

## Some issues on the comparability of TSA aggregates among countries

Contributed paper

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**Summary:** One of the main advantages of developing TSA for a destination is the international comparability of data. In a questionnaire research on European Travel Commission (ETC) member countries carried out in March-May 2008, I have collected some data on the main TSA aggregates for the most recent year.

Excepting the organizational aspects of TSA in each country, the research revealed some insights on the way data could or could not be compared at present among different countries.

There are some clear difficulties in establishing the comparability but also simple ways to perform it using the relative figures or converting the absolute figures into a single currency. Inevitably this leads to rankings between countries, which might be subject of criticism.

However being aware of the “partiality” of the survey (there were 21 responding countries out of 38 ETC member states), I am convinced that in the near future some other studies (of UNWTO and EUROSTAT) will provide a better acknowledgement on the issue of comparability of TSA data. Nevertheless the purpose of this brief research is to highlight the main challenges and results obtained in the spring of 2008 for some ETC countries.

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## INTRODUCTION

Tourism Satellite Account (TSA) is a statistical instrument becoming more and more popular around the world, particularly in Europe. Actually the international organizations in tourism, UNWTO, OECD and Eurostat recommend TSA as statistical standard.

TSA provides several macroeconomic aggregates characterizing the importance of tourism within every country's economy. In the same time, TSA was designed to ensure the international comparability of data among different countries, developing thus into a possible benchmarking instrument. Referring to it the International Recommendation – 2008 TSA:RMF states that *(TSA) analytical tables...provide elements for validly compare estimates between regions, countries or groups of countries* (TSA: RMF, para. 1.17)

However, there were no studies including the analysis of the international comparability of TSA results until now<sup>2</sup>. Therefore, in March – May 2008, the author performed a research on its own, among the member countries of the European Tourism Commission (ETC), focusing on some organizational aspects but mostly on offering monetary aggregates in case of countries that do have such data. Response rate was 55%. 21<sup>3</sup> of 38 European Tourism Commission member countries answered one way or another to the questionnaire (see Annex for the questionnaire). Under these circumstances, although the research is considered partial (not an exhaustive one) the results might argue a comparative analysis.

## ORGANIZATIONAL ASPECTS

Organizational aspects refer to issues such as status of TSA implementation, organization(s) responsible to carry out TSA and frequency of updating. All these were provided by responding countries.

With reference to *status of TSA implementation* in ETC member countries, the survey revealed that 42.9% of the responding countries have already implemented TSA (Austria, Denmark, Slovenia, Poland, Portugal, Ireland, Sweden, Finland, Spain), while a third are currently in a work in progress status - Belgium, Island, Northern Ireland, Hungary, Lithuania, Switzerland and Cyprus. In other words, more than three quarters (76.2%) of ETC responding countries are thoroughly implementing TSA. At the same time, almost a quarter of ETC responding countries find themselves in the initial phase of implementing TSA (pilot or feasibility studies), countries having already performed a pilot survey - Germany, Romania and Serbia, respectively countries who having elaborated or are currently elaborating feasibility studies – Bulgaria and Latvia.

Regarding the *organization(s) in charge to carry out TSA*, the research underlined that in 75% of the cases the Central Statistics Office (CSO) is involved in implementing TSA either through partnerships with other institutions or by itself. More, the CSO is the only institution responsible for implementing TSA in half of the cases. Surprisingly the National Tourism Administration takes part in the elaboration process of TSA on a smaller scale, being responsible in approximately 40% of the cases in a way or another (either alone or partnership with other institutions) of TSA implementation. As a sole institution responsible for TSA elaboration, in our investigation it is met only in 15% of the cases. Partnership between national tourism administration and the Central Statistics Office is met in 20% of the

<sup>2</sup> Still, it should be mentioned that UNWTO and Eurostat are currently working on some comparative surveys of TSA data, available most likely in 2009.

<sup>3</sup> Austria, Belgium, Bulgaria, Cyprus, Denmark, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Northern Ireland (as part of UK), Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland

situations. With the exception of the two institutions mentioned above, there are other institutions (research institutes, NTOs) involved in the elaboration process of TSA in 20% of the cases.

Concerning the *frequency of updating data*, usually TSA is annually updated in 73% of the respondent countries<sup>4</sup>. Another existing situation is updating once every 3 years in 18% of the cases.

