti and Ustica). Similarly, the poles of Foggia and Carbonia seemingly had a negative effect on the demographic relevance of the municipalities (Isole Tremiti, and Calasetta, Carloforte, and Sant’Antioco). Lastly, environmental sustainability was seemingly positively related to the poles of Livorno and Palermo but negatively associated with the pole of Mazara del Vallo. In fact, these results were rather weak, and other variables omitted in this analysis seemingly affected the estimates, which consequently may have been biased and rather spurious. However, the weakness of these estimates may provide empirical evidence for the approach suggested in most island studies, whereby islands are idiosyncratic places, and their characteristics depend on their history rather than the center-periphery relations that they establish with their mainland.

**Table 3.** Regression analyses.

Dep. Var.	<i>CV</i>	<i>DEM</i>	<i>WEL</i>	<i>ENV</i>
Intercept	0.0778 (0.0445)	0.7116 *** (0.0000)	0.5022 (0.3437)	0.4633 *** (0.1153)
DIS	−0.0003 (0.0004)	−0.0021 (0.1107)	−0.0021 (0.0032)	0.0010 (0.0011)
S1	0.1184 (0.0940)	0.2878 (0.3066)	0.1735 (0.7179)	−0.1868 (0.2407)
S2	0.0259 (0.0305)	−0.0055 (0.9511)	−0.3003 (0.2328)	−0.1033 (0.0781)
S3	0.0054 (0.0338)	−0.3015 *** (0.0066)	−0.0249 (0.2580)	0.0319 (0.0865)
S4	0.1034 *** (0.0292)	−0.2198 ** (0.0187)	−0.2547 (0.2232)	0.1074 (0.0748)
S5	0.0112 (0.0315)	0.0982 (0.2976)	−0.0805 (0.2403)	−0.0597 (0.0806)
S6	0.0456 (0.0297)	−0.0673 (0.4457)	−0.2113 (0.2266)	0.1614 ** (0.0760)

Table 3. Cont.

Dep. Var.	CV	DEM	WEL	ENV
S7	0.0414 (0.0335)	0.1183 (0.2403)	0.0732 (0.2558)	−0.1526 * (0.0858)
S8	0.0286 (0.0201)	−0.0160 (0.7877)	−0.2022 (0.1539)	0.0113 (0.0516)
S9	−0.0193 (0.0299)	−0.0253 (0.7745)	−0.1949 (0.2284)	−0.1027 (0.0766)
S10	−0.0046 (0.0360)	−0.0827 (0.4396)	0.4547 (0.2748)	0.0992 (0.0921)
S11	0.1185 *** (0.0291)	0.0627 (0.4692)	−0.2613 (0.2226)	0.2375 *** (0.0746)
S12	−0.0021 (0.0263)	−0.0750 (0.3402)	−0.1970 (0.2009)	−0.0470 (0.0674)
S13	−0.0145 (0.0345)	−0.0775 (0.4511)	−0.1914 (0.2640)	−0.0349 (0.0885)
Adj. R <sup>2</sup>	0.13	0.40	0.41	0.51
Obs.	33	33	33	33

S1–S13 are dummy variables representing all poles of services considered in the analysis, except for Grosseto, which was used as a baseline. Values in parentheses are the standard errors of the regression coefficients. \* Estimates are significant at the 0.01 level; \*\* estimates are significant at the 0.05 level; \*\*\* estimates are significant at the 0.1 level.

#### 4. Discussion

As outlined in Section 1, the aim of this research was threefold: (i) to evaluate through a multidimensional analysis the consistency of territorial capital of the 33 insular municipalities located on Italian small islands; (ii) to separately evaluate each dimension included in the analysis to assess its relevance on the overall judgement; (iii) to test the relevance of the relation between the small islands municipalities and their poles of services [33]. The three research goals were implemented by developing a screening exercise involving five dimensions: administrative relevance, demographic structure, socioeconomic development, welfare policies, and environmental risks. For each dimension, an overall score was obtained by aggregating the elementary scores computed for a set of elementary indices. Using the results of a correlation analysis, four regression models were run to test whether distances from the poles of services and their degree of centrality may play a role in affecting the local development of insular municipalities.

