Italian Tourism Satellite Account: methodological approach

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Abstract

Although official tourism statistics provide extensive information on the tourism sector, a Tourism Satellite Account (TSA) integrates these data into a methodological and conceptual framework derived from the National Accounts. The methodology developed for the Italian TSA uses official sources and adopts a mixed approach for the demand perspective and a bottom-up approach for the supply perspective. The ITSA Tables follow international standards for both characteristic tourism products and industries and for country-specific tourism goods, as selected from the list provided in the guidelines. A TSA measures the direct effects of tourism consumption within the reference economy; it does not capture the full potential of the tourism sector, but it is nevertheless the first step in measuring indirect and induced effects.

Keywords: Tourism Satellite Account (TSA), tourism, National Accounts, tourism expenditure.

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1. Introduction

The TSA is an international, standardised accounting framework, structured into ten Tables, suitable for measuring the tourism sector within the reference economy. For this reason, it is built on the principles of national accounting, representing an extension and a thematic focus (Eurostat 2009 a and b).

Tourism statistics emphasise the activities undertaken by visitors, with particular attention to descriptive variables such as mode of transport, main purpose of travel, main destination, and expenditure (Eurostat 2014). This sectoral description of tourism has long been internationally integrated through the TSA, which consistently highlights the tourism sector's direct role in the broader national economy.

A TSA (Eurostat 2002):

- makes the tourism sector visible, even though its contribution is already included in the central National Accounts;
- measures tourism on the demand side (tourism expenditure and consumption, collective tourism consumption, fixed gross capital formation), on the supply side (production, intermediate consumption, value added, employment), and provides non-monetary indicators (overnight stays, number of trips, number of establishments, etc.);
- sets up an accounting structure to compare monetary and non-monetary estimates, in order to draw the measure of the tourism sector consistently with National Accounts.

The Italian TSA compiles 8 of the ten recommended Tables: Tables 1-7 and Table 10, which contain the essential information for measuring the size of the tourism sector that directly serves visitors. This information is expressed in terms of the main aggregates of national accounting (added value, gross domestic product, employment, etc.) and is compiled mainly using its methodology and evaluation criteria, thus enabling comparison with other productive sectors and/or the rest of the economy.

The TSA measures the direct effects of tourism on the reference economy. However, broader measures of indirect and induced effects are expressly excluded from the TSA's purposes.

2. The Tourism Satellite Account

In National Accounts, the economy is described through a detailed framework that covers the supply of goods and services – both domestically produced and imported – and their demand for intermediate and final consumption; the value added generated by economic activities; and the interrelations among activities and products.

A TSA represents a focus and a deepening of such a framework, in which the analysis of all aspects of demand for goods and services that might be associated with tourism is highlighted using the structure and principles of national accounting, while also developing specific issues and concepts suitable for making the tourism sector as a whole emerge from the framework of National Accounts in which it is included.

2.1 Key concepts of National Accounts and of TSA

2.1.1 Residence

One of the foundational concepts of National Accounts (NA) is residence. Residence is attributed to individuals on the basis of the family (unit) to which they belong, which in turn is established by whether they have and use, within the economic territory of reference, accommodation considered by the family itself as its main residence. When an individual travels outside the economic territory of reference, the place where they have their usual residence is decisive in determining their residence.

Since tourism is linked to the mobility of people, residence and abode are key elements in establishing the origins of different kinds of tourism flows and in accurately recording their activities. In tourism statistics, international tourists are classified by their country of residence, while domestic tourists are classified by their usual residence.

In the context of the NA, residence refers to travellers who travel outside their country of residence. In the context of the TSA, residence refers to the usual environment, used to distinguish travellers from visitors and to classify travellers by origin.

2.1.2 Production and value added

In the NA schemes, production and value added highlight each productive sector's contribution to economic performance. The TSA evaluates the tourism sector in the same way, using the same concepts and definitions.

NA production includes, in addition to the goods and services produced by resident production units, certain imputed items, such as the services provided by owners' own use of the dwelling – the so-called imputed rents. From a TSA perspective, such imputed rents apply only to services associated with holiday accommodation on one's own account, excluding, by definition, the main residence and referring only to second homes. As in NA, imputed rents are accounted for twice in a TSA: on the supply side – production – and on the demand side – tourism consumption.

2.1.3 Evaluation criteria

The evaluation criteria for TSA aggregates, on both the demand and supply sides, are the same as those used in national accounts: basic production prices and purchase prices for tourism consumption. Subsequent reconciliation requires adding elements such as taxes, imports, and trade and transport margins to the basic production prices to convert them to purchase prices.

A special issue in the TSA is the net evaluation of tour operators' production. The organising services, typically representing the main activity of a tour operator and included in the final price of a package tour, must be treated separately from the other services. In NA, a package tour is evaluated on a gross basis, whereas in the TSA, including the Italian one, it is evaluated on a net basis, as it covers only the value of the organising service actually performed by the tour operator.

2.2 Tourism on the demand side

A central element in defining the tourism sector is the visitor, without whom tourism flows and the associated monetary transactions would not exist. For this reason, tourism is regarded as a demand-side activity.

Visitors are a subset of travellers, and tourism is more limited than travel. A traveller is someone who moves between different geographic locations for any purpose and for any duration. A visitor moves outside their usual environment for less than a year and for a main purpose other than employment by a resident entity in the place visited (UNSD and UNWTO 2010).

2.2.1 Visitor, usual environment, purpose of trip

The definition of a visitor is based on three fundamental aspects:

1. usual environment, defined as the geographical area (though not necessarily contiguous) within which individuals conduct their regular daily routines (UNSD and UNWTO 2010). This fundamental concept is characterised by factors such as distance from the usual residence, frequency and duration of movement, and crossing internal or international borders (UNSD and UNWTO 2010);
2. duration of trip, less than 12 months;
3. purpose of trip, articulated as follows.
   - *Personal reasons*: holiday, leisure and recreation, visiting friends and relatives, education and training, health and medical care, religion, shopping, transit, other (UNSD and UNWTO 2010).
   - *Business and professional reasons*, including the activities of the self-employed and employees, provided they do not constitute an implicit or explicit employer-employee relationship with a resident producer in the country or place visited. Cross-border workers, i.e., those who cross an internal or international border daily to go to their workplace, as well as seasonal workers, are excluded.

