# Tourism Statistics: development and potential uses

*Le Statistiche sul turismo: sviluppi e possibili utilizzi*

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**Abstract** The paper aims at highlighting the role and importance of tourism statistics in describing tourism sector but also the business cycle. So far, despite WTO recommendations, and the EU regulations on the European statistics on tourism (Reg. 692/2011), there is no standardized Tourism Statistics System (TSS) across countries.

This study systematically and critically examines metadata of tourism statistics for a significant group of countries, aiming at highlighting those methodological issues that are afflicting tourism statistics

**Abstract** *Il presente lavoro intende evidenziare il ruolo e l'importanza delle statistiche sul turismo nel descrivere il settore del turismo, ma anche l’andamento del ciclo economico. Finora, nonostante le raccomandazioni del WTO e gli appositi regolamenti UE (Reg. 692/2011), non esiste un sistema di statistiche sul turismo (STS) standardizzato per i vari paesi. Questo studio analizza i metadati delle statistiche sul turismo di alcuni Paesi, con l'obiettivo di evidenziare le principali differenze metodologiche esistenti.*

**Key words:** Tourism statistics; metadata; quality of statistics.

1. “Tourism statistics” and “statistical information about tourism”: the NSI and the ONT organizations.

Tourism is connected to nearly all areas of human social activity although, for its contribution to economic growth, it is considered an economic activity itself, prevalently concentrated in the services sector. Tourist behaviour depends on several reasons, and tourism is originated from different purposes that are not only the motivation of the people who originate the decision to travel, but also the specific characteristics of the place or country visited (Cunha, 2014). Actually, for a better comprehension of tourism sector and tourist behaviour, researchers needs and subjective preferences suggest to have a detailed and integrated statistical information. It follows the opportunity to build a System of Tourism Statistics (STS) at national and sub national level (OECD, 2011). The construction of a STS should be a part of the National Statistical System (NSS) “providing reliable, consistent and appropriate statistical information on the socio-economic aspects related to tourism, integrated within all the economic and social statistics related to other fields, at different territorial levels (national – or federal, where appropriate - infra national and international)” (UNWTO, 2011).

In the perspective of building a comprehensive STS, it is important to distinguish the statistical information on tourism from tourism statistics, the latter being only a part of the statistical information useful to evaluate tourism sector. While each National Statistical Institute (NSI) has the primary goal to transmit to Eurostat, data on the variables provided in Reg.692/2011 (Annex I and II), differently ONTs should organize a dashboard to evaluate the competitiveness of tourist destinations. In fact: “the National Tourism Observatories (ONT) could be considered as a one stop-stop shop for analysing economic and statistical data provided by different stakeholders so that to create a tourism intelligence centre for increased statistical co-operation with the local authority and the tourist operators” (OECD, 2011, p. 17). At present, in some countries, there are independent ONTs, while in others we find ONTs inside NSIs. Among the 27 EU Countries, 16 have an ONT, but only 10 have an independent ONTs (EC2010).

Moreover, ONTs can be organized in a very flexible way, depending on the needs of national or local stakeholders, thus covering topics that are not assigned to NSI. For instance, tourist operators and policy makers are interested in forecasting tourism figures in the long and short term (nowcasting), while such needs are not generally met by NSI as, according to Reg.692/2011, they do not fall within NSI duties. The availability of a STS creates a benefit also in the interpretation of other phenomena, not strictly linked to the tourism field. For instance, considering the attributes that a short-term indicator must have (Eurostat, 2006), the number of holiday trips can be used as a proxy of the household confidence about their future expectations, as well as the change in the “average length of stay” has proved to be an indirect measures of economic crisis in Italy.