Overall, the results of the multidimensional analysis were coherent with the main theoretical constructs developed in island studies. Specifically, data highlighted the extreme heterogeneity of the municipalities located in the Italian small islands, highlighting the existence of fault lines [13], as also seen in a relatively homogenous group of islands (Mediterranean islands [24], subnational jurisdictions [16], small islands [22], and peripheral territories with respect to the territorial poles of services [33], characterized by local specificities). Furthermore, the results suggested some similarities with the societal challenges faced by the so-called inner areas, e.g., a lack of demographic mass, underdeveloped socioeconomic structure, and remoteness. However, there were also some differences; except in a few cases, the Italian small islands were not affected by depopulation processes and, contrary to the case of the Italian inner areas [33], territorial distances did not seem to play a role in the local development, at least in quantitative terms. Consequently, rather than focusing on center-periphery relations, the empirical evidence calls for a more in-depth analysis of the specificities of the Italian small islands, the historical determinants of their islandness [10,22–24], and the effects of the latter on multiple dimensions (culture, local institutions, local economy, openness, etc.).

Being a first attempt of interpretation of the available data on the Italian small islands, this research focused only on the municipal level, without considering aggregate results for each island. This limitation, however, could be easily overcome with further research, which may allow the merging of the publicly available ISTAT data at the municipal level with sectorial data collected by other institutions (see, as an example, the infographics elaborated in [2–4,8]). In fact, other than narrowing their archipelagic distances and their distance from the mainland, islands may overcome the risk of isolation by engaging in spatial networks based on nongeographic proximity (cognitive, socioeconomic, organizational, etc.) [28]. It is worth noting that the municipalities of the Italian small islands are already represented by the National Association of Small Islands Municipalities (Associazione nazionale Comuni Isole Minori—ANCIM) [47], which was founded in 1986 and currently represents 35 municipalities and more than 200,000 residents, with the aim of (1) overcoming marginalization, peripherality, and gaps related to insularity (e.g., school, social, and health systems, material and immaterial infrastructures, and transport), (2) overcoming tourism-centered development through the valorization of sociocultural traditions and typical quality products, and (3) putting aside fractioned development actions to regain the strength of a common and integrated action [47].

Additional examples of existing networks are the Croatian “Movement of the Islands” (Pokret Otoka) [48] and the well-established Network of Sustainable Greek Islands (DAFNI) [49]. Concerning the former, it is worth noting that the Dalmatian islands are administratively dependent on the centers on the coast, and the interests of tourism operators inevitably have an impact on their long-term development. These issues and many overlooked problems faced by the islanders are at the origin of a movement aimed at imagining a sustainable future for the islands, combining tourism with environmental protection with a focus on residents’ needs [50]. Instead, the latter (DAFNI) is a non-profit organization of local and regional island authorities (it has 56 members, including 52 island municipalities) that has existed since 2006. Its aim is to strengthen the local governance in order to undertake sustainable development through the integrated management of natural resources and infrastructure, the adoption of sustainable tourism, and greater interdependence among economic sectors. In sum, an analysis of the similarities existing within the Italian small islands and between the Italian small islands and other territories may trigger the development of new spatial networks. In addition to in-depth analyses of single territories, similarity analyses may be implemented at the municipal level or by considering single islands to emphasize the public nature of the environmental and territorial dimension ([2–4,8] represent the best practices in this field).

In addition to the limitations concerning the geographic scale adopted, this research could be improved by developing a dynamic version of the *TCI*. In fact, ISTAT frequently publishes updates of the Italian Statistical Atlas of Municipalities [44]; consequently, the *TCI* may be periodically computed using new data, and the results may be compared with previous iterations to identify dynamic trends in the evolution of the Italian small islands and their municipalities. Furthermore, the same index could be used to analyze the Italian municipalities located in the Italian inner areas, and this comparative (spatial) analysis may provide new insights concerning similarities and differences among the multidimensional implications of insularity and mountain areas in terms of access to public services and local development. Furthermore, different normalization criteria and rules of aggregation may be used, and the statistical evidence built may lead to the implementation of some sort of sensitivity analysis of the results initially achieved [46,51].

Concerning the demographic dimension, the Italian small islands are characterized by a heterogeneous mix of population, population density, local dwellers, foreign residents, and family relations. Consequently, they could be ideal territories for social experiments that, in case of success, could be replicated at wider scales, benefitting the whole society. Democratic experimentation is part of the place-based policies for local development, and the Italian small islands, being now the 73rd project area of the Italian Strategy for Inner Areas, which may play a pivotal role in driving experimentation concerning the polycentric

organization of peripheral territories, as archipelagos and island networks, in general, are polycentric in nature. Specifically, attention should be paid to a culturally sustainable local development of islands along four dimensions: insular identity, fragile and vulnerable social groups (local, foreign, or tourists), territorial development tailored to local needs, and socioeconomic development privileging deseasonalized tourism activities as means for engaging in more strategic and dematerialized socioeconomic sectors, e.g., the cultural and creative industries. This strategic approach is not much different from that adopted by many Italian inner areas (see, as an example, [52]).

