

Session 5: Advance usage of tourism statistics

Tourism Satellite Account as a tool for Economic policy: Towards short-term indicators in a TSA framework

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1. Introduction

The Spanish Tourism Satellite Account is annually compiled by the NSI's National Accounts Department since 2001, and the most recent TSA was published last December, comprising data for the period 1995-2006 on all the relevant variables recommended by the international methodologies (supply, demand, employment, etc).

Annual TSA is a relevant tool to broach an in depth analysis of the tourism phenomenon from the economic standpoint, and their results illustrate the outstanding role of tourism activity in the Spanish economy. However, the structural character of the TSA implies that these estimates are available with a certain delay with respect to the year of reference, while at the same time it is a very dynamic phenomenon, which differs, to a great extent, along the different periods of the year. For these reasons, qualified users are demanding more and more updated estimates, to allow having a closer and up to date knowledge of the evolution of tourism.

To satisfy this increasing demand of information, the Spanish NSI is planning to modify the TSA publication policy, by producing some advance or even short-term estimates, which will provide the data required for a faster analysis of tourism phenomenon for the planning of the tourism policy.

This document stresses on the statistical and methodological approaches to be adopted to carry out the advance or short-term estimates, comparing the pros and cons of the two basic perspectives of the traditional TSA approach (supply and demand). More than providing a final position, the purpose of the document is to present different alternatives to be evaluated and discussed in International forum on tourism measurement, as this OECD forum. One possible utility is help to define in the future some recommendations on the TSA short term.

This paper is organized in four parts: In section 2, the basic features of the Spanish TSA from a statistical and methodological point of view are analysed, emphasizing on the subsidiary character of annual TSA with respect to the National Accounts framework. In section 3 the Spanish Quarterly National Accounts, as an obvious potential framework for advance/short-term tourism estimates is broadly described, stressing on the elements linked to the TSA. Section 4 describes the available short-term data sources that are potentially usable for the short-term tourism estimates. Finally, some proposals of the elements and methods for advance/ short term TSA are described.

2. Spanish TSA: a general description of the components, methods and sources.

2.1. General overview.

Before starting with the discussion of the possible approaches for implementing the short-term estimation of STSA flows, it might be useful as a starting point for short term estimates, to make some brief comments on the content of the STSA. Table 1 summarizes the set of tables currently disseminated in the Spanish TSA, and its link to the International recommendations of the TSA Methodological Reference (TSAMR).

Table 1: Tables that compose the Spanish Tourist Satellite Account.

Denomination	Contents tables	Correspondence with TSAMR
1) General tables:		
1.1. Contribution of tourism to the GDP.	Global amount of the contribution of tourism to the GDP. Main series of: inbound tourism and other components of the demand	-----
1.1.1 Current prices		
1.1.2 Constant prices		
1.2. Balance between Outbound Tourism consumption and inbound tourist consumption.	Balance of the external flows with the Rest of the world: inbound and outbound tourist consumption.	Aggregate data of two tables of the TSAMR: Table 1 (<i>Inbound</i>) and Table 3 (<i>Outbound</i>)
1.2.1. Current prices		
1.2.2. Constant prices		
2) Tourist demand		
2.1. Internal tourist consumption by products and components.	Consumption in the territory detailed by characteristic products and components: inbound consumption, domestic consumption.	The TSAMR Information is collected in two tables: Table 2 (<i>Internal tourist consumption</i>) and Table 4 (<i>Domestic tourist consumption by products</i>).
2.1.1 Current prices		
2.1.2 Constant prices		
2.2. Tourist consumption expenditure by General Government.	Data on individual and collective consumption expenditure of General Government	In the TSAMR Information is collected in two tables: Table 2 (Individual tourist consumption) and Table 9 (Collective <i>tourist consumption</i>).
2.3. Gross fixed capital formation of characteristic industries	Breakdown of the fixed capital by types of products: Material and immaterial investments	Similar to Table 8 of TSAMR, with slight differences regarding breakdown.
3) Supply: tourist industry		
3.1. Production account of characteristic industries	Production account of characteristic industries. Breakdown of production by (production matrix).	Table 5 (<i>Production account of characteristic industries</i>)
3.2. Production details of products	Adaptation of the characteristic industries of supply table to the TSA	
3.3. Detail of current costs (intermediate and primary costs)	breakdown of the other current and primary	Breakdown of the intermediate part of Table 6 of the TSAMR
3.4. Employment in tourism industries	Employment (jobs) for characteristic industries	Similar to <i>Table 7. Employment</i>
4) Tables comparing supply and demand.		
4.1. Supply/demand: Comparison and Tourist ratios	Comparison between tourism supply and demand by products and industries	Adaptation of TSAMR Table 6
4.2. Contribution of to economy: Direct effects and total effects	Application of the input/output methodology to obtain direct and indirect effects of tourism	-----
5) Other information.		
5.1. Tourist industry: Distribution of companies by size (n. of employees)	Indicators and ratios from Tourist Industry	Breakdown of TSAMR Table 10
5.2. Tourist industry: Comparative ratios by size of the company		

The Spanish TSA cover all the elements recommended by the TSAMR, extending the scope to other supplementary elements (constant prices, time series of aggregates...)

Regarding the demand, it covers not only the most relevant component, *tourism consumption*, (with their three different components: domestic, inbound and outbound tourist consumption),

but also other components (General Government tourism consumption, expenditure linked to business trips, gross fixed capital formation made by the tourism industries...)

Concerning the supply variables, the TSA also contains all the variables recommended in the TSAMR, even with a higher level of desegregation. The elements are referred to production and costs of the tourism *characteristic* activities: production, intermediate consumption (both broken down into main types of goods and services), data on employment....

Although each of these tables are useful as individual elements, that is to say, they provide information on an important aspect of tourism, the TSA also includes an analysis of the supply and demand balancing, which is necessary for closing the accounting system and to provide consistent variables of the contribution of tourism to economy.