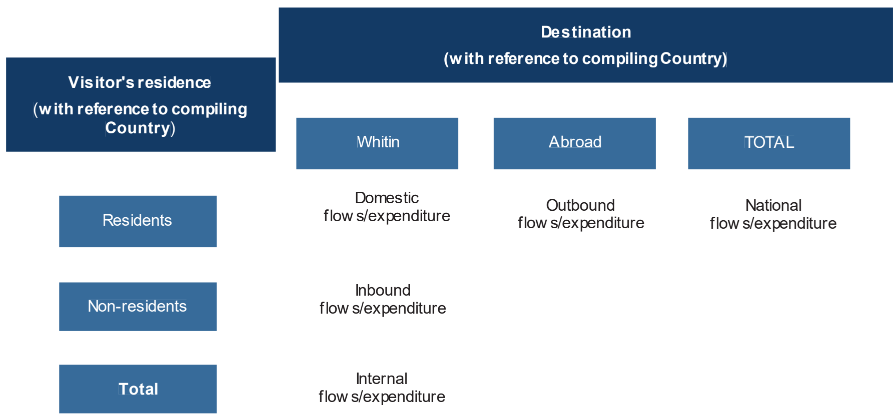
Visitors are classified as follows:

1. Tourist: overnight visitor.
2. Excursionist: same-day visitor.

2.2.2 Tourism flows, tourism expenditure and tourism consumption

From the perspective of the compiling country, the interaction between the concepts of residence and visitor gives rise to different types of tourism flows, which are essential for evaluating tourism expenditure. These expenditures, in turn, constitute crucial components of internal tourism consumption, a key concept for measuring tourism demand (Figure 2.1).

Figure 2.1 - Tourism flows and expenditures



Source: Authors' processing

Inbound flows and expenditures: referring to non-resident visitors travelling in the country of reference.

Domestic flows and expenditures: referring to resident visitors travelling in the country of reference.

Outbound flows and expenditures: referring to resident visitors travelling outside the country of reference.

National flows and expenditures: referring to resident visitors travelling in and out of the country of reference (domestic + outbound).

Internal flows and expenditures: referring to non-resident and resident visitors travelling within the country of reference (domestic + inbound).

The purchase of products by visitors, both residents and non-residents, is highly relevant to the economy of reference, as it forms part of the monetary aggregates used to measure the tourism sector on the demand side: tourism expenditure and internal tourism consumption.

Tourism expenditure is the amount spent on consumption goods and services, as well as valuables, for personal use or for giving away during tourism trips (United Nations Commission of the European Communities *et al*. 2010).

Tourism consumption extends beyond tourism expenditure. In addition to the monetary transactions that tourism expenditure focuses on, it also includes services associated with holiday accommodation on one's own account, tourism social transfers in kind, and other imputed consumption (United Nations Commission of the European Communities *et al*. 2010). These additional items are recorded in the specific column in Table 4 of the TSA, namely "Other components of tourism consumption".

Tourism expenditure and consumption refer to the broader definition of final consumption expenditure adopted in the NA, which defines it as "supported by resident institutional units for goods and services used for the direct satisfaction of individual or collective needs of members of a community" (Eurostat 2013). Actual final consumption, by contrast, refers to the "acquisition of consumer goods and services by a sector". The difference between the two concepts lies in how goods and services financed by governments or Non-Profit Institutions Serving Households (NPISHs) are treated when provided to households as in-kind social transfers (Eurostat 2013).

While expenditure considers only the monetary outlays directly incurred by families for the purchase of goods and services, actual consumption encompasses their overall consumption, including that for which families benefit without having directly incurred the expense. In the latter case, this concerns the benefits in kind provided by the government and NPISHs.

The comparison of expenditure and consumption in NA and TSA excludes employer-paid business-trip expenditure for employees (Table 2.1). From a TSA perspective, these expenses are tourism consumption for accommodation, transport services, and travel agencies' services; however, in NA, they are intermediate consumption for companies rather than final consumption by workers.

Table 2.1 - Actual final consumption in NA vs. tourism consumption in TSA

National Accounts (NA)	Tourism Satellite Account (TSA)
1. Households' final consumption	1. Visitors' expenditure
2. Individual final consumption of Government and NPISHs	2. Individual final consumption of Government and NPISHs
	3. Other components of tourism consumption
Actual households' final consumption	**Tourism consumption**

Source: Authors' processing

2.2.3 Other components of tourism consumption

The "Other components" of tourism consumption are mostly made up of:

- housing services provided by vacation homes on own account;
- business travel.

Each family has its own main residence, whose location identifies the country of residence and the place of usual residence. Any other homes (owned or leased by the family) are considered second homes.

For the purposes of the TSA, the only second homes to be considered relevant are those used for tourism, even if located near or within their usual environment, in derogation of the principles of frequency and duration established for identifying the tourism sector. The use of second homes for tourism is a distinctive element in quantifying the related services within the TSA. Another peculiarity is that second homes can be located in the economic territory of another country, in which case they affect the Balance of Payments (BoP) (IMF 2004).

Business travel refers to the expenses incurred by companies for their employees' business trips.

Expenses borne by companies – mainly accommodation, transport and travel agencies' services – are recorded in NA as intermediate consumption, whereas under a TSA perspective they form part of "Other components" of tourism consumption. Other expenses always borne by companies but covered through lump-sum payments are treated in NA as wage subsidies; therefore, such expenses, even in the context of business trips, are treated as final rather than intermediate. In their tourist transposition, these final expenditures feed tourism expenditure rather than tourism consumption.

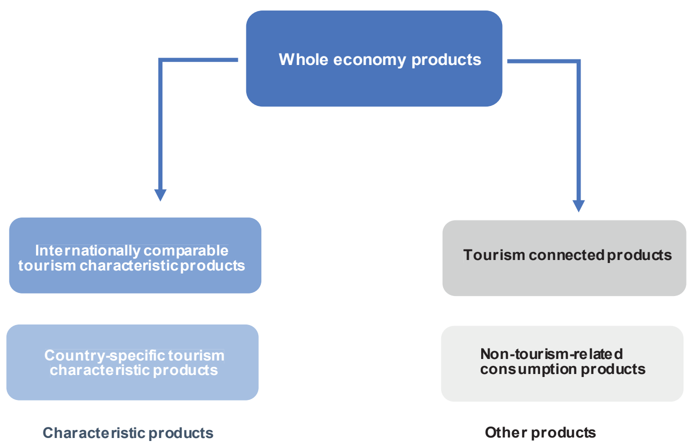
From the compiling country's perspective, expenditures on business travel reported under "Other components" relate only to resident visitors, whereas those related to non-resident flows, which are traced back to the intermediate consumption of non-resident companies, do not support the economy of the TSA of reference.