In brief, the perception of the Italian small islands as peripheral territories may turn into a more attractive concept of “territorial niches”. Said differently, the Italian small islands should be considered idiosyncratic territories and environments, often endowed with an unexploited potential for cultural and socioeconomic development. Specifically, the environmental isolation may offer unexpected protection from socioeconomic turmoil, as it may allow regulating fluxes of people, goods, and services. Moreover, the need to be spatially connected to the mainland to overcome physical distances, if satisfied with adequate broadband infrastructures, may become a distinct competitive advantage with respect to territories that, due to their proximity to the poles of services, do not structurally need to be at the frontier of the digital revolution.

In conclusion, it cannot be taken for granted that each peripheral territory will autonomously trigger a digital revolution (e.g., will develop digital connections with the mainland and the poles of services, as well as activate learning processes locally). Consequently, the Italian small islands need a mission-oriented public action [53,54] aimed at narrowing the physical and socioeconomic distances from the mainland through central policies aimed at triggering the digital revolution in the insular localities. In addition to national policies, support may be offered from the European Union through the Smart Islands Initiative [55]. The latter is a bottom-up network of European island authorities and communities aimed at communicating the image of islands as laboratories for technological, social, environmental, economic, and political innovation. Similarly, local public policies should be empowered to “shape” the local tourism offer, making tourism an attractor of resources rather than an extractive sector and a threat to the local equilibria. Specifically, as already pointed out, tourism should be considered (i) as a means to accumulate the resources to engage in more strategic economic sectors and (ii) as a facilitator of the ecological transition through the reinvestment of profits in eco-efficient innovation [17,21,26].

## 5. Conclusions

This research illustrated how the Italian small islands are ideal contexts for turning a constraint, e.g., the absence of geographic proximity to the mainland, into an opportunity for activating relations on the basis of a mix of embeddedness and market relations in support of a particular knowledge economy that may overcome peripheralization by enhancing diversity and complementarities. It is, therefore, necessary to identify those generalizations that may be useful to improve the awareness of insular resources for development without ignoring the local specificities.

On the basis of these considerations, the multidimensional analysis of the Italian small islands focused on five dimensions (specifically, demography, welfare, socioeconomic development, and environmental and territorial issues) and involved 33 insular municipalities. In general, the relevance and the characteristics of the insular municipalities were revealed to be rather heterogeneous, and social and economic vulnerabilities may seemingly negatively affect the digital transformation and the ecological transition of the Italian small islands. Furthermore, the average distances of each municipality from the pole of service seem negatively associated with the demographic variety and the level of local welfare but positively associated with environmental sustainability and a “balanced” local development. Lastly, the weakness of regression estimates may provide empirical evidence in support of the thesis that islands are idiosyncratic places whose characteristics

depend on their historical evolution rather than the center-periphery relations that they establish with the mainland.

At the political level, the statistical evidence built suggests how, because of their multi-faceted nature, the Italian small islands call for political actions along multiple dimensions (environmental, territorial, economic, social, and cultural), and their tiny size poses unusual challenges on the epistemological side. Specifically, the effectiveness of public policies may be deeply related to the adoption of a mission-oriented approach and to the eradication of the existing “epistemic injustices” [39], i.e., to the ability of policymakers to develop a transdisciplinary cognitive map of the local contexts and to co-design, with all local and external stakeholders and value-holders, policies aimed at leaving (and keeping) no one behind [40,41].

This research focused only on the municipal level, without considering aggregate results for each island. This limitation, however, could be easily overcome with further research, which may allow the merging of ISTAT data at the municipal level with sectorial data collected by other institutions. In addition to the limitations concerning the geographic scale adopted, this research could be improved by developing a dynamic version of the TCI to identify dynamic trends in the evolution of the Italian small islands and of their municipalities. Furthermore, the same index could be used to analyze the Italian municipalities located in the Italian inner areas, and this comparative (spatial) analysis may provide new insights concerning similarities and differences among the multidimensional implications of insularity and mountain areas in terms of access to public services and local development. Lastly, it could be of interest to design a multidimensional analysis for the other Mediterranean insular and archipelagic territories to achieve a more detailed cognitive map of the Mediterranean islands and to support the development of cooperation policies in an area that has historically been characterized by intense relations and trade flows among insular and coastal cultures.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** The data presented in this study are openly available online at the following URL: <https://asc.istat.it/ASC/> (accessed on 4 July 2022); <https://politichecoesione.governo.it/it/strategie-tematiche-e-territoriali/strategie-territoriali/strategia-nazionale-aree-interne-snai/lavori-preparatori-snai-2021-2027/mappa-aree-interne-2020/> (accessed on 4 July 2022).