More specifically, the Spanish TSA include two measurements of the contribution of tourism to the GDP: the "supply" measurement proposed by the TSAMR, based on the calculation of the GVA *directly* generated by the total tourist demand (not only in characteristic industries, but in all industries that provide products to visitors); and an alternative approach based on the contribution of final tourism demand to the GDP (see INE(2005)). Finally, domestic tourism consumption, which is the key variable in order to assess the relevance of tourism in terms of the macroeconomic variables (such as the GDP), is defined as the addition of internal and inbound tourism consumption.

2.2. Spanish TSA and the National Accounts.

Satellite accounts are, by definition, subsystems derived from National Accounts. These satellite accounts stress on certain aspect of the economic reality by constructing a specific accounting system derived from National Accounts with the information provided by additional data sources. There are obviously different possibilities for the compilation of satellite accounts. Some alternatives are fairly *linked* to National Accounts, whilst other methods are nearly *independent* of the accounting nucleus.

The first approach has been adopted in the STSA for two main reasons: Firstly, the initial problem is that if satellite accounts are created without a connection to the National Accounts, there is obviously a risk that the results may not be compatible with the macroeconomic indicators. Secondly, this linking also favours the process of the compilation of the TSA, as National Accounts could be a methodological statistical support for the compilation of the STSA.

In fact, the STSA estimation procedure starts from the annual Supply & Use Tables (SUT) (included in the annual estimates of National accounts) as a statistical and conceptual reference for the TSA. By using specific tourism sources, the SUT framework has to be extended and adapted to the TSA. This process implies different types of tasks, such as the breakdown or re arrangement of TOD original data and the specific treatment of package tour and travel agencies industry, which has a different methodological treatment in TSA than in National Accounts¹.

The final step is the balancing, contrast and eventual revision of all the elements previously estimated from the demand and supply perspectives, obtaining the tourism macro-aggregates (GVA, GDP, etc.)

Before finishing this short methodological description, it should be pointed out that linking TSA to SUT has also some drawbacks. The most obvious one concerns the time lag between the reference year and the date of the publication of the TSA that it is due to the national Accounts publication timetable. In fact the STSA are released at the end of the year. Therefore one of the

¹ In national accounts a gross valuation of PT is used, instead of the net treatment proposed in the TSA.

primary objectives of this project is to publish an advance estimation of the TSA in THE first semester of the year and to broach the infra-annual (quarterly) estimations of the TSA.

3. Spanish Quarterly National Accounts as a base for advance/ short- term TSA estimates.

The Spanish National Accounts, following the usual trends all over the world, also include a system of Quarterly national Accounts, which is a temporal allocation method of Annual National Accounts, in order to characterise the economy in the different quarters and to provide faster and more updated information of the economy trends.

Given that STSA is subsidiary of annual national accounts framework, the possibility of linking TSA advance and short-term estimates to quarterly national accounts is rather evident. Thus, it is appropriated at this point to make some comments on the characteristics of the QNA.

The Spanish Quarterly National Accounts (QNA) is a statistical operation whose major purpose is to provide a quantitative coherent description of the Spanish economic activity in the short term (quarterly). These estimations follow similar concepts, structure and balancing principles than those applied in the Annual National Accounts (ANA) (based in the ESA95). However, the period of time to which the quarterly accounts relate and the focus in describing time evolution of the economy, determine certain typical features and modifications in comparison to annual account.

Table 2 gives a short summary of the Spanish QNA data sets. QNA are obviously more limited than ANA in terms of transactions and accounts. The main key variable and structure is the Gross Domestic Product (GDP) table, which is estimated from the three different and supplementary perspectives: demand side (final consumption, gross capital formation, exports minus imports); supply side (Gross Value Added, broken down by industries), taxes on products and subsidies on Products; income side (compensation of employees, mixed income, gross operating surplus net taxes on imports and production).

Table 2. Overview of the Spanish Quarterly National Accounts.

Main set of tables	Description
1. Quarterly GDP estimates	Macroeconomic table (Raw and SAC data): GDP and its components (current prices and volumes) by the three approaches (demand, supply, income)
2. Other connected tables (raw and SAC).	Employment by industry (persons, hours, full-time equivalent jobs) Compensation of employees by industry
3. Main aggregates of the National Economy.	GDP, Operating surplus / Mixed income National Disposable Income, Saving, Net lending (+) / net borrowing (-)
4. Rest of the world accounts:	External account of goods and services External account of primary incomes and current transfers Change in net worth due to saving and capital transfers account Acquisition of non-financial assets account
5. Quarterly Non Financial accounts for institutional sectors	Aggregate version of the ESA95 non financial accounts for the institutional sectors (S11, S12, S13, S14+S15)

The integration of these three perspectives have to be undertaken both in an aggregated and disaggregated level. Firstly, from the disaggregated perspective, through the balance of products and activities as detailed as possible, taking into account the available information; and from the aggregated standpoint, by providing a unique estimation of the GDP from the three approaches (demand, supply and income).

The GDP QNA estimates are calculated both in current and constant terms. The former are valued at the corresponding prices of the reference period, the latter are calculated in volume chain-linked indices (reference year is 2000) that are obtained by linking together the previous

year price indices. Moreover, the SQNA data are also released on raw and seasonal and calendar adjusted terms, issue that will be commented later on.

A basic requirement is that quarterly accounts have to be consistent over time with annual accounts. This implies, in the case of flow variables, that the sum of the quarterly data is equal to the annual figures. In principle there are not obstacles to meet this condition for the previous years. However, for the current year there is a problem of time priority between quarterly and annual data, as quarterly data are normally available earlier than the annual figures. This problem may be solved by agreeing that the first provisional estimates of annual figures are obtained by the aggregation of quarterly figures. Afterwards, when the new annual information is available and the subsequently revision of the annual figures have been broached, then the quarterly data have to be modified accordingly to the revised annual estimates.

