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THE IMPACT OF COVID-19 CRISIS ON ITALIAN PROXIMITY TOURISM: AN ORIGIN-DESTINATION MATRIX APPROACH

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Abstract

The importance of proximity tourism has increased in the recent years due to COVID-19 crisis. Due to restrictions imposed by Governments to contain contagions, people could not cross national borders. Considering the work carried out by Guardia and Muro (2009) first, Domínguez (2014), and Alvarez-Díaz et al. (2020) later, this work focuses on the assessment of proximity tourism in Italy in the 2019-2020-2021 period. This study is based on the analysis of microdata made available by ISTAT (Italian Institute of Statistics). The work proposes to shed more light on the concept of proximity tourism and, in so doing, authors used an origin-destination matrix approach by calculating the coefficient of tourist attractiveness. The results of the study suggest a significant increase in trips within the Italian territory. Furthermore, these findings are also important in the political and market-decision sphere to orient internal and local policies in terms of domestic tourism.

Keywords: *Pandemic, Domestic Tourism, Tourism Attractiveness Coefficient*

1. INTRODUCTION

COVID-19 has caused more than six million deaths worldwide and has infected more than 762 million people (WHO, 2023). The pandemic has led to an economic recession mainly due to restraints by government apparatuses, as well as travel restrictions, quarantines, and social estrangement (Sht, 2020). One of the most immediate consequences has been reflected in international tourism and domestic tourism, which compared to other sectors has had a different and more complicated recovery (Sht, 2020).

The growth prospects of many sectors in different countries have been undermined by this emergency, which has been not only health-related but also economic and social (Angeloni, 2021).

Due to the pandemic, the full vulnerability of tourism systems has come out into the opening globally, nationally, and locally, and this has resulted in a catastrophic scenario characterized by poor prospects and pre-existing fragilities (Angeloni, 2021).

Economically, therefore, the spread of the pandemic has led to inevitable consequences for all countries around the world (ENIT, 2020). Tourism, however, is not an exclusively economic sector; its relevance is also social and environmental, which is why promoting and supporting it can bring long-term benefits (Mariotti et al., 2020).

Italy, which has always had a strong tourist vocation, has been severely hit by very pronounced losses for the activities of travel agencies, tour operators, air transport, trade fair-congress operators, accommodation, and restaurant facilities (Angeloni, 2021).

Similarly, it is possible to outline the prospects for Italian tourism in the pre-and post-Covid-19 era. Based on the survey titled "Occupancy of tourist accommodation establishments", conducted by ISTAT in 2019, the arrivals at Italian accommodation establishments, including both hotels and non-hotel establishments, totaled 131.3 million, with 65.0 million arrivals attributed to non-resident foreigners (49.5%) and 66.3 million arrivals attributed to resident Italians (50.5%). Moreover, the total number of stays recorded was 436.7 million, comprising of 220.6 million stays by non-resident foreigners (50.5%) and 216 million stays by resident Italians (49.5%).

At the regional level, another interesting survey on tourist demand is provided by the Institute of National Tourist Research (ISNART) through the Observatory on the Economy of Tourism of the Chambers of Commerce: according to the forecasts of ISNART (2020), the main regions of destination of the Italians would remain substantially unchanged in summer 2020. In 2020 Sicilia, Puglia, Campania, and Sardegna are the regions that welcome over 40% of the total number of Italian tourists. However, what has changed significantly is the relative weight of some locality's holidays: even if Puglia and Campania continue to be the main regions of reference for tourism on summer, there was a negative balance in 2020, with respectively -10% and -22.5% of holidaymakers less than the volumes of 2019. The same can be said for Sardegna with -14% of tourists. However, one of the most drastic reductions is recorded by Lombardia which, on summer 2020, would have accrued a loss of almost -78% of visitors compared to the numbers for summer 2019. Another interesting fact explains instead that domestic tourists have been rewarded and have been more attracted by geographical areas where the virus has had a lower circulation (above all because there was greater security in terms of compliance with the distancing laws), and this is the case of Molise, Umbria, Abruzzo, Basilicata, Friuli-Venezia Giulia, which experienced an increase in tourist attractiveness.

The goal of this research is to determine if there has been a significant rise in proximity tourism, which has been caused by a variety of variables such as government-imposed limitations during the epidemic and worries about infection. As a result, this article examines the possibility of increased travel to close or neighboring locations, as well as a probable trend in reduced travel to geographically distant regions.

In other words, this article intends to investigate proximity tourism in the Italian setting during the COVID-19 epidemic, starting from the formal definition of the term. The first section offers a review of the present status of research on proximity tourism. The second section examines Italy's reaction to the problem and determines how the epidemic has affected domestic travel. The coefficient of attraction is used as a methodological tool to measure the rise in the number of visits made between adjacent and non-neighboring locations. The following is a summary of the study's main goals:

1. To investigate and analyze the impact of the COVID-19 pandemic on the travel behavior of Italian residents by assessing the change in tourism proximity indicators between 2019 and 2021.
2. To enhance the scientific literature on proximity tourism by presenting the Italian case in which the effects of the COVID-19 pandemic on travel behaviors are evaluated.