2 The framework of tourism statistics: the past, the present and the future

The shift from the directive EC 95/57 to the EU Regulation 692/2011 cannot be considered as occasional. It represents the answer to the changing nature of tourism behavior with: the growing importance of short trips and same-day visits, the increasing importance of non-rented accommodations or accommodation in smaller establishments, as well as the growing impact of the internet on the tourism industry. Then the production of tourism statistics should be adapted (EC, 2011). For instance, in the new definition, the day visitors are inside the tourism sector, although they are not tourists. The nomenclature of economic activity is more detailed in its application, in particular for the code 55.3 of NACE REV.2 (Camping grounds recreational vehicle parks and trailer parks) . Furthermore, a specific classification of territories is provided (densely, intermediate and thinly areas), as well as it is also possible to classify the local administrative units in coastal and non-coastal. Tourism statistics have, as their primary goal, “to recognized the role of tourism as a tool of development and socioeconomic integration” (EC95/57), so that “monthly data is needed in order to measure the seasonal influences of demand on tourist accommodation capacity and thereby help public authorities and economic operators develop more suitable strategies and policies for improving the seasonal spread of holidays and tourism activities or to enable assessment of the macroeconomic importance of tourism in the economies of the Member States by Satellite Accounts” (EC 692/2011). With the “Agenda for a sustainable and competitive European tourism” (EC, 2007) the right balance between the welfare of tourists, the needs of the natural and cultural environment, linked competitiveness with sustainability were connected. Competitiveness and sustainability, during the years, have become the main concepts that guide the policies on tourism and, indirectly, the production of tourism statistics. While a set of indicators has been found to measures sustainability (EC, 2016), providing a sounded system of tourism information by ETIS indicators, for competitiveness the goal seems to be more complex to achieve. In fact, although some key elements of competitiveness are shared by countries, measuring competitiveness can be more difficult because of a lack of data. In fact, in many countries, the variables needed to build the indicators are not produced. For instance, researchers or politicians do not know the level of price of many services (and goods). Originally the volume of arrivals or of nights spent have been used as a proxy to measure competitiveness but now, with a significant change in mobility (Wang 2000; White and White, 2007) those aggregates cannot be used in the same way . Finally, it is important to point out the attractiveness of a territory in order to highlight its capacity to become a gravitational area, and that is why we need an integrated tourism statistical system.

3 Tourism statistics: operational definitions and different methodology across countries

Tourism statistics cover the internal tourism, in terms of capacity and occupancy of tourism accommodation establishment and national tourism, in terms of tourism demand, that concerns the characteristics of tourism trips and visitors and same day visits. The statistical unit is the visitor. In fact ‘tourism’ means the activity of visitors taking a trip to a main destination outside their usual environment, for less than one year, for any main purpose, including business, leisure or other personal purpose, other than to be employed by a resident entity in the place visited” (EC, 2011, p. 19). Thus (Table 1), a visitor is a traveller out his/her usual environment, which” identifies the geographical area, though not necessarily a contiguous one, within which an individual conducts his regular life routines” (EC, 2011, p. 19). The history of the definition of “usual environment” and “visitor” starts in the 1963 United Nations Conference (IUOTO, 1963). The conceptual meaning of usual environment (or, conversely, unusual environment) is “as residential place or as a part of physical space that can be defined in relation to people’s individual experience and its routine activities” (Govers, Van Hecke & Cabus, 2008). Thus, the detection of “visitor” (and, consequently, “usual environment”) is obtained excluding those people that every day or every week go from their home to their workplace or study-place (Cunha, 2014). The relationship between usual environment, space and place (Tuan, 1974; Cresswell, 2004) is crucial for demand side tourism statistics, considering the usual environment not as a spatial continuum, but as a collection of places with different surface areas.

**Table 1:** Action for travellers and visitors

|  |  |  |
| --- | --- | --- |
| ***Action*** | ***Traveller*** | ***Visitor*** |
| Movements | Between geographical locations | Destination outside his/her usual environment |
| Purposes | Any | Any purpose other than to be employed by a resident entity in the placed visited |
| Duration | Any | Less than year |

A number of issues emerge from UN (UN, 2016, p. 19):

- the usual environment concept as a respondent category: “it introduces subjectivity, confusion and unsystematic variation in reported travel activity”:

- the travel distance criterion: “introduces a false appearance of objectivity by masking subjective differences in respondents’ abilities to recall and accurately measure travel distance thereby contributing to increased uncontrolled variance and volatility in subsequent data”;

- crossing an administrative boundary: “could potentially provide an arbitrary gross standard as a ‘minimum basis of comparison’ for the purposes of international reporting, cumulative statistics and analysis”.

Table 2 provides the operational definition of unusual environment for a representative set of EU countries. That table is partially different from the one (dated 2011) included in the publication UN (2016, p. 22) as it comprises also Italy and other EU countries. Data for the compilation of Table 2 are derived from Eurostat metadata and the examination of the questionnaires available at the Eurostat web pages.