For example, in the case of the Spanish QNA, the estimation of the fourth quarter provides the first estimation for the corresponding year. The revised annual estimates for the year T-1 (available in august of year T) are incorporated in QNA when the estimates for the second quarter of the year T are obtained.

This calendar implies a relevant feature of QNA, which is owned to their prompt publication: QNA data may be subject to significant revisions, as result of the new annual estimates, the revisions of the indicators themselves, the replacement of the forecasts by the observed figure, changes in the seasonal adjustment filters, etc.

3.2. Some methodological principles and their implications in short-term tourism analysis.

i) Statistical methods of compiling accounts. In general terms, the calculation of quarterly estimates can be carried out from two main approaches:

- Direct compilation of each quarter: in this method, quarterly aggregates are calculated in a similar way as the annual ones. The fact of treating each quarter as an independent current period implies that all the transactions have to be first estimated in current prices, measure what are numerical absolute levels of the variables².

- Quarterly allocation of the annual data: In this indirect approach, national aggregates should be allocated to the four quarters by using indicators related to the corresponding aggregates. Most of countries, Spain included, use indirect methods. The idea is that (ESA95) "If for each aggregate of the Annual National Accounts we have one or several statistical sequences (indicators) with regular recurrence (quarterly or higher), with a similar progression to respective aggregates, it is possible to estimate an econometric relationship between both the annual series of aggregates and their indicators, which allows us to obtain quarterly estimates of the aggregates."

iii) Temporal and transversal consistency. The elimination of the seasonal component gives rise also to other type of problems: the relation between annual and quarterly data may not be maintained when the quarterly data is filtered to eliminate the seasonal pattern, what affects also to the evolution ratios. In addition, the calendar-adjusted series do not verify either the restriction that the sum of the four quarters is equal to the annual figure, or the conciliation from the three perspectives. That is, time consistency must be ensured for raw data and seasonally adjusted data. This requires specific methods of reconciliation.

iv) Some account particularities related to the reference period (time of recording and valuation). If, in principle, most of the transactions and balancing items are distributed with certain regularity over the quarters, there are anyway some transactions that take place in one or two specific quarters of the year. This is the case for some taxes or subsidies, dividends, interests, etc. According to the ESA95, the time of recording of a transaction is the accrual principle;

² Some exceptions have to be considered. See below in the document.

therefore, the annual amount of these type of transactions have to be distributed into the four quarters, taking into consideration the evolution of the related economic flows. The treatment of these cases depends essentially on the underlying generation process.

All these problems have relevance in the compilation of TSA and even there are some other specific issues.

4. A broad revision of sources available for the short-term tourism estimates.

The basic features of the main sources potentially useable in the short-term TSA estimates are mentioned briefly in this section (see table 1). The first comment is the vast sources of information that could provide the basis for the temporal desegregation of the annual TSA or for advance estimating of the main variables.

The availability is as much in macro sources, (as QNA and balance of payment) as in specific micro sources, covering both demand and supply approaches.

QNA, include estimates of the main tourism components of external flows (exports and imports). The national accounts estimates are based on the heading "Travel" of the Balance of Payments, which is estimated by using the general information system for receipts and payments of the Bank of Spain and some other sources as EGATUR. This is a survey performed jointly by three institutions: NSI, TSI (Tourism Studies Institute) and the Bank of Spain. It is a border survey covering the inbound tourism expenditure by products and also differentiates between the expenditure in the country of origin and the expenditure in the country of destination (Spain). Its questions cover most of the elements required to characterise these flows both in non-monetary terms (general characteristics of the journey and purpose of trip, the country of residence, frequency of the visits, duration of the stay, type of accommodation, form of organisation of the journey; etc) and monetary flows.

In the case of domestic tourism consumption, the main source is the Household Budget Survey, which provides information on the origin and amount of household incomes, and the way they are used in several consumption expenditures. Recently (2006) the Spanish HBS has been subject of a noteworthy revision that has affected, among other aspects to its periodicity - in 2006 this survey was changed from a quarterly survey to an annual survey -and to the availability of the data used to compile the Spanish TSA³. To sort out the lack of information for TSA purposes, a module on trips and same-days visits has been added. In this module the period of reference is the last quarter, and it is foreseen to combine this information with that provided by the HBS questionnaires whose period of reference is shorter than a quarter, which include most of the tourism related expenditures.

As a supplementary source, FAMILITUR can give approaches to domestic tourism consumption. The main objectives of this statistic is the quantification of the flows of the trips by the Spanish residents to the different regions and abroad; and the characterisation of the trips according to the purpose, the length of stay, the type of accommodation used, the means of transport used, etc.

Another general source is the Consumer Price Index (CPI), which give monthly information on the price evolutions of restaurants, hotels, package tours, etc.

From the supply perspective, the best-covered tourism industry is accommodation, for which a set of sources is available for the different by types of accommodation.

³ Until 2006, the HBS provide information on the expenditure broken down into five categories, which combined territory of purchase and purpose of trip: usual environment; abroad in business trip; abroad in personal trips; in Spain in business trips; in Spain in personal trips.

On the one hand the accommodation occupancy surveys which are four different statistical investigations for each of the main types of accommodation (hotels, campsites, holiday dwellings and rural tourism accommodation). These Surveys provide on a monthly basis the number of overnight stays and other characteristics of the tourism establishments by region, and broken-down between residents and non-residents.