## THE COMPARABILITY OF TSA AGGREGATES

A main issue of the research was analysing the results of the main aggregates of TSA. Thus, 17 ETC member countries provided such data. The situation is diverse, varying from country to country. Therefore, when providing data, countries referred to most recent year for which there were available data. However, one can notice that most countries provided data for year 2006 followed by 2004. The monetary aggregates were expressed in absolute values in local currency in half of cases and euro for the other half.

The TSA aggregates, for which data were requested, are:

- Tourism (direct) Gross Domestic Product expressed in absolute or relative values
- Tourism (direct) Gross Added Value Expenditures expressed in absolute or relative values
- Inbound tourism expenditure\*
- Domestic tourism expenditure\*
- Internal tourism consumption
- Employment in tourism characteristic industries

### Tourism (direct) gross domestic product (TDGDP)

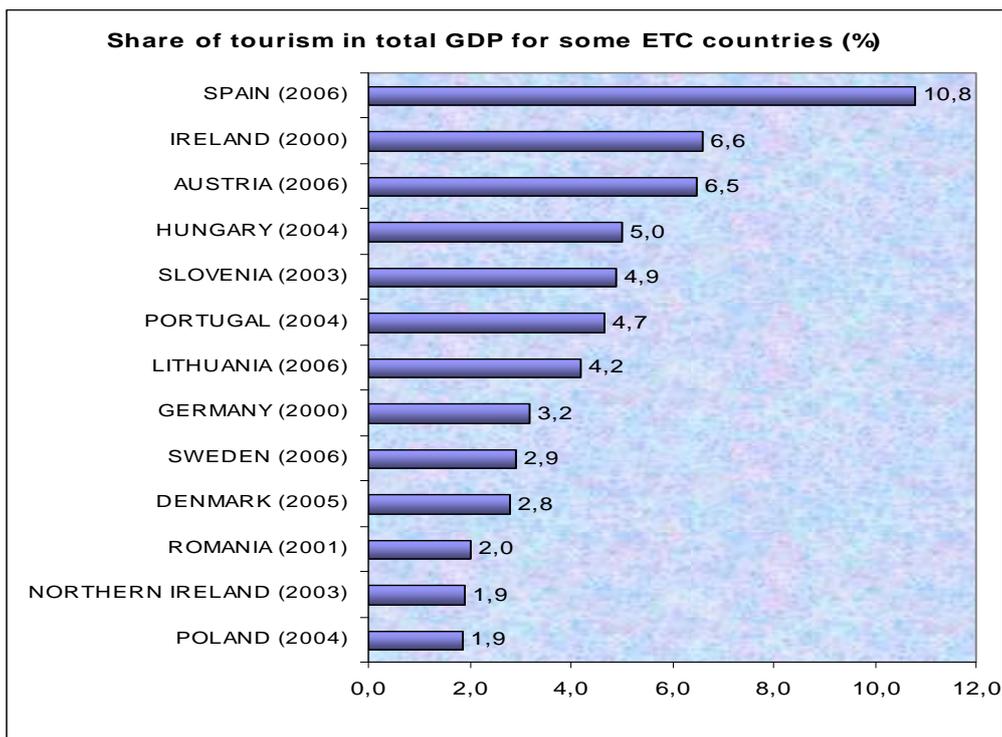
The most suggestive aggregate to characterize the importance of tourism in economy is the expression under relative value of the tourism GDP (often called tourism contribution to GDP). On this line, the data showed that Spain registered the highest performance in terms of tourism contribution to GDP (10.8%), followed by Ireland (6.6%) and Austria (6.5%) (see Figure 1). At the bottom there are countries like Poland (1.9%), Northern Ireland (1.9%) and Romania (2%). It should be also mentioned that in case of Germany the figure excludes business travel, travel to visits friends and family and public investments.

In order to achieve the comparability of data in absolute terms, the values were converted in a unique currency – euro, at an average exchange rate provided by the European Central Bank due to the fact that, as it was mentioned above, some countries provided data in their own country currency. The same conversion was applied to each absolute value of the each aggregate.

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<sup>4</sup> n = 20 (20 countries answered that question)

\* These are not considered as being TSA aggregates but they were included in the research

**Figure 1**

Source: own research on ETC member countries

Within the same aggregate – tourism direct GDP, in absolute terms, Germany ranks first (EUR 185 bn.), followed by Spain (EUR 91.5 bn.) and Sweden (EUR 23.2 bn.). On the opposite side, there are countries like Lithuania, Romania and Northern Ireland, each with a value of TDGDP less than EUR 1bn. (see table 1).