**Conflicts of Interest:** The author declares no conflict of interest.

## Appendix A

As illustrated in Equations (3) and (4), the indicator scores were obtained as a weighted average of the normalized values calculated for the items. The weights were assigned according to two criteria: (i) weights were assigned by maintaining a balanced judgement of absolute and relative measures; (ii) relevant items received a higher weight. As an example, considering the indicator SC3, item X16 received a weight of 0.5, while X17 and X18 received a weight of 0.25. Since X16 is an absolute measure of the size of the employed workforce, while X17 and X18 are relative measures, the overall assessment of the size of the locally employed workforce reflects its absolute and relative size with equal weights. An exception was made for DM2, where the relative ratio of foreigners to the local population (X08) was weighted more than its absolute relevance (X07) and where the absolute and relative size of the foreign population (X07 and X08) received a higher weight than the qualitative composition (X09 and X10). Lastly, EN2, X28, X29, and X30 were weighted according to their environmental sustainability (on a small island, it seems more sustainable to improve the local public transport than to use motorbikes or other private transport means included in the total vehicle fleet). It is worth noting that a confirmatory factor

analysis (CFA) may provide evidence in support of the weights selected; however, it may also dilute their theoretical coherence.

**Table A1.** Summary statistics of the Italian small island municipalities included in the analysis.

Region	Province	Municipality	Surface (km <sup>2</sup> , 2019)	Population (2020)	COD_AI (2020)	Av. Distance (min)	Pole
Toscana	Livorno	Campo nell'Elba	55.79	4710	F	116.0	Grosseto
Toscana	Livorno	Capoliveri	39.56	3857	F	112.7	Grosseto
Toscana	Livorno	Capraia Isola	19.33	391	F	91.3	Livorno
Toscana	Livorno	Marciana	45.45	2050	F	127.5	Grosseto
Toscana	Livorno	Marciana Marina	5.86	1894	F	118.5	Grosseto
Toscana	Livorno	Porto Azzurro	13.33	3704	F	103.5	Grosseto
Toscana	Livorno	Portoferraio	48.03	11914	F	93.6	Grosseto
Toscana	Livorno	Rio	36.52	3348	F	91.3	Grosseto
Toscana	Grosseto	Isola del Giglio	24.01	1345	F	74.4	Grosseto
Lazio	Latina	Ponza	10.16	3301	F	83.4	Anzio
Lazio	Latina	Ventotene	1.75	736	F	76.4	Formia
Campania	Napoli	Anacapri	6.47	6940	E	55.6	Napoli
Campania	Napoli	Barano d'Ischia	10.96	9845	E	53.4	Pozzuoli
Campania	Napoli	Capri	4.06	6937	E	55.8	Napoli
Campania	Napoli	Casamicciola Terme	5.85	7802	E	42.5	Pozzuoli
Campania	Napoli	Forio	13.08	17,410	E	51.8	Pozzuoli
Campania	Napoli	Ischia	8.14	19,602	E	43.9	Pozzuoli
Campania	Napoli	Lacco Ameno	2.08	4641	E	48.4	Pozzuoli
Campania	Napoli	Procida	4.26	10,183	E	60.6	Pozzuoli
Campania	Napoli	Serrara Fontana	6.44	3023	E	63.1	Pozzuoli
Puglia	Foggia	Isole Tremiti	3.18	451	F	110.0	Foggia
Sicilia	Trapani	Favignana	38.31	4270	E	60.4	Trapani
Sicilia	Trapani	Pantelleria	84.53	7366	F	144.0	Mazara del Vallo
Sicilia	Palermo	Ustica	8.24	1271	F	106.0	Palermo
Sicilia	Messina	Leni	8.79	689	F	92.5	Milazzo
Sicilia	Messina	Lipari	89.71	12266	E	53.9	Milazzo
Sicilia	Messina	Malfa	8.74	983	F	89.5	Milazzo
Sicilia	Messina	Santa Marina Salina	8.78	850	F	77.1	Milazzo
Sicilia	Agrigento	Lampedusa e Linosa	25.22	6337	F	317.6	Agrigento
Sardegna	Sassari	La Maddalena	51.67	10722	E	54.4	Olbia
Sardegna	Sud Sardegna	Calasetta	31.06	2803	D	33.3	Carbonia
Sardegna	Sud Sardegna	Carloforte	51.10	5960	E	60.1	Carbonia
Sardegna	Sud Sardegna	Sant'Antioco	87.89	10,767	C	19.1	Carbonia

A = pole; B = intermunicipal pole; C = belt; D = intermediate; E = peripheral; F = ultra-peripheral. Average distance for C = 18.99; D = 33.77; E = 50.81; F = 80.3. Source: [56].