Considering the work carried out by Guardia and Muro (2009) first, Domínguez (2014), and Alvarez-Diaz et al. (2020) later, this work focuses on the analysis of the Italian situation in the three years 2019-2020-2021. In the first work (Guardia and Muro, 2009), the model provided to calculate internal travel flows between Spanish autonomous communities is a long-run cross-sectional equilibrium model from the point of view of econometric analysis. This first work is the one that lays the methodological foundation for subsequent work being conducted in the economic-tourism sphere. A gravity model and many spatial econometric models are estimated assuming different weights in the second study (Alvarez-Diaz et al., 2020), which is more practical in nature and offers intriguing results. In order to estimate spatial economic models, spatial weighting matrices are assumed. The findings imply that demand for tourism in Spanish areas is influenced by income and relative prices, as well as the weather, the outdoors, the infrastructure, and entertainment. As already mentioned, the article follows a structured approach, starting with a comprehensive review of the existing literature on proximity tourism in the first part. This is followed by a detailed analysis of the origin-destination matrices and a description of the methodology employed. The final section is devoted to presenting and discussing the results obtained, comparing the pre-and post-periods of COVID-19 outbreak over a period of three years.

2. LITERATURE REVIEW ON TOURISM PROXIMITY

Proximity represents an attribute of distance and, as such, represents an ancient quality of economic-political geography (Capineri et al., 2013). Proximity constitutes the conceptual crux of Tobler's well-known first law according to which "Everything is related to everything, but near things are more related than far things"; although proximity can manifest itself in very different ways depending on the type of relationship referred to and the scale at which those relationships are manifested: cultural, social, cognitive, organizational proximity and so on (Capineri et al., 2013). There is also tourist proximity, which must be contextualized concerning its peculiarities.

"Proximity tourism" represents a type of tourism that has as its main objective the rediscovery of those places that are "close" to the traveler. This refers to the places that individuals often take for granted as they are commonplace and within proximity, which they have not previously considered exploring in the role of a tourist or visitor.

In truth, this way of doing tourism is not recent; between the 1950s and 1960s, for example, proximity tourism was very much in vogue in Italy, especially among those families who could not afford distant and exorbitant travel. The pandemic has deeply marked the way of life and consequently also the way of travel, and this has led to talking more often about proximity tourism. Furthermore, because of the pandemic, there has been a brand reversal and all those destinations that used to be saturated with tourists and found themselves with abundantly exceeded carrying capacity are now suffering from the opposite phenomenon: under tourism (Corbisiero, 2020)

The main characteristics of proximity tourism are the following:

- Deseasonalisation
- Environmental protection
- Experiential tourism
- Incentive for local culture

Globalization has significantly reduced the impact of distances and, as a result, the commercial and geographical proximity that used to necessitate physical travel. Today, advancements in distribution, communication, and information technologies have made it possible to access goods and products from any corner of the world, thereby redefining the concept of proximity. As Citarella (2013) highlights, all points of commercial interest are now easily accessible due to these new technologies. The same concept of geographical proximity can also be applied to

tourism because, thanks to low-cost flights and the possibility of being able to reach any part of the world, there are no longer insurmountable distances.

Over time, it has begun to be understood how there is an inadequacy in the concept of geographic proximity precisely because of the processes of globalization. There are multiple proximities, which are not only spatial, but there are others that are related to cognitive, institutional, and finally, sociocultural factors (Citarella, 2013). Two other types of proximity go beyond the concept of Euclidean distance (which would be precise, the geographic-physical one): social and virtual (Gilly and Torre, 2000).

Over time, the concept of mobility has also changed; in fact, Andriotis (2018) argues that there is to date a tendency to consider mobility over shorter distances, along with minimal consumption. While immobility used to be considered disadvantageous in economic-social terms, now it turns out to be beneficial for the environment and institutions (Rosu, 2020). Indeed, this current crisis aligns with the contemporary demands for environmental sustainability, as it reduces the need for extensive journeys. As highlighted by Dot Jutgla et al. (2022), the shift away from long trips is in line with the pressing environmental concerns of our time.

The concept of cultural proximity refers to sharing a category of knowledge, values as well as experiences among a network of subjects (Boschma, 2005). Instead, virtual proximity is realized in cyberspace, which represents a "non-place/non-space" because the web to date takes on all the characteristics of a physical place but also has all the characteristics of a non-physical place because it can be reached at any time and by anyone (Citarella, 2013). The pandemic has certainly incentivized people to do proximity tourism, despite this, there is still little literature in this regard (Salmela et al., 2021). The concept of cultural proximity was also examined by Bertacchini et al. (2019). The objective of their study was to analyze visiting behavior and intra-regional flows originating from urban areas toward museums located in nearby regions. In order to achieve this objective, the authors utilized a dataset including approximately "76,000 subscribers to a regional museum card in Piedmont, (Italy)." The study period considered was from 2011 to 2014. The authors aimed to identify the factors that influence the decision to visit museums by employing a linear model. The model incorporated a first set of explanatory variables associated with sociodemographic characteristics, and a second set of covariates related to behaviors associated with the museum card. The results demonstrate that certain variables, such as lower socioeconomic status and loyalty to the card program play significant roles in explaining the inclination to visit museums or cultural attractions located outside of the town.

Definitions of proximity differ and do not all lead to the same meaning (Diaz-Soria, 2017). For instance, Diaz-Soria (2017) argue that travelers purposefully isolate themselves from their destinations in order to view their trips as extraordinary. Preliminary results initially highlight four types of nearby visit experiences: educational, professional, recreational, and touristic. Then, they use Tuan's theory of tourist and resident perspectives and Urry and Larsen's concept of "tourist gaze" to focus on the experience of nearby tourism. According to these views, a tourist's perspective is determined by individuals' goals and their unique frames of reference. The authors' results (Diaz-Soria, 2017) show that although curiosity is a common motivation for both proximity tourists and traditional visitors, they do not share the same reference points. However, being close to the goal does not prevent one from traveling there. The individual views the locations visited as a tourist since they have consciously assumed the role of one.