**Table 1**  
**Tourism (Direct) Gross Domestic Product in some ETC countries**  
 - EUR, mil., current prices -

No	Country	Year	Value
1.	Germany	2000	185.000,0
2.	Spain	2006	91.515,1
3.	Sweden	2006	23.232,2
4.	Austria	2006	16.400,0
5.	Ireland	2000	6.804,0
6.	Portugal	2004	6.698,0
7.	Poland	2004	3.501,6
8.	Hungary	2004	3.484,6
9.	Slovenia	2003	1.229,0
10.	Lithuania	2006	986,0
11.	Romania	2001	977,4
12.	Northern Ireland	2003	611,3

Source: own research on ETC member countries

Note: including business trips in case of Austria

### Tourism direct gross value added (TDGVA)

An aggregate significantly close to what Tourism Gross Domestic Product reflects is Tourism Direct Gross Value Added (TDGVA). It can be expressed in absolute or relative values (as share in the total Gross Value Added in economy) as well. Although, putting it into relative terms it is quite similar to tourism share in GDP, Austria occupies the leading position (8.7%), followed by Hungary (8.5) and Spain (6.5%). Instead, Finland (2.4%), Romania (2.2%) and Poland (1.7%) occupy the last positions (see table 2).

**Table 2**  
**Tourism Direct Gross Value Added as a percentage**  
**of total gross value added in the economy**

No	Country	Year	Value (%)
1.	Austria	2007	8,7
2.	Hungary	2004	8,5
3.	Spain	2004	6,5
4.	Portugal	2004	4,7
5.	Slovenia	2003	3,8
6.	Switzerland	1998	3,4
7.	Iceland	2004	3,4
8.	Denmark	2005	3,1
9.	Ireland	2000	2,9
10.	Lithuania	2006	2,7
11.	Finland	2006	2,4
12.	Romania	2001	2,2
13.	Poland	2004	1,7

Source: own research on ETC member countries

Note: for Iceland the figure is estimated

Though, in absolute terms, similar to TDGDP, Germany ranks first and Spain second. At great distance, Switzerland occupies the third place (see Table 3). Smaller countries or countries with an insufficient developed tourism come to bottom: Romania, Slovenia and Lithuania.

**Table 3**  
**Tourism Direct Gross Value Added in some ETC countries**  
 - EUR, mil., current prices -

No	Country	Year	Value
1.	Germany	2000	94.000,0
2.	Spain	2004	49.149,2
3.	Switzerland	1998	8.060,4
4.	Sweden	2006	7.585,6
5.	Portugal	2004	5.787,0
6.	Hungary	2004	5.522,9
7.	Finland	2006	3.410,0
8.	Poland	2004	3.161,2
9.	Ireland	2000	3.003,0
10.	Romania	2001	879,8
11.	Slovenia	2003	824,0
12.	Lithuania	2006	567,0

Source: own research on ETC member countries

*Is there an empiric relation between TDGVA and TDGDP?*

From methodological point of view, as a calculation method, TDGDP includes the amount of TDGVA and other components such as net taxes on products and imports. Consequently, TDGDP will have a higher value than TDGVA. The research for the 7 ETC\* member countries provided data to prove this. Thus, almost in every country, TDGDP is higher than TDGVA, with percentages ranging from 11% in Romania and Poland to 86% in Spain and 97% in Germany. Sweden is a particular case: TDGDP is 3 times higher than TDGVA (see table 4) due probably to its own methodology.