**Table A2.** The structure of the territorial capital index: domains, indicators, items, and weights.

Domain	Indicator	Label	Item	Label	Weight
REL	RL1	Administrative Relevance	X01	Population as of 1 January 2020	0.5
			X02	Area (km <sup>2</sup> ) in 2020	0.5
	RL2	Demography	X03	Population density	0.5
			X04	Ratio of females to males in 2020	0.5
DEM	DM1	Local identity	X05	Born alive (%) same municipality/province of residence in 2018	0.8
			X06	Babies born alive (%) in the same region of residence in 2018	0.2
	DM2	Openness	X07	Foreign population as of 1 January 2020	0.2
			X08	Ratio of foreigners to local population in 2020	0.5
			X09	Ratio of European foreigners to world in 2020	0.2
			X10	Ratio of female to male foreigners in 2020	0.1
	DM3	Family relations	* X11	Marriages (since 2017) 16 years and older in 2018	0.5
			X12	Ratio of religious marriages to total marriages	0.5
SEC	SC1	Income earners	X13	Taxpayers in 2018	0.5
			X14	Ratio of taxpayers to population in 2018	0.5
	SC2	Local units	* X15	Number of local units of active enterprises in 2018	1
	SC3	Employees	X16	Number of employees in local units of active enterprises (yearly average values) in 2018	0.5
			X17	Ratio of employees to population (different year)	0.25
			X18	Ratio of employees to local units	0.25
	SC4	Financial relevance	* X19	Bank branches in 2019	1
	SC5	Tourism offer	* X20	Total number of hospitality structures in 2020	0.75
* X21			Authorized agritourism enterprises in 2019	0.25	
WEL	WL1	Local welfare early childhood	* X22	Users in 2014	0.5
			* X23	Total expenditure (EUR) in 2014	0.5
	WL2	Local welfare social services	* X24	Total expenditure (EUR) in 2014	1
	WL3	Public health	X25	Public healthcare institutions in 2017	1
WL4	Culture	X26	Number of museums or similar institutions in 2018	1	
ENV	EN1	Landslide risk	X27	Pai landslide hazard area total/area	1
	EN2	Sustainable Mobility	X28	Vehicle fleet 2018/population	0.3
			X29	Vehicle fleet buses and trams 2018/population	0.5
			X30	Vehicle fleet motorbikes 2018/population	0.2
	EN3	Water supply networks	* X31	Water injected into municipal potable water distribution networks (thousands of m <sup>3</sup> ) in 2015	0.5
			X32	Difference between water delivered and injected into municipal potable water networks (%) in 2015	0.5

\* This variable was weighted by the inverse of population level in 2020 to improve the significance of the related indicators.

## References

- Haase, D.; Maier, A. *Research for REGI Committee—Islands of the European Union: State of Play and Future Challenges*; European Parliament, Policy Department for Structural and Cohesion Policies: Brussels, Belgium, 2021; pp. 1–48. [CrossRef]
- Biondo, C.; Zanchini, E.; Petracchini, V.; Tomassetti, L.; Segreto, M.; Cozza, V.; Rizza, V. *Sustainable Islands Report. 2020 Edition*; Legambiente, CNR-IIA: Rome, Italy, 2020; pp. 1–114; ISBN 978-88-6224-020-8.
- Biondo, C.; Zanchini, E.; Petracchini, V.; Tomassetti, L.; Segreto, M.; Battistelli, F.; Messina, A.; Montiroli, C. *Sustainable Islands Report. 2021 Edition*; Legambiente, CNR-IIA: Rome, Italy, 2021; pp. 1–146; ISBN 978-88-6224-024-6.
- Biondo, C.; Zanchini, E.; Petracchini, V.; Messina, A.; Battistelli, F.; Tomassetti, L.; Segreto, M. *Rapporto Isole Sostenibili Edizione 2022*; Legambiente, CNR-IIA: Rome, Italy, 2022; pp. 1–108; ISBN 978-88-6224-026-0.
- Barca, F. An Agenda for a Reformed Cohesion Policy: A Place-Based Approach to Meeting European Union Challenges and Expectations. Independent Report Prepared at the Request of Danuta Hübner, Commissioner for Regional Policy. 2009, pp. 1–218. Available online: [https://www.europarl.europa.eu/meetdocs/2009\\_2014/documents/regi/dv/barca\\_report\\_/barca\\_report\\_en.pdf](https://www.europarl.europa.eu/meetdocs/2009_2014/documents/regi/dv/barca_report_/barca_report_en.pdf) (accessed on 4 July 2022).