Boschma (2005) explains how it is a complicated and multidimensional concept, especially about how organizations and individuals perceive distances (Boschma, 2005).

Jeuring and Haartsen (2017) in this sense, explain that the concept of distance and proximity are also subjective. According to the authors (Jeuring and Haartsenn, 2017), the interpretations of both closeness and distance were crucial in defining proximity tourism participation and, consequently, the potential for the growth of proximity tourism in the area. This suggests that such growth will necessitate a fair assessment of the relative, temporally sensitive ways in which

individuals manage distance and proximity in their feelings of being at home and away. Their findings advance the conversation about travel-related imaginaries, proximity and distance, and their effects on local tourism.

Indeed, the social crisis caused by the pandemic has called for a rethinking of the forms of spatiotemporal adaptation of tourism flows that affect both mobility and the social relations brought about by travel (Corbisiero, 2020). With proximity travel, one can reduce the length of the tourism chain on the one hand; on the other hand, by reducing the possibility of human contact, the risk of contagion is also reduced (Corbisiero, 2020). According to the authors, a technological reorganization of tourism mobility is also necessary: airline companies it is necessary to eliminate older and inefficient vehicles; electronic ticketing, and smart working (Corbisiero, 2020).

De Iulio et al. (2022) explain how 2022, which began with the resurgence of the pandemic due to Covid-19, brought about this new phase called "tourism in the Covid" and that to respond to the current emergencies, a readjustment of travel habits was necessary. This led to the redefinition of the tourism experience with an emphasis on the cultural dimension and diversification of demand as well as the enhancement of local identities and slow tourism (De Iulio et al., 2022).

Lupoli and Rimondi (2023) confirm that one of the sectors most affected by the pandemic crisis is tourism and that this has led to the establishment of new paths and new destinations. There is room for two trends: on the one hand, rhetoric about sustainable tourism gathered under the umbrella title of "eco-tourism," and on the other hand, there is an acceleration in the attempt to colonize rural and mountainous areas for tourism (Lupoli and Rimondi, 2023)

3. DATA AND METHODS

The present study utilized data obtained from the database of the National Institute of Statistics in Italy, commonly known as ISTAT. The institute is responsible for collecting and disseminating statistical information through its website. Specifically, microdata sourced from the Italian survey titled "Trips and Holiday" was utilized for the analysis. These data pertain to individual travel units, and relevant variables, including the region of residence and the region of destination, were considered in the formation of the desired matrices.

It was deemed appropriate to consider the three years 2019-2020-2021 to evaluate the attitude of Italian tourists during the years of lockdown and also afterward. What would be interesting is a study on the following year, even though the data for 2021 (as we will see) already shows a return to the levels of attraction in 2019.

The microdata downloaded from the ISTAT database were imported and processed in SPSS, and the matrices for the three respective years were created. The three matrices, therefore, showed the number of trips made from one region to another and vice versa. Thus, from the creation of the three matrices, we obtained the total number of trips for 2019-2020-2021, as well as the number of trips that started from region i to region j .

The matrices have 20 rows, which is the number of Italian administrative regions: Piemonte, Valle d'Aosta, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giulia, Liguria, Emilia Romagna, Toscana, Umbria, Marche, Lazio, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, and Sardegna.

The origin-destination matrix we obtained has this structure:

$$\text{Origin-Destination Matrix} = \begin{bmatrix} x_{11} & x_{12} & \cdots & x_{1j} & \cdots & X_1 \\ x_{21} & x_{22} & & x_{2j} & & X_2 \\ \vdots & & & & & \vdots \\ x_{i1} & x_{i2} & & x_{ij} & & X_i \\ \vdots & & & & & \vdots \\ Y_1 & Y_2 & & Y_j & & T \end{bmatrix} \quad (1)$$

Where:

x_{ij} = number of trips originated in region i and destination in department j made by residents in Italy;

X_i = number of trips originated in department i;

Y_j = number of trips received by department j;

T = total trips made by residents in Italy

Our research employs and duplicates the technique suggested by Guardia and Muro (2014) by examining the movements produced by origin-destination matrices. We focus on areas in Italy, employing the region of origin as the row and regions of destination as the column.

The index of tourist attraction is computed in the following manner.

$$ca_{ij} = \frac{x_{ij}}{\sum_j x_{ij}} \cdot \frac{\sum_j y_j}{y_j} = \frac{x_{ij}/y_j}{\sum_j x_{ij}/\sum_j y_j} \quad (2)$$

Where:

ca_{ij} : is the coefficient of tourism attraction between the regions (Italian regions) i (origin) and j (destination)

x_{ij} : number of trips made by the region i (the single intersection cell (the joint one between destination i and destination j))

$\sum_j x_{ij}$: total tourist demand of the region's residents i (the total of the single row in the matrix),

$T = \sum_j y_j$: number of total trips made by residents in Italy

y_j : number of trips received by the region j

A tourist movement is deemed strong if the coefficient of attraction is greater than one, otherwise, it is considered weak (Perez, 2016). According to the formulation of the coefficient (1), it is greater than 1 if the number of trips from i to j (as a proportion of the total received by j) is greater than the total number of trips originating in i (as a proportion of total global trips) (Perez, 2016). This means that the flow x_{ij} has a greater weight in the total number of trips to j than the total number of trips originated in i (all in relative terms) in the total number of trips (Perez, 2016).

The aforementioned coefficient was applied uniformly to all three matrices, generating three supplementary matrices each with its corresponding attraction coefficient. Subsequently, an analysis was performed to examine the changes in attraction coefficients of over time. The results section summarizes the main findings of this analysis, highlighting regions that experienced significant increases in their attraction coefficients in 2020, those that were particularly attractive to neighboring regions, and those whose attractiveness was not strictly linked to geographical reasons.