**Table 4**  
**The empirical relation between TDGDP and TDGVA in some ETC countries**  
**(absolute values)**

- EUR, mil., current prices -

No	Country	Year	TDGDP (1)	TDGVA (2)	(1) / (2)
1.	Germany	2000	185.000,0	94.000,0	<b>1,97</b>
2.	Spain	2006	91.515,1	49.149,2	<b>1,86</b>
3.	Sweden	2006	23.232,2	7.585,6	<b>3,06</b>
4.	Portugal	2004	6.698,0	5.787,0	<b>1,16</b>
5.	Poland	2004	3.501,6	3.161,2	<b>1,11</b>
6.	Slovenia	2003	1.229,0	824,0	<b>1,49</b>
7.	Romania	2001	977,4	879,8	<b>1,11</b>

Source: own research on ETC member countries

Comparing the relative values of TDGDP and TDGVA (see table 5) leads to an interesting result. In most case we deal with a share of TGVA in the total gross value added in economy higher than tourism contribution to GDP. However, for other countries (Slovenia, Ireland, Poland and Spain) the situation is exactly different, while Portugal registers the same values. At the same time, high differences are registered between these aggregates in relative values especially in case of Spain (+4.3%), Hungary (+3.5%) and Ireland (-3.7%).

**Table 5**  
**The empirical relation between tourism contribution to GDP and to Gross Value Added in the economy, in some ETC countries**

Country	Year	Contribution to GDP (%)	Contribution to GVA (%)	Differences (1) – (2) (%)
Slovenia	2003	4,94	3,82	-1,12
Ireland	2000	6,6	2,9	-3,7
Austria	2006	6,5	8,7	2,2
Hungary	2004	5	8,5	3,5
Poland	2004	1,88	1,74	-0,14
Romania	2001	2,0	2,2	0,2
Spain	2006/2004	10,8	6,50	4,3
Portugal	2004	4,65	4,65	0
Denmark	2005	2,8	3,1	0,3

Source: own research on ETC member countries

\* countries providing data both for TGVA and TGDP

The great problem is whether the difference between TDGDP and TDGVA reflects a particular situation of the country, a methodology of that country or it really shows a special characteristic of the country. Unfortunately, data is insufficient in this research to give a straight answer to clarify this problem.

### Internal tourism consumption

The aggregate describing tourism demand in TSA system is internal tourism consumption. Only 9 countries provided data for this analysis, which narrows the research. The highest tourism consumption is registered by Spain (over EUR 120 bn.) followed at great distance by Sweden (EUR 23.2 bn.) and Finland (EUR 10.2 bn.). Romania and Ireland occupy the last positions with more than EUR 1.8 bn. (see Table 6).

**Table 6**  
**Internal tourism consumption in some ETC countries**

- EUR, mil., current prices -

No	Country	Year	Value
1.	Spain	2006	120.766,6
2.	Sweden	2006	23.232,2
3.	Portugal	2004	13.450,0
4.	Finland	2006	10.233,0
5.	Denmark	2005	8.310,5
6.	Poland	2004	7.397,2
7.	Slovenia	2003	2.167,0
8.	Romania	2001	1.862,0
9.	Northern Ireland	2003	1.846,8

Source: own research on ETC member countries

### The components of internal tourism consumption

According to the 2008 TSA: RMF the internal tourism consumption comprises the inbound tourism expenditure, domestic tourism expenditure and other components of tourism consumption.

Inbound tourism expenditure is well represented in our analysis. Thus, 15 member countries of ETC have provided data regarding this indicator. Again Spain is the leader with EUR 48.6 bn., followed by Germany (EUR 26.3 bn.), Austria (EUR 16.5 bn.) (see table 7).

**Table 7**  
**Inbound tourism expenditure in some ETC countries**

- EUR, mil., current prices -

No	Country	Year	Value
1.	Spain	2006	48.606,0
2.	Germany	2007	26.300,0
3.	Austria	2007	16.500,0
4.	Switzerland	1998	9.063,9
5.	Sweden	2006	8.147,5
6.	Portugal	2004	6.682,0
7.	Poland	2004	3.716,1

No	Country	Year	Value
8.	Ireland	2000	3.637,0
9.	Denmark	2005	3.552,8
10.	Hungary	2004	3.266,1
11.	Finland	2006	2.788,0
12.	Slovenia	2003	2.167,0
13.	Romania	2001	810,8
14.	Northern Ireland	2003	445,1
15.	Serbia	2007	387,4

Source: own research on ETC member countries

As concerns domestic tourism expenditure, Germany ranks first (EUR 61.9 bn.). Spain ranks second (EUR 50.9 bn.), followed by Sweden (EUR 15.1 bn.) (see table 8). On the opposite situation, there are Slovenia (EUR 1.2 bn.), Romania and Hungary (EUR 0.8 bn.).

