

# Evaluating overtourism vulnerability of tourist destinations: a multidimensional empirical approach

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## **Extended Abstract**

Tourism has been increased its weight and importance in the European economy in recent years more than other economic activities and has registered the highest growth rates compared to previous periods. With the recovery of international travel, the European and global tourism economy in 2023 is rapidly returning to the levels recorded before the crisis caused by the 2019 pandemic when the old continent was the first tourist destination in the World, representing just over 50% of the total number of international arrivals, which numbered almost 1.5 billion people globally. In recent years, tourism sector in Europe has shown a remarkable ability to adapt to changing market conditions and also in many Italian regions, in 2023 tourist flows have been exceed the levels of arrivals and overnight stays recorded in 2019.

It is undeniable that tourism offers income and employment opportunities to improve the economic conditions of residents, creating additional earning opportunities for local; generates new demand for businesses, increasing turnover and also available income in the area; fosters infrastructure investments, attracts capital and improves national balance of payments. The development of tourist activities represents a great opportunity for destinations not only for economic and employment growth, but also for social and cultural growth. In fact, if well managed and organized, it aims to protect natural and cultural resources by stimulating the protection of ecological processes and biodiversity which are the basis of the quality and variety of attractive resources of eco-sustainable destinations and can bring benefits to improve the quality of life of tourists and residents by promoting the maintenance of aesthetic values, the development of activities related to art and culture, the improvement of local services, infrastructure, communication and accessibility, with a view to valorizing the territory and increasing its attractiveness.

By moving billions of travelers around the World for pleasure and leisure, tourism activities also present numerous negative impacts that various destinations are already experiencing, which is grappling with growing problems of land exploitation, greater production of forms of pollution, production of waste, increased consumption of energy and water, as well as inconvenience for the local population which can result in feelings of annoyance and antagonism towards tourists on the part of residents. With the renewed desire to travel (especially abroad) the theme of overtourism has

revived in those destinations which have long suffered from tourist diseconomies linked to overcrowding and are wondering how to manage tourist activities without causing alienated residents, a degraded tourist experience, overloaded infrastructure, damage to nature, or threats to culture and heritage.

According to UNWTO (2018), overtourism is defined as *the impact of tourism on a destination, or parts of it, affecting the perceived quality of life of its citizens and/or the quality of visitor experience in an excessively negative way*. It is associated not only with high tourist numbers, but also with the type and time frame of their visit and with destination's carrying capacity that may include perspectives of various stakeholders, such as residents, tourists, or (less frequently) businesses. To be considered in a state of overtourism, it is not enough that the destination is overcrowded or busy, but it is necessary that the number of visitors creates an overload for the services and facilities available, to the point of becoming a serious inconvenience for the residents of that locality (Butler R.W., 2018).

The current way of measuring tourism, through monitoring tourist flows and their trend over time, is not much adequate to evaluate the risk of overtourism at destination level. Above all, more precise and real time data would be needed at a higher level of disaggregation, better yet municipal and, on the other hand, many dimensions would be considered other than the number of tourists. As the causes of overtourism are numerous and complex and the perception of the impacts of tourism can vary from destination to destination and over time, the essentially quantitative nature of the phenomenon would require the identification of a series of indicators (yet to be identified) associated both with the volume and growth of tourists and the typologies and characteristics of their visit, determining the critical thresholds above which a destination reaches a "state of overtourism". Unfortunately, today the lack of a shared set of indicators makes it impossible to clearly qualify and quantify the number of destinations in a "state of overtourism".

The objective of this study is to provide a useful control system, developing a multidimensional approach, able to respond to this central issue for all destination managers and policy makers who are increasingly aware of the need to introduce adequate tools and medium and long-term policies to manage destinations, not continue to pursue only the further indiscriminate increase in tourist flows. To this end, indicators that representing metrics directly linked to tourism are used, obtained from official dataset whose availability is verified at municipal level and for adequate periods of time to allow comparisons over time.

Started from the review of the main causes which have contributed to an uncontrolled increase in international tourist flows in recent years, we have identified the main determinants of overtourism at local level and then selected cause-related and relevant indicators that describes all principal dimensions of the phenomenon linked to tourism spatial and temporal concentration of tourist flow. The work illustrates and examines some methodologies and sets of indicators developed at European and international level, which are then applied to the local contexts with high tourist flows, to test their validity and better understand the determinants of the phenomenon. The control system

include a set of benchmarks with eight key metrics, covering arrivals, presences, air travel, economic value of tourism, phenomenon of short-term rentals and the proximity of UNESCO sites, useful to simply and accurately diagnose or predict the risk of vulnerability for tourist destinations, in specific contexts.

The analysis is carried out on 15 top summer destinations of an Italian region, selected among 40 coastal regions of Mediterranean Europe (NUTS 2) and identified on the basis of the ranking of a synthetic index of Tourist Pressure (TP) specifically developed by the study. The TP synthetic index considers three space-time dimensions: performance of tourism (overnights stays in 2022), dynamic (average annual growth rate over the last ten years 2013-2022) and seasonality (Seasonal Peak Factor recorded in 2022).

Once chosen the Italian region with the highest synthetic value in all three dimensions, we applied the multidimensional set of eight indicators at municipal level, for those cities that recorded the highest tourist flows in the summer of 2022. The distribution of the values obtained for each indicator in the different destinations are grouped by the results and divided into five intervals of equal size, to classify destinations with respect to their risk to develop overtourism. This procedure results in the construction of a "heat map" of the most significant indicators for overtourism, calculated at destination level with an average percentile score ranging from 1 = minimum risk to 5 = maximum risk. The results are more robust as the destinations belong to a single region (NUTS 2) which in itself represents an homogeneous territorial system from a physical, environmental and accessibility point of view so they don't require setting up a weighting system for the indicators. Therefore, it is preferable to evaluate the distribution of the values thus obtained in the different destinations, rather than considering these indicators in absolute value or attempting to calculate the greater or lesser distance from a maximum limit which is not identifiable. Through a simple graphic comparison and a color scale representation system with the heat map, it is possible to intuitively understand the specific situation of each destination analyzed, highlighting the variables that signal the most worrying risk situations.

The application currently referred to a specific territorial area could be easily extended to other destinations, at different territorial scales. This would allow the different characteristics of each destination typology to be evaluated, to test the ability of the indicators identified to effectively explain the complex and multifaceted phenomenon of overtourism in different territorial contexts.

Thanks to the ease of reading the results the system could support political decision-makers and destination managers in verifying the degree of risk of overtourism vulnerability and identifying specific actions to counter it. In fact, the tool proves to be very useful not only for monitoring and in-depth evaluation of the risk factors that can produce a state of overtourism at local level, but also for providing important policy indications on possible precautions and measures to be adopted, in a more appropriate way for the specific local context. Therefore, it is possible to offer global responses to local problems, thanks to a very refined and useful analysis tool at the micro level, combined with

intervention and policy measures whose effectiveness is now generally recognized by the case studies reported in the international literature.

Results provide the opportunity to change the paradigm of tourism in the near future (still largely based on the continuous increase in tourist flows) suggesting useful tools for destinations which are wondering how to manage tourist activities in a sustainable way, so as not to damage the level of well-being of local populations and to ensure a satisfactory experience level for tourists.

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