In addition, to evaluate the change in tourist flows over the three years along the main diagonal, we applied an intra-regional tourism index. Through this index it is possible to understand if there were changes in the 3 years related to intra-regional tourism referring to trips made by the resident in their region.

The intra-regional tourism index is expressed as follows:

$$\text{Intra - Regional Tourism Index} = \frac{\sum_i x_i}{\sum_j y_j} \quad (3)$$

Table 1 Coefficient of attraction for Italian regions (2019)

	DESTINATION REGION																			
	Piemonte	Valle d'Aosta	Lombardia	Trentino A. Adige	Veneto	Friuli-V.G.	Liguria	Emilia-Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
Piemonte	4,33	0,75	0,53	0,07	0,62	0,00	4,03	1,05	1,07	0,00	1,12	0,33	0,00	1,34	0,14	0,81	1,04	0,34	0,72	0,43
Valle d'Aosta	2,47	4,71	2,62	0,00	0,36	0,51	2,96	0,50	0,64	0,00	0,75	0,46	0,94	0,00	0,00	0,70	0,00	1,58	0,43	1,08
Lombardia	0,56	3,33	1,34	1,15	1,03	1,50	2,39	1,08	0,63	1,02	0,73	0,54	0,42	0,00	0,64	1,11	0,00	0,33	1,03	0,91
Trentino A. Adige	0,61	1,01	1,05	3,36	2,03	1,11	0,68	0,55	0,98	0,00	1,80	0,50	0,42	0,00	0,38	0,32	0,69	0,22	1,12	1,05
Veneto	0,13	0,47	0,92	2,11	3,22	1,49	0,22	1,53	0,88	0,16	1,31	0,42	0,34	1,81	0,33	0,43	1,14	1,04	0,37	0,09
Friuli-V.G.	0,14	0,00	0,97	1,13	2,99	12,91	0,32	0,72	0,10	0,72	0,46	0,59	0,00	0,00	0,55	0,00	0,00	0,70	0,64	0,94
Liguria	2,36	7,37	0,72	0,80	0,72	0,48	2,61	0,46	1,71	0,35	0,14	0,63	0,14	0,00	0,88	0,11	1,12	0,72	0,34	1,16
Emilia-Romagna	0,60	0,19	0,91	2,07	0,74	1,52	0,27	1,74	0,70	0,79	2,26	0,49	0,98	0,00	0,68	1,71	0,38	0,91	0,45	0,80
Toscana	0,63	0,00	0,77	0,52	0,62	0,35	0,33	0,97	3,00	1,88	0,59	1,68	0,34	1,10	1,00	0,42	0,66	1,01	0,44	0,53
Umbria	0,25	0,00	1,22	1,54	0,39	0,00	0,00	2,17	0,93	1,54	4,24	1,15	0,82	0,00	1,12	0,46	0,62	0,28	0,15	0,63
Marche	0,74	0,00	1,38	1,45	1,78	1,17	0,00	1,45	1,12	0,30	1,80	0,61	1,18	0,00	2,25	0,47	0,00	0,00	0,23	0,00
Lazio	0,40	0,00	0,94	0,41	0,34	0,10	0,31	0,28	1,16	1,84	0,52	2,26	2,79	2,72	1,47	0,57	2,54	1,30	2,04	1,62
Abruzzo	0,79	0,00	2,24	0,49	0,55	0,00	0,00	1,22	0,14	2,75	0,00	1,76	6,78	0,00	0,40	1,48	0,00	0,44	0,58	0,00
Molise	0,00	0,00	1,84	0,00	0,25	0,00	0,28	0,62	0,35	0,61	0,31	1,36	6,28	17,23	2,64	1,33	0,00	0,00	0,65	0,95
Campania	2,01	0,36	0,55	0,00	0,36	0,00	0,10	0,59	0,35	3,13	0,00	1,55	2,87	0,00	3,58	2,36	0,71	2,80	0,00	0,13
Puglia	0,63	0,00	0,18	0,57	0,41	0,00	0,00	0,44	0,53	0,00	0,55	0,98	1,75	6,07	0,96	5,51	7,08	0,50	1,17	0,97
Basilicata	2,66	0,00	0,39	0,00	0,00	0,00	0,00	0,88	0,31	0,84	1,04	1,51	0,00	8,97	0,60	2,78	13,76	1,43	1,38	0,00
Calabria	0,78	0,00	1,25	0,00	0,00	0,00	0,00	0,47	0,66	0,00	0,00	3,14	0,00	0,00	4,47	0,23	0,00	3,63	1,90	0,00
Sicilia	0,59	0,00	2,06	0,00	0,19	0,00	0,99	0,34	0,35	0,00	0,53	1,38	0,00	0,00	0,92	0,06	0,00	3,22	7,31	0,38
Sardegna	0,38	0,00	2,18	0,00	0,00	0,18	0,18	0,00	0,90	0,87	0,00	1,13	0,00	0,00	0,00	0,51	0,00	0,00	0,00	17,93

Table 2 Coefficients of attraction for Italian regions (2020)