**Table 8**  
**Domestic tourism expenditure in some ETC countries**

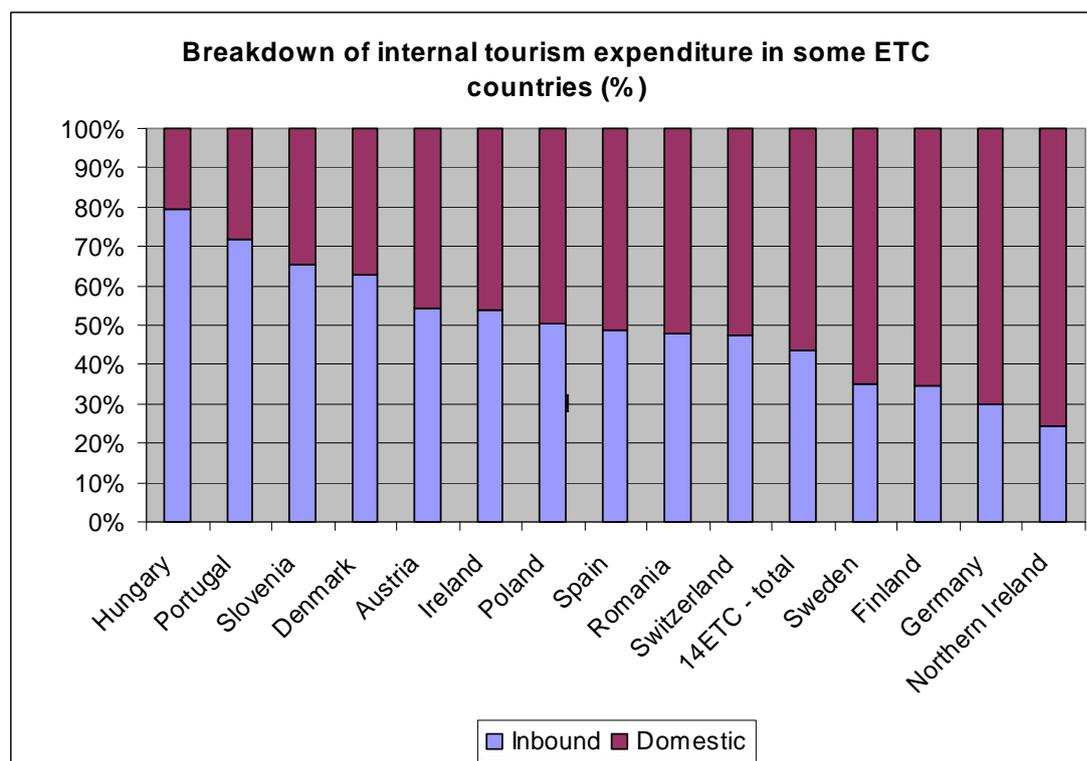
- EUR, mil., current prices -

No	Country	Year	Value
1.	Germany	2007	61.900,0
2.	Spain	2006	50.912,8
3.	Sweden	2006	15.138,7
4.	Austria	2007	14.000,0
5.	Switzerland	1998	10.064,4
6.	Finland	2006	5.293,0
7.	Poland	2004	3.681,2
8.	Ireland	2000	3.141,0
9.	Portugal	2004	2.624,0
10.	Denmark	2005	2.103,3
11.	Northern Ireland	2003	1.372,9
12.	Slovenia	2003	1.158,0
13.	Romania	2001	888,7
14.	Hungary	2004	838,4

Source: own research on ETC member countries

The sum of inbound and domestic tourism expenditure is represented by internal tourism expenditure. In this sense, it is important to observe the distribution of the inbound component vs. the domestic one in these expenditures, expressed as shares. The distribution is quite balanced between the 14 ETC members for which there were available data. Thereby, for half of them, the inbound component is significant compared to the domestic one (Slovenia, Ireland, Austria, Hungary, Poland, Portugal, Denmark). Countries like Northern Ireland, Romania, Spain, Germany, Sweden, Swiss and Finland register a predominant domestic component (see figure 2). 43.6% in the total ETC member countries internal tourism expenditure represents the inbound component while 56.4% is the domestic component. Still, for some countries, inbound versus domestic tourism differences are more visible (Northern Ireland, Germany, Sweden, Finland for domestic component; Hungary, Portugal for inbound component).