2.3 Tourism on the supply side

On the supply side, one of the most significant aspects of the macroeconomic analysis conducted through the TSA is the description of tourism's productive contribution, considered a sector in its own right, relative to the rest of the national economy. From this point of view, tourism, once again dominated by the crucial figure of the visitor, is defined as the set of productive activities (industries) that produce goods and services (products) for consumption in tourism.

Tourism products can be grouped into two macro-categories: (1) characteristic tourism products and (2) other products (Figure 2.2) (UNSD 2008).

Figure 2.2 - Classification of tourism products



Source: Authors' processing

Characteristic products are those whose supply would cease or be significantly reduced in the absence of visitors; the others, whether connected or not, represent residual categories whose link with tourism lacks the prevalence typical of the former.

The internationally comparable characteristic products are the top 10 listed in Table 2.2.

Table 2.2 - Tourism products and tourism industries in Italian TSA

Tourism products	Tourism industries
1. Accommodation services for visitors	1. Accommodation for visitors
2. Food- and beverage-serving services	2. Food- and beverage-serving activities
3. Railway passenger transport services	3. Railway passenger transport
4. Road passenger transport services	4. Road passenger transport
5. Water passenger transport services	5. Water passenger transport
6. Air passenger transport services	6. Air passenger transport
7. Transport equipment rental services	7. Transport equipment rental
8. Travel agencies and other reservation services	8. Travel agencies and other reservation
9. Cultural services	9. Cultural services
10. Sports and recreational services	10. Sports and recreational services
11. Shopping	11. Retail trade of country-specific tourism characteristic goods
12. Other products	12. Other industries

Source: Authors' processing

For specific characteristic products, tourism attribution varies significantly across countries or areas of reference. Each country can select and develop this basket of specific characteristic products from an extensive list of goods and services proposed in international manuals (UNSD and UNWTO 2010).

From a productive perspective, tourism-characteristic industries are those whose supply would cease to exist in significant quantities in the absence of visitors (UNSD and UNWTO 2010). This link is to be taken literally, in the sense that industries whose "main productive activities directly serve visitors or that are in contact with them" are considered tourist industries (UNSD and UNWTO 2010). Therefore, those that contribute to the production of products purchased by the visitor but which, however, reach him only through the channel of mediation are excluded from the meaning of the tourism industry.

The overall supply generated by the tourism industries and other (non-tourism) industries serves both the demand of visitors – residents and non-residents – and that of non-visitors (consumers) (Maresca et al. 2014).

In Table 5 of TSA (T5), which presents the production accounts for tourism and other industries, one of the main supply-side indicators is generated: the value added of tourism industries (VATI), in addition to the tourism value added (VAT) estimated in Table 6 of TSA. The VATI does not provide any assessment of the actual tourist destination; it represents the accounting quantification of output produced by characteristic tourism industries, regardless of how that output is distributed for final use between visitors and consumers. Furthermore, because it is limited to the tourism industry, the VATI does not account for the productive contribution of other industries that also contribute to the direct satisfaction of tourism demand through their (secondary) supply of tourism goods and services.

3. The sources of Italian TSA

The implementation of the Italian TSA (ITSA) relies on official sources, thereby providing a pool of information that complies with international methodological standards (MAP et al. 2003).

They are divided into two main types:

- Surveys on tourism;
- National Accounts data.

The former provide monetary and non-monetary data for specific tourism aspects, while the latter are used both as basic data and at an aggregate level to assess the consistency of tourism estimates with those of the National Accounts.

3.1 Tourism statistics

Within this type of source, surveys are distinguished by their scope of analysis and the information they produce.

The main surveys used for the compilation of ITSA are:

- Survey on International Tourism (*Indagine sul turismo internazionale*) (by the Bank of Italy)[2] (Alivernini et al. 2014);
- Trips and Holidays Survey (THS) (*Indagine CAPI su viaggi e vacanze*) by Istat[3] (2025c);
- Survey on Capacity of tourism accommodation establishments (*Capacità degli esercizi ricettivi*) (by Istat);
- Survey on Occupancy of tourist accommodation establishments (*Movimento dei clienti negli esercizi ricettivi*) by Istat (2025d).

3.1.1 Survey on International Tourism

The extensive sample Survey on International Tourism conducted by the Bank of Italy as part of its institutional activity of compiling Italy's BoP is a

2 For details on this survey, see https://www.bancaditalia.it/statistiche/tematiche/rapporti-estero/turismo-internazionale/index.html?com.dotmarketing.htmlpage.language=1&dotcache=refresh.

3 For details on this survey, see https://www.istat.it/en/microdata/trips-and-holidays-2/.

crucial source for compiling Tables 1 and 3 of the TSA, providing information on tourism expenditure in Italy by non-resident visitors and on tourism expenditure abroad by visitors who are resident in Italy.

The survey is conducted at a sample of road, rail, airport and port border points and captures both inbound and outbound tourism. The survey provides analytical information on tourism spending, the number of overnight stays, and other aspects of travel that are of interest for analysing tourism occurrences.

3.1.2 Trips and Holidays Survey

Since 2014, TH has been included as a focus in the broader Households Budget Survey, which has undergone structural and methodological changes. It measures: the number and characteristics of trips made by residents for holiday or business purposes, both in Italy and abroad; the expenditure incurred by families on travel; the reasons people have not travelled; and same-day visits (excursions). The estimates provided are internationally comparable and enable analysis of the evolution of individuals' tourist behaviour.

The survey mainly aims to quantify residents' tourism flows, both in Italy and abroad, and to provide a reference framework for the behaviour and travel methods of Italian tourism demand, including expenditure.

3.1.3 Survey on the Capacity of tourism accommodation establishments

The two Istat surveys on accommodation facilities provide the non-monetary data required for Table 10 of the Italian TSA. These data, in addition to describing some qualitative characteristics of tourism, provide an essential basis for calculating per capita values and for any case in which reliable indicators are needed to correct the estimate.

It is an annual census survey that detects:

- the number of establishments, beds, rooms and bathrooms at the municipal level;
- the number of establishments and beds at the municipal level.

The former is recorded for hotel establishments, which include all typological specifications and/or types of accommodation that, under regional regulations, are classified as hotel-type structures (e.g., hotel villages, motels, period residences, *meublé* or *garnì* hotels, historic residences, wellness centres, beauty farms, etc.). The latter is recorded for complementary establishments (divided into campsites, tourist villages, campsites and tourist villages in mixed form, rental accommodation managed in an entrepreneurial form, agrotourist and rural tourism accommodation, youth hostels, holiday homes, alpine refuges and other complementary accommodation facilities not elsewhere classifiable) and for private rental accommodation (divided into bed and breakfasts and other private accommodation). Information on private rental accommodation ("other private accommodation") is also collected but not disseminated, as it is not considered exhaustive.