Table 3. Main statistical sources linked to the compilation of the Short Term Spanish Tourism Satellite Account

Designation	Goals and characteristics	Time reference and availability of the results	Organism
a) DEMAND			
Tourist expenditure survey (EGATUR)	Estimate of the expenditure of non-resident visitors, tourists and same-day visitors. Estimate of Spaniards' expenditure during their trips abroad	Monthly since 2002	INE-TSI-Bank of Spain
Family Budgets Survey	Distribution of the expenditure made by resident households by geographic territory of purchase.	Quarterly up to 2006, annual	INE
Tourist movement on borders. (FRONTUR)	Amount and characteristics of foreign visitors.	Monthly.	TSI
Residents' tourist movement (FAMILITUR)	Amount and characteristics of journeys made by resident Spaniards. Including data on expenditure since the year 2000.	Monthly.	TSI
b) SUPPLY			
Short-term indicators for the services sector: tourist supply	Includes estimates of the turnover and the personnel employed for activities linked to tourism (Hotel establishments and the like, catering, travel agencies, passenger transport, car hire)	Monthly	INE
Hotel price index (HPI)	Evolution of the prices invoiced by hotels.)	Monthly	INE
Other tourism lodging price indexes: Campsite PI; Holiday dwelling PI; Rural tourism accommodation PI	Evolution of the prices invoiced by tourism establishments	Monthly	INE
Hotel Income Index (HII)	Evolution of the prices invoiced by hotel establishments	Monthly	INE
Tourist accommodation occupancy surveys (hotels, tourist campsites, holiday apartments; rural accommodation)..	Measures the occupancy and flow of travellers in tourism establishments (see annex for a detail)	Monthly	INE
Passenger Transport Statistics	Amount of passenger by type of transport	Monthly	INE & Ministry of transports

Their main advantage is the length of the series and the extensive coverage of the establishments located in Spain. At the same time, they provide a supply/ demand perspective given that overnight is a match variable.

The other is the tourism lodging prices for the same different types of accommodation. The most relevant one is the Hotel Price Index (HPI) an indicator that measures the evolution of hotel prices, from a monthly sample of about 8500 establishments in summer and 6500 in winter. The survey contains information on prices broken-down by tariffs (regular, weekend, etc.) and prices charged to the different types of clients. It also contains data on other economic variables (such as employment).

The Hotel Income Index (HII) is a synthetic measurement obtained by the NSI from the previous mentioned surveys. It is an indicator of the monthly variation of the revenues by hotel room, that it is calculated with the information supplied by the survey on prices and from the occupancy

survey. Its objective is to provide indicators for the accommodation industries but it is also a short-term indicator of these industries.

The other field that are well covered is passengers transport services. Due to its relevance in tourism flows outstands the air transport survey that is referred to the number of passengers embarked and disembarked at the airports, distinguishing between international and domestic flights (it is compiled by the Airport Authority).

In the supply, the services short-term surveys give also economic short-term indicators for the services industries (turnover and employment). In these surveys the following tourism industries are covered: hotels, restaurants, travel agencies, and transport (partially covered). The main shortcoming of these sources is that the series are not long enough for the econometric modelling.

At a general level, some surveys as the Economically Active Population Survey - the Spanish version of the European Union Labour Force Survey - and the Quarterly Labour Cost Survey – also homogeneous with other EU countries – are able to provide some information on the tourism related industries. Particularly, the EAPS provides employment data at NACE three-digit level.

Another relevant issue, which is a pre-requirement for the implementation of a system of advance or short-term, is the date the sources are released. Information on this regard is included in the annex of this paper.

5. Preliminary aspects of advanced/ short term estimates from a TSA perspective: statistical and methodological considerations.

In this heading some reflections on the advance/ short-term TSA estimation are presented. As in any project like this one, there are three main aspects that have been borne in mind:

- The selection of variables and elements of the TSA to be included. That is, the scope of the project.
- The analysis of sources of information available.
- The selection of the methodological approach to be applied.

These three aspects are in fact closely linked, because the selection of elements depends on sources available; and the method is influenced as well by variables selected.

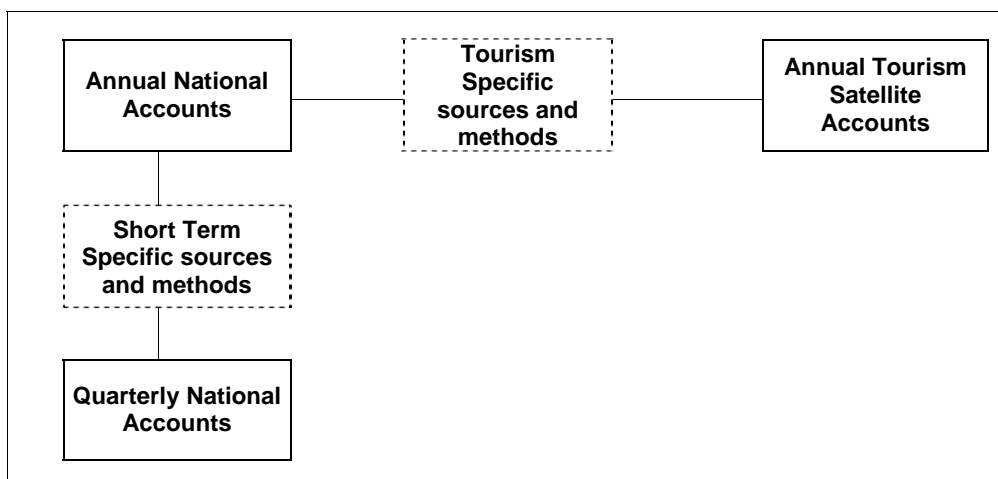
In order to describe the process it is necessary to start with a general view of the QNA as a potentially usable framework for TSA estimates.

5.1. The Quarterly National Accounts as a reference for advance/ short-term estimates.

All the methodological aspects of the QNA previously mentioned should be considered as a potential statistical and conceptual reference for the Quarterly allocation of the STSA, in a similar way as the annual TSA are linked to annual National Accounts. The scheme 1 illustrates the relationship among ANA, QNA and TSA.