	DESTINATION REGION																			
	Piemonte	Valle d'Aosta	Lombardia	Trentino A. Adige	Veneto	Friuli-V.G.	Liguria	Emilia-Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
Piemonte	4,34	4,38	1,10	0,28	0,76	0,00	4,31	0,60	0,70	0,00	0,44	0,82	0,86	0,88	0,06	0,73	2,28	1,56	0,30	0,66
Valle d'Aosta	0,59	2,11	0,00	0,00	0,00	0,00	3,23	3,40	1,28	1,46	0,54	0,79	0,00	0,00	0,44	2,71	0,00	0,00	0,00	0,00
Lombardia	1,19	1,50	1,83	1,30	0,83	0,38	1,32	1,28	0,48	0,97	1,96	0,58	0,16	0,36	0,41	1,31	0,38	0,39	0,44	0,97
Trentino A. Adige	0,13	0,00	0,94	1,75	3,00	2,37	0,55	0,96	0,64	0,00	1,36	0,77	0,47	5,26	0,32	0,30	0,00	0,13	0,04	1,75
Veneto	0,40	0,00	1,26	1,89	4,07	0,18	0,14	0,79	0,58	0,00	2,39	0,29	0,38	0,00	0,36	0,46	0,00	0,36	0,05	0,42
Friuli-V.G.	2,06	0,00	1,02	1,43	1,31	22,54	0,00	0,18	0,91	1,18	0,00	0,58	0,00	0,00	0,51	0,00	0,00	0,00	0,85	0,87
Liguria	3,79	7,99	0,00	0,40	1,83	2,28	3,99	0,12	0,79	5,32	0,00	0,17	0,00	0,00	0,00	0,37	0,00	1,13	1,51	0,49
Emilia-Romagna	0,39	0,24	0,42	1,62	1,03	1,26	1,04	2,25	1,00	0,71	0,76	0,13	0,40	0,08	1,08	0,74	1,87	0,08	0,92	0,90
Toscana	0,47	0,28	0,58	0,74	0,37	0,00	0,52	0,80	4,45	0,46	0,06	0,47	0,11	0,00	0,93	0,64	0,54	0,60	0,30	0,77
Umbria	0,98	0,00	0,45	0,88	0,12	0,00	0,12	1,04	1,23	4,59	4,19	1,49	4,23	0,00	0,25	1,24	0,00	1,12	0,00	0,21
Marche	0,61	0,00	0,16	0,32	1,42	0,00	2,37	2,65	0,28	4,15	1,26	2,12	0,00	0,00	1,36	0,35	0,00	0,00	0,79	0,00
Lazio	0,69	0,00	0,52	0,65	0,18	0,00	0,08	0,20	1,17	2,75	0,38	2,75	4,45	5,47	2,65	1,05	1,89	1,28	0,56	0,60
Abruzzo	0,00	0,00	0,92	0,09	0,11	0,00	0,00	1,68	0,59	0,42	1,80	2,13	11,44	2,38	0,86	0,97	0,00	0,58	0,00	0,00
Molise	0,00	0,00	1,32	0,00	0,87	0,00	0,00	0,54	0,64	0,00	0,59	3,91	8,79	3,71	0,88	0,26	0,00	2,93	0,46	0,00
Campania	0,00	0,00	0,33	0,17	0,27	0,00	0,00	0,12	0,00	0,00	0,00	2,31	0,59	1,26	6,02	2,16	0,00	7,59	0,92	0,41
Puglia	0,00	0,00	0,49	0,82	0,00	0,00	0,00	1,09	0,37	0,91	0,00	3,59	0,00	0,00	0,00	7,92	0,00	0,82	0,25	0,00
Basilicata	0,00	0,00	0,00	0,92	0,00	0,00	0,00	0,22	0,51	0,00	0,00	0,00	0,00	0,00	3,14	4,08	49,84	4,64	0,00	0,00
Calabria	0,00	7,04	4,54	0,00	0,00	0,00	0,00	0,00	0,28	0,00	0,00	4,94	0,00	0,00	0,00	0,00	0,00	7,17	0,00	0,00
Sicilia	0,73	0,00	1,35	0,00	0,28	1,51	0,00	0,00	0,12	0,00	0,00	1,45	0,00	0,00	0,41	0,00	0,00	1,33	11,50	0,00
Sardegna	0,00	0,00	0,87	0,00	0,45	0,00	0,54	0,59	0,00	0,96	0,00	0,19	0,00	0,00	0,33	1,03	0,00	0,00	0,00	16,31

Table 3 Coefficient of attraction for Italian regions (2021)