It is clear that any combination of the criteria illustrated shifts the classification of visitors/non-visitors. For instance, traveller A who makes a unusual trip (suppose less than one a week) that exceeds 30 Km (hypothetical limit), with a duration of more than 2 hours (hypothetical limits), but does not pass any administrative border could not be considered a visitor. The second critical element regards how to recognize the “tourism trip” that requires “the stay in the place visited” but does not necessarily involve any “overnight”, and that is why tourism visit is conceptually different from tourist. The notion of stay, implies a stop, in fact entering into a geographical area without stopping there, does not qualify, as a visit to that area, but a common limit to identify the minimum duration has not been found yet.

Looking at internal tourism data provided by the census on capacity and occupancy of tourist accommodation establishments (supply side source), the process design is different across countries. According to the Eurostat metadata, is possible (Table 3) to cluster the countries as those with a:

- dedicated and autonomous census survey (Italy, Portugal Malta);

- census survey from business register (Germany; Croatia; Finland);

- stratified sample survey (France and Spain).

The distinction between “autonomous” census survey and census survey from business register can have important effect on the quality of the data (Santoro and Petrei, 2015), and on the measure proposed. In Italy, for the year 2015, the Business Register ASIA reports 27330 Local Units of hotels (ATECO code 55.1, overall 53106), whilst the tourism administrative archives count 33199 establishments (overall 167718). Also comparing the number of overnight stays from supply and demand side sources, there are deep inconsistencies as shown for example in Guizzardi and Bernini (2012).

**Table 2*:*** *Operational definitions of unusual environment*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Country*** | ***Distance threshold (km)*** | ***Administrative borders*** | ***Respondents’ self-evaluation*** | ***Frequency of visit*** | ***Duration threshold (hours)*** |
| Austria |  | X | X | Less than twice per month (\*) |  |
| Finland | 30 |  |  | Less than once a week | 3 (+) |
| France | 100 (\*) |  | X |  |  |
| Germany |  | X | X |  |  |
| Italy |  | X | X | Less than once a week |  |
| Malta |  | X (country) |  |  |  |
| Portugal |  | X (\*) | X |  | 3 (\*) |
| Spain |  | X | X |  |  |

(\*) one-day visit; (+) trips abroad; Source: Eurostat metadata

**Table 3:** *Capacity of accommodation establishments*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Country*** | ***Regional Coverage*** | ***NACE Rev. 2 Code*** | ***Source of data*** | ***Frequency of data collection*** | ***Time***  ***coverage*** |
| Italy | LAU2 (municipality) | 55.1 (Hotels and similar accommodation) | Census survey (via local authorities or tourism bodies) | Annually | 1956-2015 |
| 55.2 (Holiday and other short-stay accommodation) | Census survey (via local authorities or tourism bodies) | Annually | 1963-2015 |
| 55.3 (Camping grounds, etc.) | Census survey (via local authorities or tourism bodies) | Annually | 1963-2015 |
| Germany | NUTS 0 (federal territory) | 55.1 (Hotels and similar accommodation) | Census survey (data are collected by business register) | Monthly | 1992 >> |
| NUTS 1 (federal states) | 55.2 (Holiday and other short-stay accommodation) | Census survey (data are collected by business register) | Monthly | 1992 >> |
| NUTS 2 (districts) |
| NUTS 3 (rural and urban districts) | 55.3 (Camping grounds, etc.) | Census survey (data are collected by business register) | Monthly | 1992 >> |
| LAU2 (municipality) |
| France | NUTS 3 | 55.1 (Hotels and similar accommodation) | Sample survey (from business registers) | Monthly | 2000 >> |
| 55.2 (Holiday and other short-stay accommodation) | Sample survey (from business registers) | Monthly | 2011 >> |
| 55.3 (Camping grounds, etc.) | Sample survey (from business registers) | Monthly | 2003 >> |
| Spain | NUTS 2 (17 Autonomous Communities) | 55.1 (Hotels and similar accommodation) | Sample survey (stratified population; from administrative registers) | Monthly | 1964 >> |
| 2 Autonomous Cities (just for NACE 55.1) |
| NUTS 3 (52 provinces) | 55.2 (Holiday and other short-stay accommodation) | Sample survey (stratified population; from administrative registers) | Monthly | Holiday Dwellings: 2000 >> |
| Rural Tourism Accommodations: 2001 >> |
| LAU 2 (tourist areas and tourist sites) | Hostels: 2014 >> |
| 55.3 (Camping grounds, etc.) | Census survey | Monthly | 1964 >> |
| Portugal | LAU2 (municipality) | 55.1 (Hotels and similar accommodation) | Census survey | Monthly | 2000 >> (with a break in 2008) |
| 55.2 (Holiday and other short-stay accommodation) | Census survey | Monthly | 2000 >> (with a break in 2008) |
| 55.3 (Camping grounds, etc.) | Census survey | Monthly | 2000 >> (with a break in 2008) |
| 55.3 (Camping grounds, etc.) | Not avalaible | Not avalaible | Not avalaible |

