

# **Applying the TSA in a regional context: the case of Upper Austria**

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## Abstract

Tourism satellite accounts (TSA) are important tools for demonstrating the economic impact on a country and state level. A regional TSA (RTSA) offers the statistical base for theoretical as well as practical users to support their evaluations and analyses, providing a regionalized view of consumption by tourist. This paper aims to extend the TSA with respect to the indirect effects of tourism and the leisure demand of residents in their usual environment. The study is based on the recommended framework for TSA-building and is concentrated on Upper-Austria, one of the nine Austrian federal states. The case study of Upper Austria will demonstrate the valuable information of a RTSA as regional tourism is a very complex phenomenon and its impact is difficult to capture. The RTSA provides an analytical framework of issues related to tourism economics and tourism policy as well as for model building, tourism growth analysis and productivity measurement. For 2012, the Austrian Institute of Economic Research and Statistic Austria found that tourism made around 3½% of the Upper-Austrian gross regional product. Considering the direct and indirect effects, tourism contributed to the overall gross regional product almost 6%. This paper is one of the first papers about considering (beside the direct effects) additionally also the indirect effects of tourism and pointing out the true economic impact of tourism on the whole economy on a regional level.

## Introduction

Tourism satellite accounts (TSA) are important tools for demonstrating the economic impact at country and state levels (*Dybedal et al.*, 1999). A regional TSA (RTSA) offers the statistical base for theoretical as well as practical users to support their evaluations and analyses, providing a regionalized view of consumption by tourists. This paper aims to extend the TSA with respect to the indirect effects of tourism and the leisure demand of residents in their usual environment. The study is based on the recommended framework for TSA-building and is concentrated on Upper Austria, one of the nine Austrian federal states (*UN*, 2010A and 2010B). The case study of Upper Austria will demonstrate the valuable information of a RTSA considering that regional tourism is a very complex phenomenon and its impact is difficult to capture. The RTSA provides an analytical framework

of issues related to tourism economics and tourism policy as well as for model building, tourism growth analysis and productivity measurement.

This paper is one of the first papers to consider (in addition to the direct effects) the indirect effects of tourism and point out the true economic impact of tourism on the whole economy at regional level (*Laimer – Smeral, 2014; Smeral, 2010*).

## Methodology of the Tourism Satellite Account (TSA)

The difficulty in sizing up the tourism industry is primarily caused by the problem that the system of **national accounts** identifies economic sectors based on their production (i.e. output) rather than on the demand side. In contrast, the tourism industry in particular is defined by the consumption by tourists.

We separate the production side in:

- "tourism-characteristic",
- "tourism-related" and
- "non-tourism-specific"

sectors.

Such sectors accordingly produce:

- "tourism-characteristic",
- "tourism-related" and
- "non-tourism-specific"

**goods and services.**

Accordingly, **tourism consumption** involves:

- "tourism-characteristic" (e.g. hotels, travel agencies, aerial railways),
- "tourism-related" (e.g. souvenirs) and
- "non-tourism-specific" (e.g. retailers, hairdresser, fitness)

**goods and services.**

The **key problem** for the "tourism-characteristic" segments is that consumption of tourism goods cannot always be measured unequivocally:

- Thus, restaurant meals are ordered also by **non-tourists** and
- **non-tourism goods** such as clothes or staples are also purchased by tourists.

In other words, it is not easy to identify "**tourism-characteristic**" segments and aggregate their outputs. In order to obtain exact figures on the tourism activities of a country or destination, it is necessary to weigh the output of a tourism service at a rate corresponding to the ratio of tourism expenditure to total expenditure for such a service.

The key factors to **determine** tourism demand are visitors, the main purpose of travel, usual and non-usual environment and tourist consumption.

A visitor is **defined** as "... any person travelling to a main destination outside his/her usual environment for less than a year and for any main purpose other than being employed by a resident entity in the country or place visited."

We distinguish between **international** visitors who are not permanently resident in the country of destination and **domestic** visitors who are permanent residents of the country of destination.

A **visitor** may be a same-day visitor or a tourist (with at least one overnight stay).

A trip may be made for business purposes or for other reasons (typically a holiday).

Further, the TSA takes account of visits to **second homes** or to **relatives/friends**.

When it comes to reasons for traveling we distinguish between traveling for leisure, recreational and/or holiday purposes and visits to relatives and friends, business trips, health trips and religiously motivated trips.

As to usual and non-usual environment, the usual environment is defined by two dimensions: frequency and distance.

Places frequently visited by a person are considered as part of the usual environment even though these places may be located at a considerable distance from the place of residence.

Places located close to the individual's place of residence are part of their usual environment even when they are rarely visited.

Under the TSA philosophy, the point is whether the destination of a person ("visitor") is outside the usual environment, in which case that person is not counted among "local consumers". Only a visitor/tourist acting in the non-usual environment generates additional expenditure and thus adds value to the economy. These effects triggered by visitors can be measured based on a TSA.

Regarding tourist expenditure on consumption we distinguish between inbound tourist consumption, domestic tourist consumption (which excludes expenditure in the usual environment = non-tourist leisure consumption), outbound tourist consumption, internal tourist consumption by residents and non-residents (inbound tourist consumption and domestic tourist consumption) and national tourist consumption (domestic and outbound tourist consumption).