With regard to hotels only, since 2008, accommodation capacity has also been recorded by structure size class (fewer than 25 rooms, 25 to 99 rooms, or 100 rooms or more).

3.1.4 Survey on Occupancy of tourism accommodation establishments

The survey on customer movements in accommodation establishments is a monthly census that records the arrivals and overnight stays of resident and non-resident visitors in Italian accommodation facilities, classified by region and country of residence.

Arrivals are the number of customers who check in at accommodation establishments during the period considered; overnights are the number of nights they spend there.

Also, in this case, the survey units consist of accommodation establishments, that is, hotels, complementary structures and private rental accommodation.

The information collected mainly concerns arrivals and nights spent, by type of accommodation (using the same classification as the Survey on the Capacity), by country of residence for non-resident visitors, and by region of residence for visitors who are residents in Italy.

3.2 National Accounts data

Measuring the tourism sector within the economy of reference requires close integration with the National Accounts system. This connection is evident in the centrality of accounting data, which are used both as a direct source for compiling the TSA Tables and as a quantitative constraint to reconcile tourism estimates with the accounting aggregates.

As a data source, the National Accounts provides its information starting with the Supply and Use Tables (SUTs) (Istat 2025a).

On the supply side, the reconstruction of tourism industries and other industries of T5, in accordance with the “Tourism Satellite Account: Recommended Methodological Framework 2008” (TSA: RMF 2008) (United Nations Commission of the European Communities et al. 2010), required the use of basic data derived from company surveys at the 4-digit level of classification of economic activity (class). On the demand side, National Accounts data provided both the constraints for the estimates derived from the survey data and the information base for developing indicators.

3.2.1 Supply and Use Tables (SUTs)

The SUTs highlight the relationship between the branches of economic activity, i.e., the groupings of Units of Economic Activity (UAEs), and the branches of homogeneous production (products) by accurately describing the internal production processes and transactions associated with those products.

For the purposes of compiling the TSA, a non-disseminated internal version of the SUT matrices was used at the highest level of detail.

The Supply Table shows the total availability of resources at basic prices, distinguishing between domestic and imported production. Within this framework, the production matrix provides a detailed picture of the domestic supply of goods and services, classified by product and by industry. From this Table, tourism industries and products were selected.

For the same level of detail, the Use Table specifies the uses of goods and services by intermediate consumption, final consumption, gross fixed capital formation and exports. For each branch of economic activity, it describes the structure of its costs, given by the combination of product inputs and the value added at purchase prices, in all its components.

Using this matrix, the costs of the tourism industries have been estimated. In addition, the duly processed data on imports, net taxes, and distribution margins were used to estimate, in Table 6 of TSA (T6), all the valuation components required therein. Finally, the Use Table was used to estimate the number of items that fall under the "Other components of tourism consumption" category (business travel).

3.2.2 Survey data underlying the NA schemes

The compilation of the ITSA cannot disregard the use of the basic data underlying the National Accounts. These include archives containing economic surveys of Italian companies, household final consumption, the housing census, and central government expenditure by the Classification Of the Functions Of Government (COFOG).

Frame-SBS and economic surveys of companies

Two surveys of companies are used for the Italian National Accounts compilation:

- the Survey on the System of Accounts of Enterprises (from now on, SCI);
- the Survey on Small and Medium-sized Enterprises and on the exercise of arts and professions (from now on, PMI).

The Frame-SBS archive is based on extensive use of administrative data and is integrated with data from the two aforementioned surveys, thereby enabling the exploitation of administrative data's informational potential for statistical purposes.

The SCI census survey covers all Italian companies with at least 250 employees operating in the industrial and service sectors (this threshold was 100 employees until 2016), except for certain divisions within monetary and financial intermediation, insurance, and domestic services. Companies are drawn from the Istat Statistical Archive of Active Enterprises (ASIA) (Istat 2025b), which the survey collects, among other things, the main economic variables used to calculate value added.

The PMI sample survey covers all Italian enterprises with 1-249 employees in the industrial, wholesale, and services sectors that were active in the reference year. For each company, the survey records key economic variables, including employees, wages and salaries, gross fixed capital formation, revenues, and production costs. The list of sampled units is drawn from ASIA.

Data derived from the Frame-SBS archive, and used for the tourism industry's production account, were extracted at the level of economic activity classes.

Household Consumption Surveys (HCS)

The National Accounts data on household consumption underpin the TSA's estimates of domestic tourism expenditure and consumption and, in turn, are derived from the underlying sample survey.

The Household Consumption Survey conducted from 1997 to 2013 was replaced by the Household Expenditure Survey. It aims to detect the structure and the amount of final consumption expenditure according to the main social, economic and territorial characteristics of resident households.

In particular, expenditure on food, alcoholic beverages and tobacco, clothing and footwear, housing, water, electricity, fuels, furniture, household goods and services, health services and expenditure, transport, communications, recreation, entertainment and culture, education, accommodation and catering services, and other goods and services is recorded.

The survey adopts the European Classification of Individual Consumption by Purpose (COICOP), which groups consumption by the type of need it satisfies. However, for the purposes of the Supply and Use scheme, it is necessary to shift from function-based estimation to product-based estimation, using a special consumption transition matrix.

Final consumption of the government's individual final consumption and NPISHs

Expenditure on individual final consumption by government and NPISHs falls within the scope of the TSA to the extent that it has direct tourism value and contributes to the determination of the "Other components of tourist consumption" in Table 4 of the TSA (T4).

Government expenditure is classified by function according to the COFOG. The reference universe is the institutional sector of central government, as defined in the European System of Accounts 2010 (ESA 2010) (Eurostat 2013), and includes all institutional units that produce other non-market goods and services intended for collective and individual consumption. Through the functional classification of general government expenditure, it is possible to distinguish between individual and collective final consumption expenditure. For the purposes of T4, only individual final consumption was considered[4].

As far as NPISHs are concerned, their contribution to internal tourism consumption refers to expenditure on thermal activities.

ASIA, the Statistical Archive of Active Enterprises

ASIA[5] is a Register of companies and local units, updated annually by Istat through the integration of administrative and statistical sources. The Register includes all economic units engaged in arts and professions in the industrial and service sectors and provides identifying (name and address) and structural information (economic activity, employees and self-employed, legal form, start and end dates of activity, turnover).