Source: Eurostat Metadata

4. Conclusions

The present analysis reveals the implementation of different process designs, different data collection modes and different operational definitions for two types of tourism data: the ones collected from the supply side (“capacity and occupancy data”) and the ones from the demand side (households surveys). As illustrated in the article, the population frames of supply side data can be administrative, statistical or mixed (Business Register). Differently, for demand side data, the main operational problem is the definition of “usual environment”. The definition of “usual environment” is crucial even in the integration of official statistics with new data sources like mobile phone data. In fact, the use of mobile phone data should respect the basic definitions of usual environment given by the international regulations (Raun & Ahas, 2016).

References

1. Cresswell, T. (2004) Place, A Short Introduction. Malden, USA: Blackwell
2. Cunha, L. (2014) The Definition and Scope of Tourism: a Necessary Inquiry. Cogitur, Journal of Tourism Studies, [S.l.], n. 5, may 2014. <http://revistas.ulusofona.pt/index.php/jts/article/view/4426>:
3. EC95/57 On the collection of statistical information in the field of tourism
4. EC (2007). Agenda for a sustainable and competitive European tourism, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52007DC0621 (accessed 2018.04.16)
5. EC (2010) European Tourism Stakeholders’ Conference, 14-15 April, Madrid
6. EC (2011). Regulation (EU) No 692/2011 Of the European Parliament and of the Council of 6 July 2011. Official Journal of the European Union, L192/17.
7. Govers, R.,Van Hecke E., & Cabus, P. (2008). Delineating Tourism Defining the Usual Environment. Annals of Tourism Research, 35(4), 1055-1073
8. Guizardi, A., Bernini (2012). Measuring underreporting in accommodation statistics: evidence from Italy. Currentt Issues in Tourism, 15(6), 597-602
9. IUOTO (1963). La Conférence des Nations Unies sur le Tourisme et les Vojages Internationaux. Aout-Septembre. Résolutions et recommandotions. Paris: Publication de L’Union Internationale des Organismes Officiels de Tourisme.
10. Lam, C., McKercher B. (2013). “The tourism data gap: The utility of official touirism information for the hospitality and tourism industry”, Tourism management perspectives, 6 (2013), 82-94.
11. Masiero, L. (2016). International tourism statistics: UNWTO benchmark and cross‐country comparison of definitions and sampling issues. Statistics and TSA: Issue Paper Series.
12. OECD (2011). OECD Studies on Tourism: Italy: Review of Issues and Policies, OECD Publishing. <http://dx.doi.org/10.1787/9789264114258-en>
13. Petrei , F. & Santoro M.R (2015), “ Tourism Statistics and the business Register in Italy: A Comparative analysis and future outlooks Integrations, in Journal of Statistical Application, Vol.3, No. 1-15.
14. Raun, J. & Ahas, R. (2016). Defining usual environment with mobile tracking data. 14th Global Forum on Tourism Statistics, 23-25 November 2016, Venice, Italy.
15. Tuan, Y.-F. (1974) Space and Place: Humanistic Perspective. Progress in Geography, 6:211–225.
16. Wang, N. (2000). Tourism and modernity: A sociological analysis. Oxford, UK: Pergamon Press.
17. White N. R. & White, P. B. (2007) Home and away: Tourists in a Connected World. Annals of Tourism Research, Volume 34, Issue 1, January 2007, 88-104.
18. UNWTO (2011) The System of tourism statistics as the foundation for a tourism information system, Madrid, http://statistics.unwto.org/content/sts\_nss

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