As it has been already mentioned, the annual TSA is an accounting system linked to the Spanish National Accounts framework, and particularly to the annual supply and use tables included in this framework. Thus, the Spanish TSA is a system derived from National Accounts, which can be estimated through specific methods and sources.

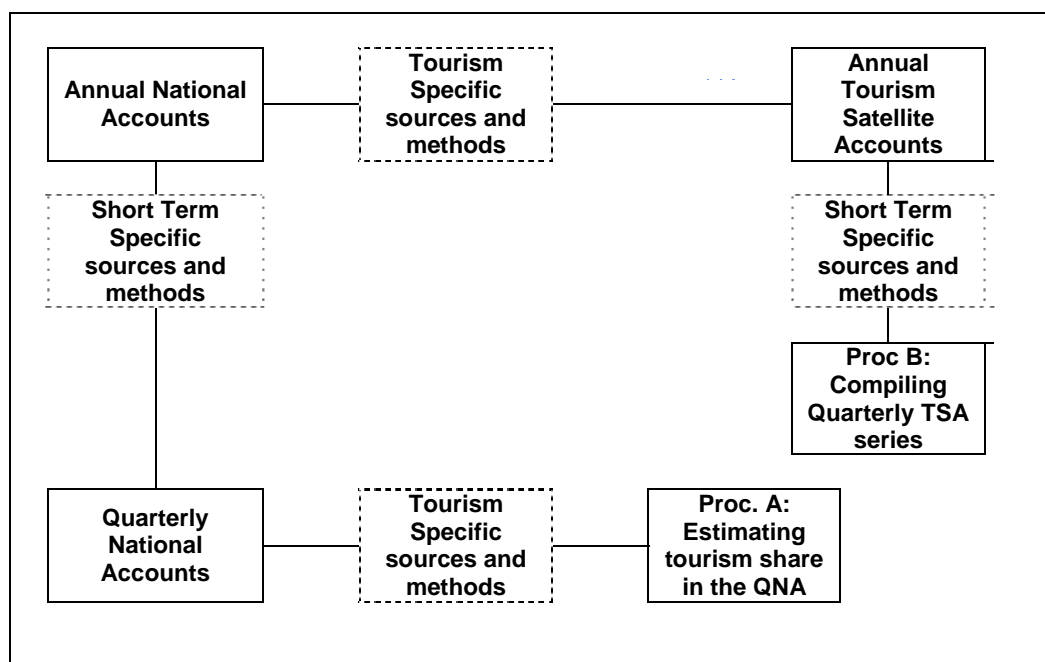
Scheme 1. Links among Annual National Accounts, Quarterly National Accounts and TSA



On the other hand, Quarterly National Accounts is a system also subsidiary of annual accounts, in which econometric models are used to obtain the short-term estimates.

To deal with the temporal dimension of the TSA there are two alternative perspectives, represented in scheme 2: The first possibility (Procedure A in the scheme) consists in trying to obtain the tourism figures from the QNA in a similar way as annual TSA are compiled from annual accounts: by estimating the tourism share of the data for QNA by using quarterly tourism information and by assuming some hypothesis.

Scheme 2. The two possible approaches to short term TSA



The second possibility would try to allocate the annual TSA data among the different quarters through ad-hoc sources and methods. This alternative would be similar to the approach used in the compilation of QNA described in section 3 of this paper.

Each one of these two approaches has its own advantages and shortcomings. Alternative A, on the one hand, implies a higher statistical requirements (it is necessary to have tourist figures for the totals on a quarterly basis) but, on the other hand, it is not necessary to make any

adjustment to ensure the consistency with the macro-aggregates of the economy. On the contrary, alternative B is not so demanding from the statistical standpoint, as similarly to QNA some set of indicators correlated to the evolution of tourism could be used; in return, the consistency between the tourism figures and the macro-aggregates has to be analysed and sorted out.

5.2. A previous selection of elements in an advance/ short-term TSA.

As it has been said, the TSA consist of a extensive set of elements referred to demand, supply, and inter-relationship between supply and demand (macro-aggregates). However, it would not be realistic, for obvious reasons, to think about advance/ short-term estimates of all these elements, due to the methodological and statistical difficulties as well as the lack of resources. In consequence, a first step would consist in selecting those elements to be included in the estimates.

In the following sections the main features of the estimates of the tourist demand and supply and, finally, a joint analysis of both approaches for short-term estimates is presented.

5.2.1. Demand side estimates.

First of all, it is convenient to point out that not all the tourism demand variables can be easily estimated, due to conceptual and statistical reasons. Thus, this first approach of advance/ short-term estimates has focused, for the time being, exclusively in tourism consumption, which is the most relevant component from the demand side.

Broadly speaking, there are some different alternatives to compile tourism demand data depending on the sources available: The optimal procedure is obviously by using specific statistical demand sources. When those sources are not available, the some other indirect possibilities should be explored.

Let start with a variable that does not pose any difficulty in its short-term estimation process: inbound tourism consumption⁴. This is a singular variable, because in this case it is possible to obtain a good approach to quarterly indicators taking national quarterly accounts as starting point. As it has been mentioned (section 4) it is closely linked to variables of National accounts, that are included in the exports of services (non resident consumption, other exports).

Furthermore, thinking in future extensions, there are some supporting statistics available, such as the Travel Item of the Balance of Payment, the Tourism Expenditure Survey, and other supplementary data source strongly correlated: the Accommodation Occupancy Survey.

Let us refer now to the other main component of tourism consumption, which is domestic tourism consumption. In this case, as it has been underlined in section 4, the INE's Household budget survey has been recently changed in terms of the questionnaire and of the period of reference (from a quarterly to an annual basis).

Although the new module on tourism expenses (available next year) will allow some estimates at least the advance, it is obvious that, given these limitations in the specific demand surveys, the possibilities of compiling these demand data through other alternative sources might be borne in mind. For instance, the use of non-monetary indicators, such as Occupancy Lodging Surveys or the survey on tourism habits, should be tested and analysed in the future.