The field of observation for ASIA-Local Units is the same as for ASIA-Enterprises. The information provided concerns the location (at municipal level), the economic activity and the number of employees of local units dependent on active enterprises. The territorial detail of local units is necessary for compiling Table 10d, "Number of structures in the tourist industries classified by size class of employees", which extends part of Table 7 on employment in the tourism industries.

Data on employment

The employment data processed for the National Accounts are fundamental to compiling Table 7 of the TSA (T7). Its standard format requires distinguishing between employed and self-employed, and by sex, for each of the three required labour inputs: jobs, hours worked, and FTEs[6].

For the compilation of T7, data at the class level of economic activity were processed; however, they were not disaggregated by sex.

4 Collective consumption falls within the scope of Table 9 and is excluded from the ITSA.

5 Enterprises that have carried out production activity for at least six months in the reference year are considered active.

6 They represent a measure of employment in which part-time jobs (part-time employment contracts and second jobs) are reported in Full-Time Equivalent units. The work units are calculated net of the redundancy fund.

4. Estimation methodology for Italian TSA

4.1 Selection of tourism activities and products

The reconstruction of the tourism sector on the supply side begins by applying the general principle that enterprises are defined as tourism enterprises "whose main activity is the characteristic tourism activity itself and which directly serves visitors" (UNSD and UNWTO 2010). The criterion of the main activity, measured by prevailing value added, is the same as that which guides the classification of economic activities. Specifically, within the hierarchy of indicators used to attribute a firm's main activity, added value is placed at the top (among others, value of production, sales, labour cost, number of workers, number of hours worked (Istat 2009). Nevertheless, the international manual also adds that "the output of tourism industries may not consist exclusively of products characteristic of tourism and the output of non-tourism industries may include some products characteristic of tourism" (UNSD and UNWTO 2010).

The approach to reconstructing the tourism industry has been bottom-up. Starting from the highest level of detail provided by the Italian SUT and the underlying basic data, it was possible to extract from the Italian National Accounts the branches that contain tourism, as required by the TSA.

It should be emphasised that the accounting branch, even when it includes tourism activities, rarely aligns with the TSA's tourism industry, as the two are based on different criteria for grouping economic activities. Once the branches were selected from the National Accounts, their analysis was conducted in three distinct phases:

- breakdown of the accounting branch into classes of economic activity, i.e., at the 4-digit level of the classification of activities;
- elimination of all classes conforming to the "accounting" concept of the branch but not to the "tourism" concept of the industry;
- inclusion in each tourism industry of only the related tourism classes.

In Table 4.1, the composition of the characteristic tourism industries by class, as well as their corresponding links to the accounting branch of origin, is detailed.

Table 4.1 - The reconstruction of the tourism industries by class of economic activity

INA's selected branches of economic activities	ISIC Rev. 4 code – classes included in the selected branches	ISIC Rev.4 code – classes included in tourism industries	IT5 tourism industries
Accommodation	5510-5520-5530-5590	5510-5520-5530-55901	1 - Accommodation for visitors
Buying and selling of real estate and real estate activities for third parties	6810-6831-6832	6810-6831-6832	
Rental and management of properties owned or leased	6820	6820	
Food and beverage serving activities	5610-5621-5629-5630	5610-5630	2 - Food and beverage serving activities
Railway transport	4910-4920	4910	3 - Railway passenger transport
Other land passenger transport	4931-4932-4939	4932-4939	4 - Road passenger transport
Maritime and inland water transport	5010-5020-5030-5040	5010-5030	5 - Water passenger transport
Air transport	5110-5121-5122	5110	6 - Air passenger transport
Renting and operating leasing activities	7711-7712-7721-7722-7729-7731-7732-7733-7734-7735-7739-7740	7711	7 - Transport equipment rental
Services activities of Travel Agencies, Tour Operators and related reservation services and activities	7911-7912-7990	7911-7912-7990	8 - Travel agencies and other reservation services activities
Creative, arts and entertainment activities	9001-9002-9003-9004	9001-9002-9003-9004	9 - Cultural activities
Libraries, archives, museums and other cultural activities	9101-9102-9103-9104	9102-9103-9104	
Renting and operating leasing activities	7711-7712-7721-7722-7729-7731-7732-7733-7734-7735-7739-7740	7721	10 - Sports and recreational activities
Lotteries, betting and casino-related activities	9200	9200	
Sports, amusement and recreation activities	9311-9312-9313-9319-9321-9329	9311-9319-9321-9329	

Source: Authors' processing

Unlike in other industries, the reconstruction of tourism products was based on their identification within the well-articulated framework provided by the Italian SUTs[7] (Table 4.2).

7 98 branches and 262 products.

Table 4.2 - The reconstruction of the tourism products from Italian SUTs

Selected products relevant to tourism	IT5 products
Hotel services and similar Other accommodation services Sale of real estate services with own property made services Real estate services for third parties Administration services and property management for third parties Real residential housing services Imputed residential housing services	1 - Accommodation services for visitors
Food and beverage sales services	2 - Food and beverage serving services
Interurban railway passengers transport services	3 - Railway passenger transport services
Other land passenger transport services	4 - Road passenger transport services
Shipping, cabotage and inland water passenger transport services	5 - Water passenger transport services
Air transport services for passengers	6 - Air passenger transport services
Services of renting and leasing of consumer goods for recreation and leisure	7 - Transport equipment rental services
Travel agencies services Tour Operators services Other reservation services and related services	8 - Travel agencies and other reservation services activities
Creative, art and entertainment services	9 - Cultural services
Services relating to gambling Management services of sports arenas and sports facilities Sports entertainment and recreation services Sports, amusement and recreation activities	10 - Sports and recreational services

Source: Authors' processing

4.2 Estimation of output in tourism industries and other industries

The starting point for estimating tourism industry production in T5 is the SUTs' production matrix, available for internal use at the highest level of detail, together with the underlying basic data, also extracted at the highest available level of detail. The production estimate is based on the 4-digit class of the Italian Classification of Economic Activities (Ateco 2007), which is derived directly from the International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4) at the 4-digit level of detail. However, for the products, due to a lack of more specific information, the highest level of articulation available in the National Accounts matrices was used. In Table 4.3, the production of the accounting branch of "Catering" is shown by product.