6. Comune di Procida; CampiFlegrei. Procida 2022/Capitale Italiana Della Cultura/Città Candidata. 2022, pp. 1–60. Available online: [https://static1.squarespace.com/static/5fc53050abaecd33183e3c8a/t/620e579073c47f3baf04a98/1645107091834/procida2022\\_dossier.pdf](https://static1.squarespace.com/static/5fc53050abaecd33183e3c8a/t/620e579073c47f3baf04a98/1645107091834/procida2022_dossier.pdf) (accessed on 4 July 2022).
7. Gallia, A. *Le Risorse Idriche Nell'Isola di Ponza*; Carocci: Rome, Italy, 2019; pp. 1–173; ISBN 9789943096244.
8. Barrella, R.; Biondo, C.; Cozza, V.; Petracchini, V.; Rizza, V.; Zanchini, E. *Isole Sostenibili. Osservatorio Sulle Isole Minori. Energia | Economia Circolare | Acqua | Mobilità. Le sfide Per Le Isole Minori Italiane e Le Buone Pratiche Dal Mondo*, 1st ed.; Legambiente, CNR-IIA: Rome, Italy, 2019; pp. 2–77.
9. Scandurra, G.; Romano, A.A.; Ronghi, M.; Carfora, A. On the vulnerability of small island developing states: A dynamic analysis. *Ecol. Indic.* **2018**, *84*, 382–392. [[CrossRef](#)]
10. Baldacchino, G. Islands, Island Studies, Island studies journal. *Isl. Stud. J.* **2006**, *1*, 3–18. [[CrossRef](#)]
11. Baldacchino, G. Warm versus cold water island tourism: A review of policy implications. *Isl. Stud. J.* **2006**, *1*, 183–200. [[CrossRef](#)]
12. Anckar, D. Islandness or smallness? A comparative look at political institutions in small island states. *Isl. Stud. J.* **2006**, *1*, 43–54. [[CrossRef](#)]
13. Hay, P. A phenomenology of islands. *Isl. Stud. J.* **2006**, *1*, 19–42. [[CrossRef](#)]
14. Depraetere, C. The Challenge of Nissology: A global outlook on the world archipelago-Part I: Scene setting the world archipelago. *Isl. Stud. J.* **2008**, *3*, 3–16. [[CrossRef](#)]
15. Depraetere, C. The challenge of nissology: A global outlook on the world archipelago-Part II: The global and scientific vocation of nissology. *Isl. Stud. J.* **2008**, *3*, 17–36. [[CrossRef](#)]
16. Groome Wynne, B. Social capital and social economy in sub-national island jurisdictions. *Isl. Stud. J.* **2007**, *2*, 115–132. [[CrossRef](#)]
17. Oberst, A.; Mc Enroy, L.J. Contrasting socio-economic and demographic profiles of two, small island, economic species: MIRAB versus PROFIT/SITE. *Isl. Stud. J.* **2007**, *2*, 163–176. [[CrossRef](#)]
18. Baldacchino, G. Studying islands: On whose terms? Some epistemological and methodological challenges to the pursuit of island studies, *Isl. Stud. J.* **2008**, *3*, 37–56.
19. Joseph, M. Nomadic identities, archipelagic movements and island diasporas, *Isl. Stud. J.* **2021**, *16*, 3–8. [[CrossRef](#)]
20. Messina, G. Hospitality and exchange: Identity relationships between ‘natives’ and ‘foreigners’ in Sardinia. *Isl. Stud. J.* **2021**, *16*, 97–116. [[CrossRef](#)]
21. Mohan, S.P. Sustainable tourism and the sustainable development goals in sub-national island jurisdictions: The case of Tobago. *Isl. Stud. J.* **2021**, *1*–22. [[CrossRef](#)]
22. Nimführ, S.; Otto, L. (Un) Making smallness: Islands, spatial ascription processes and (im)mobility. *Isl. Stud. J.* **2021**, *16*, 39–58. [[CrossRef](#)]