5.2. Supply side estimates.

The first difficulty for the supply estimates is the lack of macro-aggregate data: the QNA only provides general information on market services. In fact, the EU member states are only obliged

⁴ Analysis could also applied to outbound; by simplicity we deal in the paper only with inbound, quite more relevant in the case of Spain.

by the EU QNA regulation to produce supply side estimates at 6 industry level: (Agriculture; Industry and energy; Construction; Trade, accommodation, transport and communications services, Financial, real estate and business services; other services).

For some industries - travel agencies, hotels, bars & restaurants – this lack of information could be supplemented through the Short Term Service Statistics. This source (see section 4) provides data on turnover (and employment), and the GVA could be estimated by adopting the assumption of a constant “GVA/ Output” ratio.

Additionally, for hotels and other tourism related lodgings, advance or even short-term monetary estimate might be built up by combining the Accommodation Occupancy Surveys and the Price Surveys. In the case of transport services, for which the Short Term Service Survey only provides aggregated data, some indirect indicators, as the number of passengers’, are available.

The most difficult industry to estimate is private accommodation. On the one hand, the identification of the tourism supply of this product is extremely difficult both by statistical and methodological reasons: although the statistical sources (for instance dwelling census) include the category “secondary tourism residence” there are problems of delimitation, as even main residences are capable of being used for tourism purposes. In order to estimate the TSA, some supplementary information related to the rate of tourism use (that is, from the demand) of these secondary residences is required⁵.

5.3. Demand/ Supply balance and the tourism GDP.

In order to close the TSA system and to obtain some basic macro aggregates of the relevance of tourism (such as contribution to GDP) is necessary to balance demand and supply.

To calculate the tourism contribution to the GDP is not enough through a pure supply approach, that is to say, with the estimations of the total GVA of the tourism industries, but it is necessary to calculate the tourism share of every single industry to get the tourism share to the GVA of the economy. Obviously, to do so as it is proposed in table 6 of the TSA-MRF it is necessary to balance supply and demand, and this procedure is only feasible when the structural detailed information is available.

When this detailed information is not available some hypothesis are required, for example the stability of the tourism ratios by industries for the last period available. Nevertheless, under the global perspective of the advance tourism GDP estimates, it is possible to apply the alternative of using the indicators included in the Spanish TSA, in which the global calculation of the contribution of tourism to the GDP is obtained from the tourism final demand (net of imports).

At this point it is important to recall that tourism is, by definition, a demand activity and, as it has been asserted in different documents, its contribution to the GDP could be estimated by taking as a starting point the tourism final demand data. In order to estimate this indicator, only information on the two above-mentioned variables is necessary: inbound tourism consumption and domestic tourism consumption.

The first one, as it has been pointed out, does not pose excessive problems in its estimation. The availability of macro and micro sources allows getting both advance and even short-term (quarterly) estimates. In the case of the internal consumption, the future availability of data from the HBS would also allow carrying out yearly advance estimates.

However, it would be more difficult for the short-term (quarterly) TSA estimates. Thus, in this case it may be feasible to think of methods by combining demand and supply. It is necessary to distinguish on the one hand the above mentioned products for which the demand side is close

⁵ This has led to the drawing up of different approaches at an international level. In the STSA, the estimation of the tourism consumption of this product has been based on the stratification method approved by the EU for the estimation of these services in the National Accounts framework. See INE (2002). However, up to now there is no rather information to obtain short term estimates of this variable.

to the supply data: travel agencies; passengers' transport (specifically air transport); hotels and other collective accommodation; car rental.. These are the cases of those products that are mainly demanded by tourists (products with a high tourism ratio), and consequently there is almost an identity between their demand and their supply.

Although the supply of these products might not be 100% tourist oriented, the tourist ratios are high enough to carry out the estimation of the demand variable through the global supply (output or turnover)⁶.

In other products, demand information is necessary. This set of products would include bars and restaurants; dwellings; recreational, sports and cultural services; goods and their distribution margins; transport... This set of products can only be estimated from expenditure sources, given that their demand is not exclusively limited to tourist but to all consumers. Therefore, in this case, new indicators and sources should be found thinking in future quarterly estimate.

A summary of proposal on the possible components of advance estimates of TSA is described in table 4. The elements have been differentiated into three types of elements: supply, demand and GDP.

Table 4: A proposal on advance yearly estimate of the Spanish TSA.

Denomination	Contents tables
1) Tourist demand	
1.1. External tourism demand indicator	General indicator of inbound tourist consumption (Current prices and volumes indexes) General indicator of outbound tourist consumption (Current prices and volumes indexes) Balance of the external flows with the Rest of the world:
1.2. Domestic tourist consumption indicator.	General indicator of inbound tourist consumption (Current prices and volumes indexes)
2) Supply.	
2.1. General output indicator of characteristic industries	General output indicator of tourism industry. Current prices.
2.2. Partial indicators for some industries	Output indicators for some industries: Lodging, Bars& Restaurants, Travel Agencies, Air Transport. Current prices.
2.3. Employment in tourism industry.	Employment general indicator (jobs) for tourism industry Breakdown of some characteristics industries.
3) General tables:	
Contribution of tourism to the GDP.	Global indicator of the contribution of tourism to the GDP: Tourism Final Demand (based in consumption). .1 Current prices and volume index.

5.4. Some examples of advance/ short-term indicators from a TSA perspective.

In this section some first examples on the advanced indicators are shown. For this first exercise only some relevant aspects of the main variables mentioned in the previous sections have been taken into consideration.

Figure 1 shows the short-term estimates of inbound tourism consumption, which can be considered the easiest variable to be estimated, given the availability of sources from a statistical and a methodological point of view. As figure 1 shows, tourism activity in Spain presents a highly concentrated in the third quarter, that is during the summer months, due to the relevance of sun and beach tourism segment.