Table 4.3 - Production of catering branch by product and class of activity. NA vs. TSA. Year 2019 (values in million euros) (a) (b)

Product description	Product Flag	ISIC Rev. 4				€(mln)	
		56.10	56.21	56.29	56.30	Total output branch (NA)	Total Tourism Industry (TSA)
		T	NT	T	NT		
Meat and meat products	NT	0	0	0	0	1	0
Milk and dairy products	NT	2	0	0	1	3	3
Condiments, baby food and other food products	NT	3	0	0	1	4	4
Electrical equipment for intermediate purposes	NT	0	0	0	0	1	0
Repair services	NT	10	0	2	4	16	14
Buildings and civil construction work	NT	1	0	0	0	2	2
Wholesale services for third parties	NT	14	0	2	6	23	20
Retail services (excluding automotive fuel)	TS	488	13	78	204	783	692
Storage and warehousing services and services related to land, sea, water and air transport	NT	0	0	0	0	1	0
Hotel and similar services	T	272	7	43	114	436	386
Other accommodation services	T	0	0	0	0	1	1
Catering and beverage sales services	T	50,458	1,355	8,011	21,061	80,904	71,538
Other catering services	NT	4,444	119	706	1,857	7,125	6,300
Software produced for own use	NT	3	0	1	1	5	5
Information processing, hosting and related services	NT	0	0	0	0	1	1
Actual residential rents	T	5	0	1	2	9	8
Non-residential rents	NT	21	1	3	9	34	30
Scientific research and development services	NT	7	0	1	3	11	10
Rental and leasing services for recreational and leisure consumer goods	T	16	0	2	7	25	22
Licensing services for the use of intellectual property products and similar products, excluding copyrighted works	NT	8	0	1	3	13	11
Building and landscape maintenance services	NT	0	0	0	0	1	1
Photocopying, conference and trade fair organisation services and other business support services n.e.c.	NT	19	1	3	8	30	27
Creative, artistic and entertainment services	T	1	0	0	0	1	1
Gambling services	T	343	9	54	143	550	487
TOTAL		**56,117**	**1,507**	**8,909**	**23,445**	**89,981**	**79,562**

Source: Istat, National Accounts, TSA for Italy
(a) The total may not match the sum of the products shown in the Table because, for simplicity, those with production below one million euros have been excluded.
(b) Data not disclosed.

Although the articulation in 98 branches of the SUTs' matrix allows the catering sector to be isolated, it is not possible at this level of aggregation to distinguish only the economic activities to be included in the corresponding tourism industry. To proceed with the disarticulation of the branch's production by class of activity, it is necessary to use the level of detail provided by the basic data. This Table also presents the data broken down by class of economic activity.

With reference to this branch, the tourism content for the ITSA refers to classes 56.10 and 56.30, while the remaining classes have been excluded from the tourism industry because they relate to the provision of meals for canteens, hospitals, etc.

As mentioned, the lack of basic data at the same level of detail as economic activities has prevented proceeding in a similar way. Nevertheless, the level of articulation of the Italian SUTs has enabled the precise identification of the products within the scope of the TSA. In particular, tourism characteristics subject to international comparison (flag T) have been identified among the 262 items of the accounting matrices.

Country-specific characteristic products (flag TS) have been identified among items representing distribution margins. In addition to tourism products, secondary production (flag NT) is necessary to reconstruct the economy's overall production, as T5 is merely a tourism perspective on production.

4.2.1 Special issues

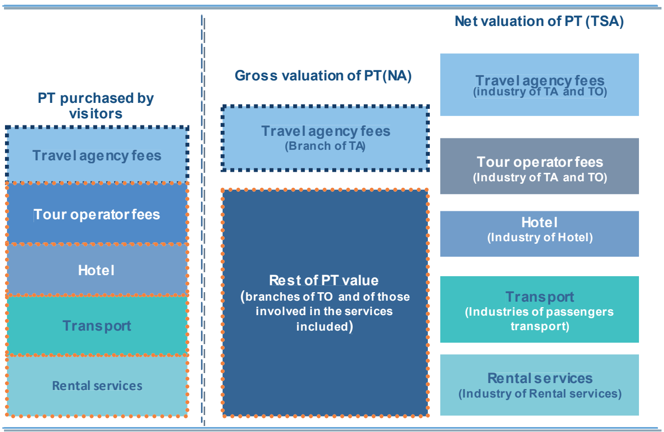
Net evaluation of Tour Operator services

From the TSA perspective, the net evaluation of Package Tours (PT) requires separately estimating the cost of the main services offered, in order to determine the share of production attributable solely to the organisational activity of Tour Operators (TO), which corresponds to the revenue associated with that activity, net of the commissions paid to Travel Agencies (TA) for any intermediary role in the sale of PT (Figure 4.1). This revenue, derived solely from the organisation's activity and with which the TO will still have to cover all other costs, is obtained by deducting the individual costs incurred in creating the PT from the PT's cost.

In National Accounts, services included in a PT are counted twice: once in the TO branch and again in the single branches of the service producers. This duplication, which also affects intermediate consumption, is offset when calculating added value.

In the case of the TSA, the estimate of TO production is net evaluated.

Figure 4.1 - Evaluation of a PT: NA vs TSA. Example of typical services



Source: Authors' processing

Second homes

"The ownership of a vacation home on one's own account is unusual from a statistical perspective because it generates both a tourism characteristic service and an equivalent tourism consumption. In the System of National Accounts (SNA 1993 and 2008), a housing service on own account is associated with the ownership of a dwelling occupied by its owner and is treated as both a production activity and the output and consumption of a specific service. This situation covers both the principal dwelling and all other dwellings owned by a household for its own use. It covers, in particular, owner-occupied vacation homes" (United Nations Commission of the European Communities et al. 2010; European Commission et al. 2009).

From a TSA perspective, NA activity and product associated with such an issue are included globally within the corresponding tourism categories. Nevertheless, secondary dwellings are very important for tourism, and in some countries they may represent a significant share of the overall accommodation service. In all these cases, compilers are encouraged "to develop a specific subcategory for owner-occupied secondary dwelling, both as a product and as an "industry" (United Nations Commission of the European Communities et al. 2010).

In Italy, the use of second homes for tourism is widespread among the resident population and can be considered a typical Italian way of meeting accommodation demand for domestic trips. T5 thus depicts this situation by reporting the imputed value of services for holiday purposes.

As already mentioned, in principle, T5 reflects the total output of tourism and non-tourism industries, regardless of the share directly demanded by tourists. The second-homes industry is an exception, as the industry's total output is not gross production but rather a tourism component. In particular, the total production of the Italian NA branch has been weighted by the national share of second-home use for tourism purposes.

In this regard, the resort to two sources is needed, in particular:

- the final consumption expenses of households;
- the Census of Housing.