	DESTINATION REGION																			
	Piemonte	d'Aosta	Lombardia	Alto Adige	Veneto	Friuli-V.G.	Liguria	Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
Piemonte	3,29	2,72	0,41	0,24	0,46	0,25	3,55	0,99	0,75	0,24	1,35	0,47	0,32	0,00	0,64	0,91	0,86	1,77	1,31	1,08
Valle d'Aosta	2,85	4,48	1,36	0,00	0,88	0,89	2,53	1,05	0,67	0,00	1,91	0,66	0,00	0,00	0,63	1,21	0,00	0,76	0,55	1,16
Lombard	1,67	1,04	1,94	1,02	0,61	0,43	2,13	1,20	0,60	0,15	1,12	0,62	0,51	0,00	1,00	0,92	1,02	0,42	0,83	0,93
Trentino A.Adige	0,62	0,63	0,60	2,22	3,94	0,00	0,28	0,74	1,61	0,40	0,91	0,36	0,27	0,00	0,44	0,12	0,00	0,11	0,44	1,48
Veneto	0,23	0,00	1,27	2,11	3,76	1,92	1,01	0,78	0,61	1,20	1,19	0,66	0,16	0,00	0,49	0,35	1,00	0,00	0,76	0,35
Friuli-V.G.	0,00	0,00	0,52	1,11	3,86	12,24	0,38	0,56	0,27	1,75	0,69	0,09	0,00	2,91	0,46	0,27	3,55	0,00	0,53	1,06
Liguria	1,67	10,41	0,88	1,59	0,91	0,17	1,81	0,15	1,59	0,49	1,40	0,73	0,00	0,00	0,00	0,27	1,22	0,48	0,41	2,62
Emilia-Romagna	0,78	0,28	0,75	1,69	1,00	0,68	0,73	2,92	0,72	1,26	0,90	0,39	0,33	3,63	0,67	0,66	0,64	1,28	0,31	0,31
Toscana	0,54	0,90	0,69	0,97	0,28	0,47	0,19	0,73	3,56	0,16	0,13	1,10	0,31	2,08	1,28	0,75	0,00	1,24	0,18	1,05
Umbria	0,72	1,83	0,46	0,41	0,61	0,23	0,09	1,79	0,70	0,00	3,47	1,38	3,66	0,00	0,56	1,19	4,37	1,31	0,61	0,19
Marche	0,00	0,00	0,42	1,58	0,19	0,40	0,27	0,95	2,01	1,34	3,89	0,79	1,10	3,37	0,80	0,82	1,61	0,00	0,75	1,02
Lazio	0,36	0,76	0,43	0,69	0,27	0,14	0,24	0,26	1,14	2,91	0,93	3,31	3,30	0,83	1,51	1,18	0,47	0,85	0,63	1,09
Abruzzo	1,13	0,00	0,44	0,00	0,79	0,00	0,19	0,94	0,59	1,79	1,24	1,70	1,70	7,60	2,21	1,49	1,46	0,70	1,31	0,88
Molise	0,00	0,00	0,30	0,91	0,80	0,00	0,00	1,23	0,74	0,00	1,60	1,78	8,62	11,51	1,77	0,00	0,00	1,20	0,00	0,40
Campani	0,82	0,00	1,08	0,42	0,25	0,00	0,00	0,05	0,68	1,59	0,00	1,09	3,36	0,00	2,89	1,56	1,57	5,33	0,86	0,87
Puglia	0,00	0,00	1,32	0,00	0,10	1,85	0,00	0,82	0,00	1,44	0,63	0,34	2,51	0,00	2,70	5,88	0,00	0,22	0,00	0,00
Basilicata	0,53	0,00	0,80	0,00	0,00	0,00	0,00	1,91	0,00	4,44	0,00	0,35	0,00	0,00	2,89	1,93	24,50	1,58	0,00	0,00
Calabria	0,00	0,00	2,06	0,00	0,00	0,00	0,00	0,39	0,75	0,00	0,00	4,70	0,00	0,00	0,83	1,03	0,00	11,12	0,50	0,00
Sicilia	1,45	0,00	0,72	0,00	0,05	2,31	0,00	0,21	0,53	0,76	0,89	0,67	0,00	0,00	0,00	0,88	0,00	0,84	8,28	0,00
Sardegna	0,78	0,00	1,33	0,51	0,38	0,00	0,64	0,64	0,00	1,57	0,00	0,98	0,00	0,00	0,00	0,57	0,00	0,54	0,20	9,68

Table 4 Number of Trips made in Italy and abroad by region of residence

		2019		Total	2020		Total	2021		Total	2019-2020 relative change
		Italy	Foreign		Italy	Foreign		Italy	Foreign		
Piemonte	Count	4499388	1679844	6179232	2574610	337735	2912345	2572667	374230	2946897	-53%
	%	73%	27%		88%	12%		87%	13%		
Valle d'Aosta	Count	90567	68180	158747	53489	2808	56297	57532	18056	75588	-65%
	%	57%	43%		95%	5%		76%	24%		
Lombardia	Count	8049239	3718473	11767712	7474267	782323	8256590	7392507	864674	8257181	-30%
	%	68%	32%		91%	9%		90%	10%		
Trentino A.Adige	Count	1030615	562761	1593376	1016913	107590	1124503	988735	288998	1277733	-29%
	%	65%	35%		90%	10%		77%	23%		
Veneto	Count	6131304	1900067	8031371	2723822	350147	3073969	3620693	735030	4355723	-62%
	%	76%	24%		89%	11%		83%	17%		
Friuli-V.G	Count	1211476	594528	1806004	759057	273955	1033012	1137665	177558	1315223	-43%
	%	67%	33%		73%	27%		86%	14%		
Liguria	Count	2313291	524384	2837675	776746	98752	875498	1195758	135208	1330966	-69%
	%	82%	18%		89%	11%		90%	10%		
Emilia-Romagna	Count	7294790	2250828	9545618	5618448	328024	5946472	4136183	283847	4420030	-38%
	%	76%	24%		94%	6%		94%	6%		
Toscana	Count	4908765	1490063	6398828	2963301	165264	3128565	3428029	476289	3904318	-51%
	%	77%	23%		95%	5%		88%	12%		
Umbria	Count	1281719	339029	1620748	775324	84130	859454	962671	34457	997128	-47%
	%	79%	21%		90%	10%		97%	3%		
Marche	Count	1239323	286076	1525399	340238	24374	364612	722240	110683	832923	-76%
	%	81%	19%		93%	7%		87%	13%		
Lazio	Count	6131708	1530953	7662661	3670427	360263	4030690	4172055	264886	4436941	-47%
	%	80%	20%		91%	9%		94%	6%		
Abruzzo	Count	789715	221910	1011625	437388	47988	485376	549320	169607	718927	-52%
	%	78%	22%		90%	10%		76%	24%		
Molise	Count	215845	49344	265189	132503	0	132503	143957	2741	146698	-50%
	%	81%	19%		100%	0%		98%	2%		
Campania	Count	3621341	528329	4149670	1360774	154926	1515700	1700712	86818	1787530	-63%
	%	87%	13%		90%	10%		95%	5%		
Puglia	Count	1359075	416046	1775121	615930	85717	701647	1334699	71873	1406572	-60%
	%	77%	23%		88%	12%		95%	5%		
Basilicata	Count	341721	61285	403006	126798	24058	150856	197470	15397	212867	-63%
	%	85%	15%		84%	16%		93%	7%		
Calabria	Count	673094	70561	743655	448891	0	448891	199798	32125	231923	-40%
	%	91%	9%		100%	0%		86%	14%		
Sicilia	Count	2095057	487487	2582544	1586453	131422	1717875	1843380	278611	2121991	-33%
	%	81%	19%		92%	8%		87%	13%		
Sardegna	Count	975118	220979	1196097	674176	38387	712563	827175	37264	864439	-40%
	%	82%	18%		95%	5%		96%	4%		
Total	Count	54253151	17001127	71254278	34129555	3397863	37527418	37183246	4458352	41641598	-47%
	%	76%	24%		91%	9%		89%	11%		