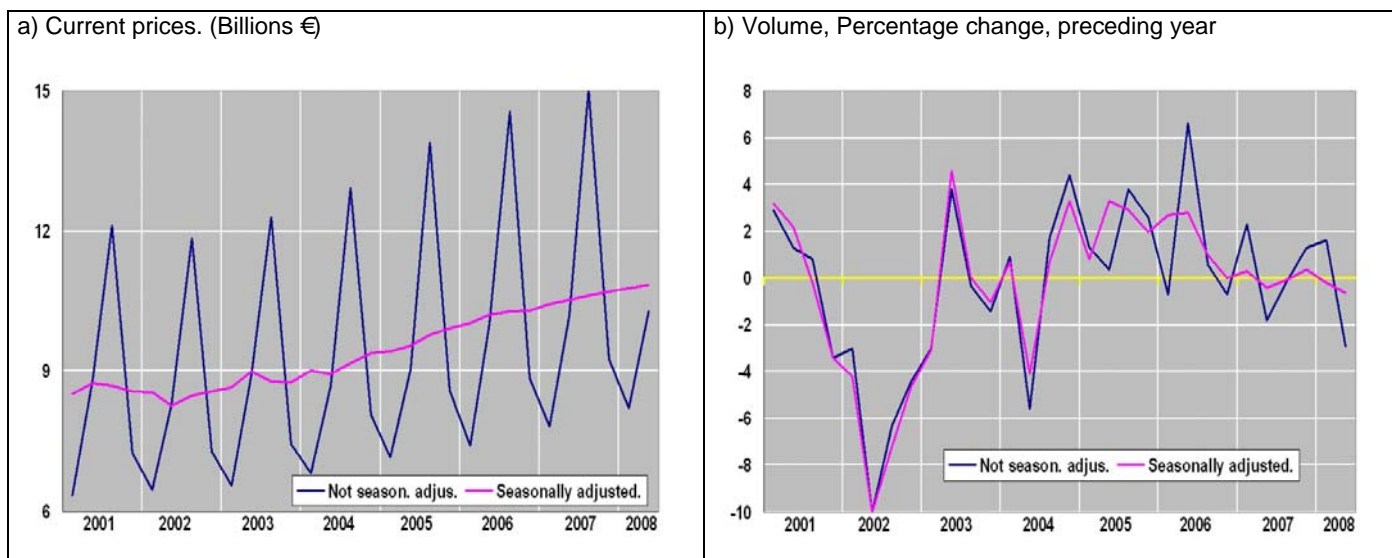
As it is been commented, one of the main peculiarities of QNA is the seasonal treatment of the series⁷. This is a feature that poses additional problems to the QNA, because depending on

⁶ For instance, the tourism consumption of hotel accommodation services reaches almost 99% over the total production, given that the non-tourism consumption of this product is almost negligible.

⁷ A problem closely related to seasonal adjustment is that of the working days (or calendar) correction, which also needs a depuration process.

whether the seasonal pattern is eliminated or not, different sets of accounts with different characteristic are obtained, what give rise to additional discussions: Have the seasonal adjusted accounts to be conciliated from the three perspectives?, What is the economic meaning of a seasonal adjusted variable?.

Chart 1. Tourism inbound by non-residents: A short-term indicator



For instance in chart 1.b, the Seasonally Adjusted and calendar (SAC) series are represented, referring to inter-annual rates of changes. When seasonal/ calendar effects are eliminated, a smooth pattern of the economic evolution of tourism is obtained. The graph reveals the process of continuous growth of Spanish tourism activity since the year 2002 (when tourism suffered the effects of September 2001) until 2007. In the last year the increase in the competence of other tourism destinations and the new declining pattern of the economic cycle in some of the Spanish markets, has implied a recession for the tourism activity.

Chart 2. Overnights (millions) in Spanish hotels. (Monthly data, not seasonally adjusted)

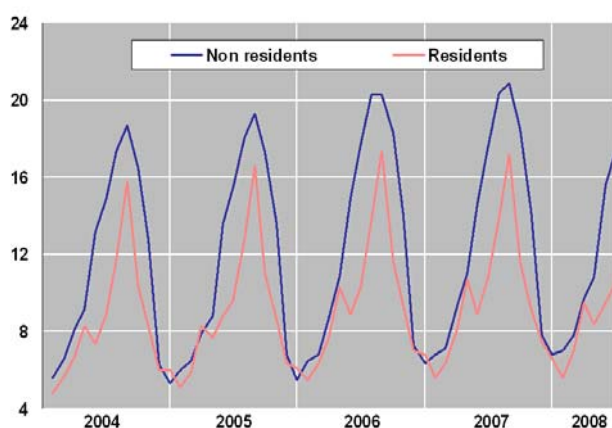


Chart 3. Tourism supply indicators: Output (volume) and employment (Percentage change inter-annual).



A second type of estimates could be reached from the supply side. As it has been commented in heading 3, the Spanish proposal implies to obtain demand and tourism GDP estimates with the assistance of supply estimations. In chart 2 the INE's Hotel Occupancy Survey, which is one of the most consistent sources of information related to tourism, is used.

There are some obvious coincidental features with figure 1 in the indicators referring to tourism exports; particularly the temporal pattern is quite similar, with a noteworthy concentration of tourism in the summer months (with peaks in July and August). For residents the pattern is rather similar, although the role of the second quarter (due to Eastern break) is outlined. But again the share of summer months is remarkable. Nonetheless, the role of the month August is specially emphasised in the case of Spanish tourists. On the contrary, the Quarters with a negative balance are the fourth and the first one.

In chart 3, two main indicators for the tourism industry are represented: output (data adjusted for price changes) and employment. Data are referred exclusively to an aggregate made from three of the main characteristic industries: lodging; bars & restaurants; travel agencies.