In accordance with European regulations, the national estimate of housing services is derived using a stratification method based on actual rents: information on the housing stock, divided into strata (Census), is combined with data on actual rents paid in each stratum (Households Budget Survey).

For the purposes of the TSA, the estimation of housing services for second homes used for tourism, a subset of the national total, follows the same method used in NA, with the addition of weighting the total value of the service by the rate of tourism use. In this regard, the use of a structure for the use of housing for tourism purposes, obtained by combining, on the one hand, the data of the Census of Housing and, on the other, the data of the Travel and Holidays survey, leads to the calculation of a specific statistical ratio necessary to extract the part of the TSA from the national data.

4.3 Estimation of tourism demand

On the demand side, the main measures of the tourism sector's contribution to the overall economy are tourism expenditure and tourism consumption.

In particular:

1. Inbound expenditure (T1);
2. Domestic expenditure (T2);
3. Outbound spending (T3);
4. Internal tourism consumption (T4).

4.3.1.Inbound tourism expenditure

The estimate of expenditure by non-resident visitors is derived from the Bank of Italy's Survey on International Tourism. It is the main source for estimating inbound expenditure; however, to compile T1 correctly in accordance with the required international standards and ensure its completion, it was essential to integrate it with other sources. The excessive aggregation of some expenditure items detected in this survey, or the lack thereof, necessitated recourse to Istat sources to complete the final estimate.

The expenditure on accommodation, as estimated by the Bank of Italy survey, has been adjusted to exclude the component for meals consumed in accommodation facilities, which, from the TSA's point of view, fall within the scope of the Catering product. To do this, the estimate of hotel turnover from the Quarterly Survey of the Turnover of Services was used, which provided data on hotel turnover by overnight and meal. On the other hand, the estimate derived from the Bank of Italy for services in inhabited dwellings used free of charge by relatives and friends has been eliminated and replaced with estimates of imputed rents derived from the NA.

The inbound expenditure for the transport service includes only expenditure related to the purchase of services rendered by resident carriers. In road transport, integrating the estimate derived from the Bank of Italy survey with the NA data enabled the separation of the share attributable to petrol for allocation to "Other product".

4.3.2 Domestic tourism expenditure

Italian T2, relating to domestic tourism expenditure, is the one that makes the most use of integrated sources in its compilation. Since domestic tourism expenditure is a component of internal tourism expenditure, together with inbound, part of the T2 compilation process involved taking the difference between inbound and internal tourism estimates, with the latter derived from National Accounts HCS data.

The contribution of THS to T2 compilation is very important, first of all for several pieces of non-monetary information provided (distinction between personal and business purposes of travel, which allowed a more accurate allocation of tourism expenditure between the competences of T2 and those of T4; number of trips and excursions, number of overnight stays, type of accommodation and prevalent transport, which provided the basis for the calculation of indicators and per capita expenditure), but also, in some cases, for the direct estimation of expenditure.

The estimation of domestic expenditure on air transport uses the SUTs of the National Accounts, in particular the data on final consumption, adjusted to exclude the share imputed to imports; this adjustment is used to exclude services provided by non-resident carriers.

4.3.3 Outbound tourism expenditure

Outbound tourism expenditure is expenditure incurred by resident visitors outside their country of reference.

T3 completes the estimation of demand but does not contribute to estimating tourism value added and, therefore, to determining the tourism sector's role within the whole economy. From T3's point of view, outbound expenditure refers entirely to services provided by non-resident companies and benefits only the economies of the countries visited.

Almost all of the outbound estimate is obtained from the Bank of Italy survey data. The additional use of National Accounts data has enabled the correct allocation of expenditure for products 7, 9, and 10, as well as the estimation of the "Other product".

As with inbound tourism expenditure, the transport estimate for outbound tourism expenditure, on the one hand, refers to the expenses of Italian visitors within the country visited, assuming that the carrier used is always resident in the country visited; on the other hand, to the expenses of Italian visitors for the Italy-abroad-Italy route, if the carrier is not resident. As with this Table, the road transport figure has undergone the usual treatment to estimate the petrol-related share.

Outbound and inbound tourism expenditures approximate the Travel item of the BoP compiled by the Bank of Italy, although substantial differences persist.

Recalling what has already been said about the visitor (TSA perspective) being a conceptual category within the broader category of traveller (BoP perspective), the main differences can be summarised as follows:

- TSA excludes cross-border, seasonal, and other short-term workers; students or long-term patients; nomads and refugees; transport carrier crews; embassy staff; armed forces;
- International transport, included in the TSA Tables, is not within the scope of the Travel item of the BoP but within that of International Passenger Transport Services.

For a detailed breakdown of the differences, please refer to the international manuals (UNSD and UNWTO 2010).

4.3.4 Other components and internal tourism consumption

Internal tourist consumption is largely derived from the sum of expenditure by resident and non-resident visitors and also includes “Other components”, whose most characteristic elements are business travel and second homes for tourism purposes. The estimate of business trips for the Italian TSA has been derived entirely from the perspective of the production units, primarily using National Accounts data on intermediate consumption, both domestic and imported, as provided by the Use Table.

In accordance with international recommendations, the intermediate consumption of Italian companies for accommodation, air transport, and travel agency services is entirely attributable to employees’ business travel expenses. For the Italian TSA, intermediate consumption for rail transport was also included in the “Other components” column, as it was considered attributable to the same purpose. These were included in the total amount, with the understanding that the risk of overestimation from using accounting data without imputation was preferable to the possible underestimation that would result from using data insufficiently robust for this purpose.

However, expenses incurred during a business trip also include services (first and foremost, catering) and goods purchased for personal use. In practice, even catering is treated as intermediate consumption and, therefore, falls under the “Other components” if payment is made with the company credit card. In this case, there is, in fact, no disbursement by the employee, unlike with accommodation services and travel agencies. In practice, however, it is extremely difficult to make such a distinction. Excluding this case, the catering product in the “Other components” column of Table 4 should be zero, because it is considered part of all expenditure for final consumption. For reasons of data presentability to an external user unfamiliar with accounting concepts, it was decided to also include this product in the “Other components” column of T4. These expenses are estimated in T2, as they are considered final consumption. From the perspective of inbound tourism, business travel expenses are borne by the companies in the foreign visitor’s country of origin. Therefore, from the perspective of the country compiling the TSA, the related expense is entirely considered final and therefore pertains to Table 1.

For second homes, see the relevant Section above.

Finally, the “Other components” of the Italian TSA also include expenses attributable to general government and non-profit institutions serving households that support tourism consumption. Data on NPISH are available in the accounting matrices, with the usual product-level detail. For government data, the selected services for ITSA, based on the COFOG[8] classification of public expenditure, are listed in Table 4.4.