4. RESULTS

One initial analysis we conducted to evaluate changes related to proximity tourism was to look at the number of trips performed in Italy and abroad by region of origin. The restrictions caused by COVID-19 pandemic led to a significant reduction in the total number of trips, but different impacts emerged when looking at data for Italy and those abroad. Looking at absolute numbers, it is possible to note that trips abroad made by Italians in 2019 were as many as 17 million, which then decreased to 3 million in 2020 and increased to 4 million in 2021 (Table 4). This reveals a significant decline in trips abroad. Looking at absolute numbers, the number of trips made within Italy also decreased enormously. It went from 54 million in 2019 to 34 million in 2020 and finally reached 37 million in 2021. Looking at the percentage values, in 2020, there was a significant decline in trips abroad. For example, considering the regions in Northern Italy, the one that experienced a significant decline in

the year 2020 was Valle d'Aosta but also Lombardia which went from 32% in 2019 to 9% in 2020, while Toscana in Central Italy went from 23% to 5% of trips taken abroad. In the South, on the other hand, both Molise and Calabria did not record any trips abroad in absolute numbers. Finally, in the islands, Sardegna experienced a decrease from 18% in 2020 to 5% in 2019 and Sicilia recorded a drop in 2020 and a little recovery in 2021.

Looking at the change in relative terms for the two-year period 2019-2020, it is evident as described in Table 4 that the region that saw the most significant decrease is Marche (76 percent), followed by Valle d'Aosta (65 percent), Basilicata, and Campania (63 percent). The region with the least significant decrease is Trentino-Alto Adige (29%) followed by Lombardia (30%) and Sicilia (33%)

As previously mentioned in this study, to assess the trend of traveling within one's own region increased or not during the pandemic we used the intraregional tourism index. We thus summed all the trips present in the main diagonal and divided this total by the total number of trips. What emerged was an increase in the index in 2020 and a decrease for the year 2021. The increase in the index in 2020 is a sign that intra-regional travel increased in the year of COVID-19, therefore what emerges from this index is a preference of residents to stay within the region they reside in. In 2021, this index decreased from 0.27 to 0.24 and approached the 2019 score, probably because the easing of restrictions led residents to move outside their region.

Table 5 Intra-Regional Tourism Index (2019-2021)

Intra-Regional Tourism Index		
2019	2020	2021
0.21	0.27	0.24

In addition to this analysis, we also focused on applying the attraction coefficient to the three travel matrices. The results of this analysis indicate that Italy was a country with a not unique travel tendency during 2020 and 2021 and that there are regions that have proven to have attracted tourists from nearby or neighboring regions, others that are attractive for themselves, and finally others that have attracted tourists from distant regions.

The first category is that of regions that are attractive to nearby or neighboring regions. This is the case of Valle d'Aosta which is particularly attractive to tourists from Liguria and Piemonte, probably due to its geographical proximity. These regions are located in the northwest of the country. (See Figure 1).



Figure 1¹ neighboring regions of north-west Italy

¹ <https://worldmapblank.com/it/cartina-dell-italia-mappa-regioni/>

Table 6 Evolution over time of the attraction coefficient of domestic travel to Valle d'Aosta

	2019	2020	2021
Piemonte	0.75	4.38	2.72
Liguria	7.37	7.99	10.41

Another example, in addition to the previous one, is the Friuli-Venezia Giulia region, which in 2020 attracted more tourists from Trentino, which is a region very close to it. The Liguria region, even though not neighboring, has also shown an increase in the attraction coefficient for Friuli. Since both regions are located in northern Italy it could be geographical reasons.

Table 7 Evolution over time of the attraction coefficient of domestic travel to Friuli V.G.

	2019	2020	2021
Friuli V.G.	12.91	22.54	12.24
Trentino A.A.	1.11	2.37	0
Liguria	0.48	2.28	0.17



Figure 2² neighboring regions of north-east Italy

In addition to this, there is also the case of Liguria, which in 2020 attracted tourists from neighboring regions including Piemonte and Valle d'Aosta. The attraction coefficient for Piemonte increased from 4.03 in 2019 to 4.31 in 2020, while for Valle d'Aosta it increased from 2.96 to 3.23.

Table 8 Evolution over time of the attraction coefficient of domestic travel to Liguria

	2019	2020	2021
Piemonte	4.03	4.31	3.55
Valle d'Aosta	2.96	3.23	2.53

Considering central Italy, it is evident that the Marche region was very attractive in 2020 to tourists from Umbria, which is a neighboring region (See figure 3). The attraction coefficient increased from 1.54 in 2019 to 4.15 in 2020.