23. Ronström, O. Remoteness, islands and islandness. *Isl. Stud. J.* **2021**, *16*, 270–297. [[CrossRef](#)]
24. Staniscia, S. Island-ness. In *Arcipelago Mediterraneo Strategie di Riqualificazione e Sviluppo Nelle Città-Porto Delle Isole*; De Luca, G., Lingua, V., Eds.; Alinea editrice s.r.l.: Florence, Italy, 2012; pp. 19–25. ISBN 9788860557056.
25. Gallia, A. La valorizzazione dei beni culturali e ambientali per lo sviluppo delle isole minori italiane. *Riv. Giuridica Del Mezzog.* **2012**, *4*, 929–960. [[CrossRef](#)]
26. Salustri, A.; Appolloni, A. Brevi riflessioni sullo sviluppo locale sostenibile nelle Isole Minori italiane. In *Le Dinamiche Della Conoscenza Nel Green Deal*; Maglio, M., Ed.; Tab Edizioni: Rome, Italy, 2021; pp. 165–179. ISBN 9788892952652.
27. Gallia, A.; Malatesta, S. Le Isole Minori italiane nelle Missioni del PNRR. Una visione sul futuro. *Doc. Geogr.* **2022**, *1*, 161–174. [[CrossRef](#)]
28. Boschma, R. Proximity and innovation: A critical assessment. *Reg. Stud.* **2005**, *39*, 61–74. [[CrossRef](#)]
29. Kühn, M. Peripheralization: Theoretical concepts explaining socio-spatial inequalities. *Eur. Plan. Stud.* **2015**, *23*, 367–378. [[CrossRef](#)]
30. Salustri, A.; Viganò, F. The Non-Profit Sector as a Foundation for the Interaction Among the Social Economy, the Public Sector and the Market. MPRA Working Paper n. 78113. Available online: [https://mpra.ub.uni-muenchen.de/78113/1/MPRA\\_paper\\_78113.pdf](https://mpra.ub.uni-muenchen.de/78113/1/MPRA_paper_78113.pdf) (accessed on 4 July 2022).
31. PCM-DPS. Rapporto di Istruttoria per la Selezione delle Aree Interne 2021–2027. ISOLE MINORI. Available online: <https://www.ministropereilsud.gov.it/media/2896/istruttoria-comuni-isole-minori.pdf> (accessed on 4 July 2022).
32. Fucito, L.; XVIII legislatura. Dossier del Servizio Studi Sul Riconoscimento Degli Svantaggi Naturali Derivanti Dall'insularità (A.S. n. 865). Servizio Studi del Senato, Ufficio Ricerche Sulle Questioni Regionali e Delle Autonomie Locali. Available online: <https://www.senato.it/service/PDF/PDFServer/BGT/01155127.pdf> (accessed on 4 July 2022).
33. Barca, F.; Casavola, P.; Lucatelli, S. *A Strategy for Inner Areas in Italy: Definition, Objectives, Tools and Governance*; Materiali Uval Series: Rome, Italy, 2014; pp. 1–66. Available online: [https://www.agenziacoesione.gov.it/wp-content/uploads/2020/07/MUVAL\\_31\\_Aree\\_interne\\_ENG.pdf](https://www.agenziacoesione.gov.it/wp-content/uploads/2020/07/MUVAL_31_Aree_interne_ENG.pdf) (accessed on 4 July 2022).
34. Isole Minori, Prima Area Ufficiale Della SNAI 2021–2027. Available online: <http://territori.foromez.it/content/isole-minori-prima-area-ufficiale-snai-2021-2027> (accessed on 4 July 2022).
35. Italian Government, Piano Nazionale di Ripresa e Resilienza, # NextGenerationItalia, Italia Domani. 2021. Available online: <https://www.governo.it/sites/governo.it/files/PNRR.pdf> (accessed on 4 July 2022).
36. Italia Domani, Green Islands. Available online: <https://italiadomani.gov.it/it/Interventi/investimenti/isole-verdi.html> (accessed on 4 July 2022).