Figure 2



Source: own research on ETC member countries

*Is there an empiric relation between internal tourism consumption and TDGDP?*

Although the available data allow comparing only for the 6 ETC member countries (see table 9), it can be noticed that the values for internal tourism consumption are significantly higher to TDGDP values with percentages varying from 32% (Spain), 76% (Slovenia) and 91% (Romania) up to 101% (Portugal), 111% (Poland) and 202% for Northern Ireland.

**Table 9**  
**The empirical relation between Internal Tourism Consumption and TGDP**

- EUR, mil., current prices -

Country	Year	Internal Tourism Consumption (1)	Tourism direct GDP (2)	(1) / (2)
Slovenia	2003	2.167,0	1.229,0	1,76
Northern Ireland	2003	1.846,8	611,3	3,02
Poland	2004	7.397,2	3.501,6	2,11
Romania	2001	1.862,0	977,4	1,91
Spain	2006	120.766,6	91.515,1	1,32
Portugal	2004	13.450,0	6.698,0	2,01

Source: own research on ETC member countries

In this case too, the problem is whether the difference between Internal Tourism Consumption and Tourism Direct GDP reveal a certain characteristic of that country or this is strictly due to the "coverage degree" of TSA measurements. Once again, nothing can be said for certain as a result of this research.

As regards the employment aggregate – employment in tourism characteristic industries, it was not possible to perform a comparative analysis between ETC countries due to different measurement methods countries used to express it.

## RESEARCH LIMITATIONS

One should notice that this survey offers only a “partial view” of the TSA situation in ETC countries. Therefore, the results are referring only to the responding countries. In addition, not all responding countries have provided data for all TSA aggregates. Moreover, the respondents were National Tourism Organizations (NTOs) instead of National Tourism Administrations (NTAs) or Central Statistical Offices (CSOs), keeping in mind that usually the NTO is not directly involved in the TSA process.

As a general rule we have to be aware that each country has its own methods to collect tourism data (some countries heavily rely on accommodation statistics while others on frontier surveys as it is in Europe). Consequently, this also influences the calculation of TSA aggregates and could seriously threaten the comparability of TSA data. Also this issue was underlined in the Eurostat Methodological Workshop on Tourism Satellite Accounts (TSA) – Towards International Comparability from the 20<sup>th</sup> of April 2005: *There are not enough comparable data available. Especially the international comparability is insufficient because of difference in data collecting methods* (Minute of the meeting).

In addition, the extent to which each country TSA measurements are applying might vary from country to country. For example, in case of Romania, being a pilot TSA, we had to do a lot of estimations and assumptions and also not considering in kind components of tourism consumption. In this manner it is possible that one country includes some TSA measurements (e.g. imputed consumption, business trips) and others do not, or at least the estimations made are not reliable.

## CONCLUSIONS

In order to have a clear image on the TSA approach, for each country detailed methodological specifications have to be provided. This research did not refer to an in-depth TSA analysis among the countries, being rather a “short and quick” TSA research. However, some results on the comparability of TSA data have been revealed – usually by ranking countries for each TSA aggregate, as it was done in this paper.

A much better acknowledgement on the issue of comparability of TSA data will be provided by the future UNWTO and Eurostat studies to be published in 2009.

Anyway, this brief research has tried to point out some issues on the international comparability of TSA data being probably a “pioneer” in this field.

**ANNEX**

*Questionnaire used for the TSA research in ETC countries*

1. Your country.....
2. What is the status of TSA development in your country?
  - a. Pilot study
  - b. Feasibility study
  - c. Work in progress
  - d. TSA implemented

If the answer is <<TSA implemented>> than  
What is the frequency of updating the TSA?

  - a) annually
  - b) every 2 years
  - c) every 3 years
  - d) every 4 years
3. What is the organization responsible for carrying out the TSA?  
.....
4. Please provide some figures on TSA aggregates available for the most recent year:

	Year
Tourism (direct) GDP (absolute figure*)	
Share of tourism in total GDP (%)	
Tourism (direct) Value Added (absolute figure*)	
Share of Tourism VA in total VA of the economy (%)	
Internal tourism consumption (absolute figure*)	
of which:	
- inbound tourism expenditure	
- domestic tourism expenditure	
- other components of tourism consumption	
Employment in tourism characteristic industries**	

\* - please specify the currency used: .....

\*\* - please specify jobs/full time equivalents: .....

Thank you in advance for your assistance!

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