8 The classification of public expenditure by function used in National Accounts refers to the COFOG, an international classification adopted as a standard by ESA95. The COFOG is divided into 3 levels of analysis: the first level consists of ten divisions, each of which is divided into groups, which in turn are divided into classes. The first six divisions cover expenditure on collective interventions and services; expenditure of an individual type is included in the remaining divisions.

Table 4.4 - Individual final consumption of general government expenditure by function class of the COFOG

Class (III Liv.)	Class Description	Tourist content of the class
07.2.4	Paramedical services	Thermal baths or seawater treatments
08.1.1	Leisure activities	Operation or support of recreational facilities such as beaches, parks, camping areas, furnished accommodation, and swimming pools
08.2.1	Cultural activities	Operation or support of structures for cultural purposes such as museums, art galleries, monuments, zoological and botanical gardens. Production, operation or support of cultural events (concerts, theatrical productions, art exhibitions)

Source: Authors' processing

4.4 Reconciliation of estimates from the supply and demand side

The reconciliation of tourism supply and demand estimates is presented in Table 6 of the TSA (T6), where the adjustment element ensures coherence across the estimates under different evaluation criteria[9].

The tourism share of product, defined as the ratio of tourism consumption to total production, is a fundamental indicator for assessing the tourism sector as a whole within the reference economy. It also serves, in time series, as a tool for constructing confidence intervals to analyse discrepancies between supply – and demand-side estimates, thereby helping to verify the accuracy of tourism estimates.

The comparison in T6 does not end with the calculation of the tourism share of the product. It is also used to calculate the corresponding tourism share of output for each industry in T5. The approach used for the Italian TSA to determine the tourism share of the value of tourism industry output has taken into account both a product and an industrial perspective. For example, for the accommodation services industry, a specific assessment of its tourism production was carried out product by product, on the basis that, in the context of accommodation facilities, the use of other services that may be produced, in addition to the characteristic ones, has a tourism impact comparable to that of the main product.

9 The tourist offer is estimated at basic prices, whereas demand is expressed at purchase prices. In T6, there are special columns – imports, net taxes and trade margins – which allow production to be expressed at purchase prices, so that it can be related to final demand.

For second homes, on the other hand, the tourism share column in value production is the same, yet it is estimated in T5, where housing services have already been estimated only for the part intended for tourism demand.

4.5 The other Tables of the TSA for Italy: Table 7 and Table 10

4.5.1 Sources and estimation of Table 7 and Table 10d

Employment linked to tourism activities is undoubtedly a fundamental variable in an in-depth analysis of the tourism sector's contribution to a country's economic development.

Employment in the tourism sector is characterised by pronounced seasonality, high variability in working conditions, considerable flexibility, and a lack of formality in employment contracts. This makes employment in the tourism sector structurally very different from that in other sectors. In addition, these specific features require different employment measures, each of which can better represent one aspect than another.

Table 7 of the TSA (T7) is broken down by tourism industry, for each of which the number of establishments and three employment measures are required: number of jobs, hours worked and Full-Time Equivalent (FTE) jobs. The former provides an overall measure of the sector's employment size, but for comparison between the tourism sector and other sectors or the rest of the economy, more standardised measures of labour input, such as FTE, which neutralise the effects of part-time work, are more appropriate.

It is important to emphasise that, as with the production in T5, employment in T7 does not refer only to the share of production that directly served tourism consumption; at the same time, it excludes employment in other industries with secondary tourist outputs.

The compilation of T7 for the Italian TSA begins with an estimate of the number of establishments, based on the ASIA-Local Units Register.

The following information, drawn from the National Accounts data archives, was required to estimate the occupational variables:

a. number of jobs at the 4-digit level of the classification of economic activities (class);
b. FTE jobs at the 4-digit level of the classification of economic activities (class);
c. hours worked at 2-digit level of the Classification of Economic Activities (division).

Table 10d is an extension of the T7 column on the number of establishments, disaggregated into 9 employee-size classes. For its compilation, data from the ASIA-Local Units Register were used, by economic activity and by employee-size classes.

4.5.2 Sources and estimates of the other sub-Tables for non-monetary data (Table 10a, 10b, 10c)

The remaining sub-Tables that make up Table 10 of a TSA (T10) – Tables 10a, 10b and 10c – collect information on tourism flows or accommodation facilities, and, taken together, derive from the surveys of the Bank of Italy and Istat.

Table 10a, compiled from the aforementioned surveys, details the number of trips and overnight stays by visitor type and tourism flow type.

Table 10b, compiled entirely from the Bank of Italy Survey, breaks down the total inbound trips and overnight stays in Table 10a by transport type. Compared with the international standard in Table 10b, the Italian one differs in some headings, providing less detail in some cases (e.g., for air and sea transport) and a different structure in others (e.g., for road transport).

With reference to Table 10c, which is entirely compiled from the Istat Survey on the Capacity of tourism accommodation and details the number of accommodation facilities by type of accommodation, it should be noted that, for Division 55 of the ISIC Rev.4 international classification, the number of accommodation facilities reported in Table 10c differs significantly from that indicated in Table 10d. This difference arises from the different sources underlying the compilation of the two sub-Tables. Table 10c is based on data derived from the two Istat surveys on the accommodation sector. These surveys are subject to the Regulation on tourism statistics, and their statistical unit is the local-KAU, i.e., the production unit identified on the basis of its geographical location.

5. Concluding remarks

The almost exclusive use of official sources in compiling the Italian TSA ensured the quality and reliability of the final estimates relative to those of the national accounts. In addition, the adopted approach laid the methodological and informational foundations for replicability. However, in some cases, the need to explore new sources to improve estimates has emerged, for example in the case of inbound tourism expenditure for the item “Other product”, which appears, in our opinion, to be underestimated. Direct data are not yet available, so indirect imputation methods are required.

The comparison Table of tourism supply and demand has been an excellent tool for verifying the consistency of the national accounts data from which the TSA is derived. This is a typical feature of satellite accounting, as it is an extension of the central framework of national accounts and a representation of events contained within them but not visible.

In Italy, the compilation of the TSA at the national level is now a consolidated practice. At the sub-national level, however, the available data do not allow the implementation of a regional TSA, and its compilation therefore still represents a challenge for our country, but also an important step towards the possibility of developing increasingly territorially contextualised analyses of the tourism sector, whose ability to influence the economic and social structures of the areas visited makes it valuable to have a territorial measurement of the tourism sector comparable with that produced in the territorial accounting schemes.

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