² Ibidem

Table 9 Evolution over time of the attraction coefficient of domestic travel to Marche

	2019	2020	2021
Umbria	1.54	4.15	3.47



Figure 3³ neighboring regions of central Italy

The Molise region attracted many tourists from a distant region in 2020, but at the same time also drew in tourists from the neighboring region of Lazio (See Figure 3).

Table 10 Evolution over time of the attraction coefficient of domestic travel to Molise

	2019	2020	2021
Trentino A.A	0	5.26	0
Lazio	2.72	5.47	0.83

Finally, considering the regions of the first category, it is necessary to consider Calabria, which attracts flows from Campania, bringing the attraction coefficient from 2.80 to 7.59 in 2020 and experiencing a little decrease in 2021.

Table 11 Evolution over time of the attraction coefficient of domestic travel to Calabria

	2019	2020	2021
Campania	2.8	7.59	5.33

The second category includes those regions that are particularly attractive for themselves. As we have seen through the intra-regional tourism index, this trend seems to have grown in 2020 indicating an increase in proximity tourism. Looking at the attraction coefficients year by year, among the regions that are particularly attractive for themselves there is Veneto which experienced an increase in the coefficient due to the intraregional movement of the resident.

Table 12 Evolution over time of the attraction coefficient of domestic travel to Veneto

	2019	2020	2021
Veneto	3.22	4.07	3.76

³ <https://worldmapblank.com/it/cartina-dell-italia-mappa-regioni/>

But Veneto was not the only region to record an increase in the coefficient in 2020, a region that doubled it was Friuli Venezia Giulia, indeed, looking at table 7 is evident how the coefficient from 12.91 in 2019 growth to become 22.54 in 2020 finally to decrease in 2021 returning to initial level of 2021 (12.24). This region demonstrates that during 2020, and in particular during the periods in which Italy experienced the lockdown, people from Friuli preferred to remain in Friuli maybe for fear of contagion or because it was impossible to move due to the restrictions. Another region of Italy that saw an increase in the coefficient within the same region was Liguria. For sure, this increase is not as big as that of Friuli but it is worth to be mentioned the same. The coefficient was around 2.61 in 2019, 3.99 in 2020 to decrease in 2021 to 1.81. Even the region of Umbria is characterized by a coefficient that more than doubled in 2020 but is then equal to 0 in 2021. This drastic drop, which occurs not only in this case but also in many others, shows that when the strong COVID-19 restrictions are lifted, tourists, for the most part, stop moving only within their own territory.

Table 13 Evolution over time of the attraction coefficient of domestic travel to Umbria

	2019	2020	2021
Umbria	1.54	4.59	0

Among the southern regions, such as Sicilia, the self-attraction coefficient also changes, increasing from 7.3 in 2019 to 11.50 in 2020, and then decreasing to 8.28 in 2021.

Table 14 Evolution over time of the attraction coefficient of domestic travel to Sicilia

	2019	2020	2021
Sicilia	7.31	11.5	8.28

Finally, the third category is represented by regions that have attracted tourists from other far regions that are not even geographically close.

This is the case for the region of Molise that in 2020 attracted tourists from the region of Trentino Alto Adige (See Table 10) or even for the region of Puglia which attracted visits from Valle d'Aosta which is in the north of Italy (See Table 15).

Table 15 Evolution overtime of the attraction coefficient of domestic travel to Puglia

	2019	2020	2021
Valle d'Aosta	0.7	2.71	1.21

5. CONCLUSIONS

COVID-19 determined significant changes in people's lives, forcing a rethink of global tourism. While globalization has enabled people to reach previously unreachable destinations, it has also reduced knowledge of local destinations. Proximity tourism, on the other hand, encourages people to explore nearby areas, and this trend has gained popularity in recent years, particularly during the pandemic. Italians have been among those who have embraced proximity tourism, with geographical distance being a key factor in destination selection.

This trend is not new, however, as it originated in the post-war period when economic constraints prevented people from embarking on long-haul trips. During this period, people preferred to tour local tourist destinations that were closer and more accessible. Analysis of attraction coefficients during the 2019-2021 period has revealed three trends. The first trend

considers those regions that mainly attracted tourists from nearby or neighboring regions in 2020. This is the case for Valle d'Aosta, Friuli-Venezia Giulia, Liguria, Marche, Molise, and Calabria. The second trend, on the other hand, focuses on regions that are particularly attractive in themselves. These include Veneto, Friuli, Liguria, Umbria, and Sicilia. Finally, within the last category, which includes regions attractive to distant regions, we find Molise and Puglia.

In conclusion, the results obtained from the analysis have proven to be partially aligned with our expectations. Specifically, while some attraction coefficients increased for nearby regions in the year 2020, others unexpectedly increased for geographically distant regions, which was not anticipated in our analysis. This increase in coefficients cannot be attributed to geographical factors but may be influenced by other unknown factors of various nature, such as cultural factors.

The study of proximity tourism can be approached by looking at a variety of aspects. In fact, an interesting aspect on which future research could focus is local spending. When considering spending in the context of proximity, it is possible that tourists spend less on transportation and more on activities and experiences. Furthermore, it would be interesting to study the type of accommodation chosen by tourists or even the mode of transportation used, which could be an indicator of proximity tourism since, without having to travel long distances, tourists may prefer to use their own car or another private mode of transportation. Additionally, analyzing the mode of transportation could help estimate the level of proximity within the destination.

Proximity tourism has played a crucial role in preventing the collapse of the tourism industry during the pandemic, and local destinations and policymakers should encourage this form of tourism. Embracing the lessons learned during the pandemic period can help rediscover little-known places, reduce over-tourism in more popular destinations, and promote sustainable tourism practices, which have been a long-term objective of governments for many years.

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