Here again it is remarkable the strong similarity in the pattern of time evolution of these indicators, with the previously analysed. After an almost continuous trend of growth during the last years, activity has decreased due to the current weak economic situation at an international and at national level, and the loss of competitiveness of the Spanish tourism industries.

5. Conclusions.

To summarise the main methodological proposals included in this paper, it is necessary to point out that the priority of NSI in its first stage is to obtain some advance yearly indicators to illustrate the macroeconomic importance of tourism in terms of GDP. This general approach could be done focusing the efforts on the demand estimates.

It is evident that, due to statistical and conceptual reasons, it is not feasible to obtain advance or short-term estimates from a supply perspective. On the contrary, the relevant tourism variables from the demand side can be easier estimated in most countries, since on the one hand most of countries compile quarterly national accounts and balance of payments and, on the other hand, there are a set of sources (as household budget surveys or surveys on tourism specific) which are able to provide advance data on a quarterly basis on the households' consumption. With these two pieces of information (inbound and domestic tourism consumption) a first estimate of the contribution of tourism to the GDP could be obtained. Moreover, from a methodological perspective, this document underlines and verifies the possibility of exploring some alternatives to obtain demand estimates from supply data (travel agencies, accommodation, transport...).

However, this project on advanced and short-term TSA estimates cannot be deemed as concluded, since additional works in the methodological and in the statistical fields have to be undertaken for its finalization. In fact, it has not been possible, due to some statistical limitations, to present in this forum, as it was our intention, a full set of advance tourism indicators.

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ANNEX: RELEASE 2008 DATES OF THE SOURCES POTENTIALLY USABLE FOR TOURISM SHORT TERM ESTIMATES.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dec
QSNA	-	20 (4 ^o T)	-	-	21 (1 ^o T)	-	-	27 (2 ^o T)	-	-	19 (3 ^o T)	-
GDP Flash	-	14 (4 ^o T)	-	-	14 (1 ^o T)	-	-	14 (2 ^o T)	-	-	13 (3 ^o T)	-
BPM	31 (XI)	-	31 (XII)	15 (I)/ 30(II)	30 (III)	30 (IV)	31 (V)	29 (VI)	30 (VII)	30 (VIII)	31 (IX)	28 (X)
BPQ	-	-	-	30(4 ^o T)	-	-	30 (1 ^o T)	-	30(2 ^o T)	-	-	30(3 ^o T)
HOS	23 (XII)	-	28(II)	23 (III)	23 (IV)	24 (V)	22 (VI)	22 (VII)	24 (VIII)	23 (IX)	24 (X)	23 (XI)
COS	31 (XII)	-	7 (I)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
HDOS	31 (XII)	-	31 (II)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
RTAO	31 (XII)	-	7 (I)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
PT	9 (XI)	7 (XII)	6 (I)	9 (II)	8 (III)	9 (IV)	9 (V)	5 (VI)	8 (VII)	7 (VIII)	11 (IX)	9 (X)
HPI	23 (XII)	-	4 (I)	23 (III)	23 (IV)	24 (V)	22 (VI)	22 (VII)	24 (VIII)	23 (IX)	24 (X)	23 (XI)
HII	23 (XII)	-	4 (I)	23 (III)	23 (IV)	24 (V)	22 (VI)	22 (VII)	24 (VIII)	23 (IX)	24 (X)	23 (XI)
SSAI	22 (XI)	19 (XII)	27 (I)	17 (II)	16 (III)	18 (IV)	17(V)	20 (VI)	17 (VII)	16 (VIII)	17 (IX)	22 (X)
TCPI	31 (XII)	-	7 (I)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
HDPI	31 (XII)	-	7 (I)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
RTAPI	31 (XII)	-	7 (I)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	28 (X)	30 (XI)
EAPS	25 (4 ^o T)	-	-	25 (1 ^o T)	-	-	24 (2 ^o T)	-	-	24 (3 ^o T)	-	-
QLCS	-	-	14 (4 ^o T)	-	-	17 (1 ^o T)	-	-	19 (2 ^o T)	-	-	18 (3 ^o T)
CPI	15 (XII)	15 (I)	13 (II)	11 (III)	13 (IV)	11 (V)	11 (VI)	13 (VII)	11 (VIII)	14 (IX)	12 (X)	12 (XI)
EGATUR	31 (XII)	39 (I)	31 (II)	30 (III)	30 (IV)	30 (V)	31 (VI)	29 (VII)	30 (VIII)	31 (IX)	-	1 (X)
FRONTUR	21 (XII)	21 (I)	25 (II)	21 (III)	21 (IV)	23 (V)	21 (VI)	21 (VII)	22 (VIII)	21 (IX)	21 (X)	22 (XI)
FAMILITUR	28 (IX)	27 (X)	28 (XI)	28 (XII)	26 (I)	27 (II)	28 (III)	-	2 (IV)/ 29 (V)	29 (VI)	27 (VII)	28 (VIII)

Note: The reference month of information is indicated by roman figures

QSNA	Quarterly Spanish National Accounts	GVA Flash	GVA quarterly previous.	BPM	Balance of Payment (monthly)
BPQ	Balance of Payment (quarterly)	HOS	Hotel Occupancy Survey	COS	Campsite Occupancy Survey
HDOS	Holiday Dwellings Occupancy Survey	RTAO	Rural Tourism Accommodation Occupancy Survey	PT	Passenger transport
HPI	Hotel Price Index	HII	Hotel Income Index	SSAI	Services sector activity indicators
TCPI	Tourist Campsite Price Index	HDPI	Holiday Dwelling Price Index	RTAPI	Rural Tourism Accommodation Price Index
EAPS	Economically Active Population Survey	QLCS	Quarterly Labour Cost Survey	CPI	Consumer Price Index
EGATUR	Tourism expenditure survey	FRONTUR	Spanish inbound tourism survey	FAMILITUR	Spanish domestic tourism survey