37. Italia Domani, Ultra-Fast Networks-Ultra-Wideband and 5G. Available online: <https://italiadomani.gov.it/en/Interventi/investimenti/reti-ultraveloci-banda-ultra-larga-e-5G.html> (accessed on 4 July 2022).
38. Palmentieri, S. Nuove prospettive dell'insularità. *Procida Capitale Italiana della Cultura* 2022. *Semest. Di Studi E Ric. Di Geogr.* **2021**, *2*, 99–115. [CrossRef]
39. Fricker, M. *Epistemic Injustice: Power and the Ethics of Knowing*; Oxford University Press: New York, NY, USA, 2007; ISBN 9780198237907.
40. Sacchetti, S. Inclusive and exclusive social preferences: A Deweyan framework to explain governance heterogeneity. *J. Bus. Ethics* **2015**, *126*, 473–485. [CrossRef]
41. Sacchetti, S.; Borzaga, C. The foundations of the “Public Organisation”: Governance failure and the problem of external effects. *J. Manag. Gov.* **2021**, *25*, 731–758. [CrossRef]
42. Navarro, M.; Gibaja, J.J.; Franco, S.; Murciego, A.; Gianelle, C.; Hegyi, F.B.; Kleibrink, A. *Regional Benchmarking in the Smart Specialisation Process: Identification of Reference Regions Based on Structural Similarity*; S3 Working Paper Series n. 3; Institute for Prospective and Technological Studies, Joint Research Centre: Seville, Spain, 2014; pp. 1–40. Available online: [https://www.researchgate.net/profile/Alexander-Kleibrink/publication/264129231\\_Dataset\\_Benchmarking\\_regional\\_structure/links/53cf8b650cf2f7e53cf8102a/Dataset-Benchmarking-regional-structure.pdf](https://www.researchgate.net/profile/Alexander-Kleibrink/publication/264129231_Dataset_Benchmarking_regional_structure/links/53cf8b650cf2f7e53cf8102a/Dataset-Benchmarking-regional-structure.pdf) (accessed on 4 July 2022).
43. Cerutti, S.; Emanuel, C.; Tadini, M. Mosaic/Mosaic. *Mem. Geogr. Nuova Ser.* **2019**, *17*, 9–10.
44. Atlante Statistico dei Comuni (ASC). Available online: <https://asc.istat.it/ASC/> (accessed on 4 July 2022).
45. Stec, M.; Grzebyk, M. The implementation of the Strategy Europe 2020 objectives in European Union countries: The concept analysis and statistical evaluation. *Qual. Quant.* **2018**, *52*, 119–133. [CrossRef]
46. Walesiak, M.; Dehnel, G.; Obrebalski, M. Assessment of the Europe 2020 strategy: A multidimensional indicator analysis via dynamic relative taxonomy. *Energies* **2021**, *14*, 4990. [CrossRef]
47. Associazione Nazionale Comuni Isole Minori (ANCIM). Available online: <https://www.ancim.it/> (accessed on 4 July 2022).
48. Pokret Otoka. Available online: <https://www.otoci.eu/> (accessed on 4 July 2022).
49. Network of Sustainable Greek Islands (DAFNI). Available online: <https://dafninetwerk.gr/en/> (accessed on 4 July 2022).
50. Vale, G. The Political Awakening of Croatia's Islands. *Osservatorio Balcani e Caucaso Transeuropa*. Available online: <https://www.balcanicaucaso.org/eng/Areas/Croatia/The-political-awakening-of-Croatia-s-islands-180868> (accessed on 4 July 2022).
51. Becker, W.; Norlén, H.; Dijkstra, L.; Athanasoglou, S. Wrapping up the Europe 2020 strategy: A multidimensional indicator analysis. *Environ. Sustain. Indic.* **2020**, *1*, 100075. [CrossRef]
52. Strategia Aree Interne. Area Interna Alta Tuscia Antica Città di Castro. Strategia d'area. Available online: <https://www.agenziacoesione.gov.it/wp-content/uploads/2020/12/Lazio-Alta-Tuscia-strategia.pdf> (accessed on 4 July 2022).
53. Mazzucato, M. *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*; Anthem Press: London, UK, 2015; ISBN 978-0857282521.
54. Mazzucato, M. *Non sprechiamo questa crisi*; Special edition for GEDI Editorial Group, S.p.A. Licenced by Gius; Laterza & Figli Spa: Turin, Italy, 2020; ISBN 9788858142875.
55. Smart Islands Initiative. Available online: <http://www.smartislandsinitiative.eu/en/index.php> (accessed on 4 July 2022).
56. Mappa Aree Interne 2020. Available online: <https://politichecoesione.governo.it/it/strategie-tematiche-e-territoriali/strategie-territoriali/strategia-nazionale-aree-interne-snai/lavori-preparatori-snai-2021-2027/mappa-aree-interne-2020/> (accessed on 4 July 2022).