The TSA concept captures not just those tourism consumption effects in sectors that directly supply tourists with goods and services, but not enterprises which furnish tourism suppliers with their own needs. The interlinkages between suppliers can be interpreted as the indirect effects of tourism demand. In other words tourism spending affects not just enterprises where tourists make their purchases, but also those companies where tourism suppliers obtain their **inputs** from. Taking into account that the providers of such inputs are dependent in their turn on other domestic (regional) and international (foreign) companies to obtain their goods and services, the result is a complex network that is relevant for the value added of country/region (*Smeral, 2010*). The value-added effects arising from such supplier interlinkages may be interpreted as indirect contributions to the value added by tourism. Inputs which need to be obtained from other domestic or foreign regions are known as import losses that reduce the overall (direct and indirect) potential value added from tourism (*Smeral, 2010*).

As the TSA concept considers only direct tourism effects, it is necessary to capture indirect effects as well, especially when comparing the TSA value added to the overall national or regional GDP (*Barber-Dueck – Kotsovos, 2003; Frechtling, 2009; Gaillard – Rütter – Berwert, 2003; Kass – Okubo, 2000; Meis – Lapierre,*

1994; *Smith – Wilton*, 1997). As the focus of the TSA is directed solely at the economic effects resulting from the direct relationship between consumer and producer it is difficult to compare the demand-side-measured tourism-related GDP to the overall GDP (*Smeral*, 2014B). According to *Smeral* (2014B) ..... "such a simple division/relation would lead to an underestimation of the impact of tourism activities, because the overall GDP also includes indirect effects caused by economic inter-linkages. Expressed in a different way, the tourism value added captured on the basis of pure TSA definitions does not count the indirect value-added effects generated by deliveries made by industries such as agriculture, food and beverage production, banking or insurance to the touristic producers (e.g. hotels, restaurants). As a consequence, capturing tourism activities based on their contributions to GDP would make sense only if the tourism-related value added triggered by indirect effects were considered as well. The same problems would occur if we captured the tourism-generated employment effects based only on the effects of the direct relationship between tourists and producers. Or to put it more succinctly: many countries introduced a TSA in order to avoid underestimating tourism as a major economic phenomenon and in this way managed to solidify their underestimation of tourism's economic importance in terms of value added and employment effects."

When it comes to business trips by residents (an intermediary input in an overall view), comparing the TSA results to the overall value added means that, in a macro-/regional economic view, business trips should be deducted from tourist consumption by residents in the TSA context.

## Regional Tourism Satellite Account – findings for Upper Austria

### Upper Austria – direct effects

In Upper Austria, total expenditure in **2012** for holiday and business trips, visits to relatives and friends and stays at weekend houses or second homes accounted for some **€ 3.28 billion** (*Laimer – Smeral*, 2014): 72.8 percent were spent by domestic visitors, 26.8 percent by foreign travelers and 0.4 percent by persons staying at weekend houses and second homes (*Table 1*):

*Table 1: Main results of the TSA for 2012*

Aggregates	Austria		Upper Austria		
	Million €	Percentage share	Million €	Percentage share, in terms of	
Tourism demand <sup>1)</sup>				Upper Austria	Austria
<i>Expenditure by non-residents</i>	16,175	51.1	878	26.8	5.4
Tourists staying overnight	13,484	42.6	437	13.3	3.2
Same-day visitors	2,691	8.5	441	13.4	16.4
<i>Expenditure by resident visitors</i>	15,363	48.6	2,392	72.8	15.6
Holiday travelers	13,123	41.5	2,062	62.8	15.7
Tourists staying overnight	7,931	25.1	683	20.8	8.6
Same-day visitors	5,191	16.4	1,379	42.0	26.6
Business travelers	2,240	7.1	330	10.0	14.7
Tourists staying overnight	1,487	4.7	130	4.0	8.8
Same-day visitors	753	2.4	199	6.1	26.5
<i>Expenditure at weekend houses and second homes</i>	103	0.3	13	0.4	13.0
<i>Total expenditure (holiday and business travelers, including visits to relatives and friends)</i>	31,642	100.0	3,284	100.0	10.4

Source: Statistik Austria, WIFO. – <sup>1)</sup> Holiday and business trips.

Sixty-six percent of domestic residents' spending derives from same-day visitors; among foreign visitors/tourists, the figure is about 50 percent (both categories are much higher than the Austrian average, highlighting the importance of same-day trips for Upper Austria). Austrians traveling to Upper Austria spent 13.8 percent on "**business**" and 86.2 percent on "**holiday**" purposes. Both domestic holiday and business travelers spend more on day trips (66.9 percent and 60.5 percent respectively).

For 2012, we found that tourism made for € 1.72 billion in **direct value added** to Upper Austria's economy, or a computed share of 3.3 percent of the federal state's gross regional product (€ 52.01 billion). If we look at the added value directly generated by tourists in Upper Austria as a share of the overall Austrian figure, we get 9.3 percent (excluding business trips) and 9.6 percent (including business trips) respectively (see *Table 2*).

When it comes to **tourism's direct contribution** to the gross regional product, Upper Austria comes in 2.5 percentage points lower than the corresponding figure for **Austria**, reaching 3.0 percent excluding and 3.3 percent including business trips. These values, which are clearly below average, are the result of the considerable volume of Upper Austria's regional economy, which is only exceeded by Vienna.

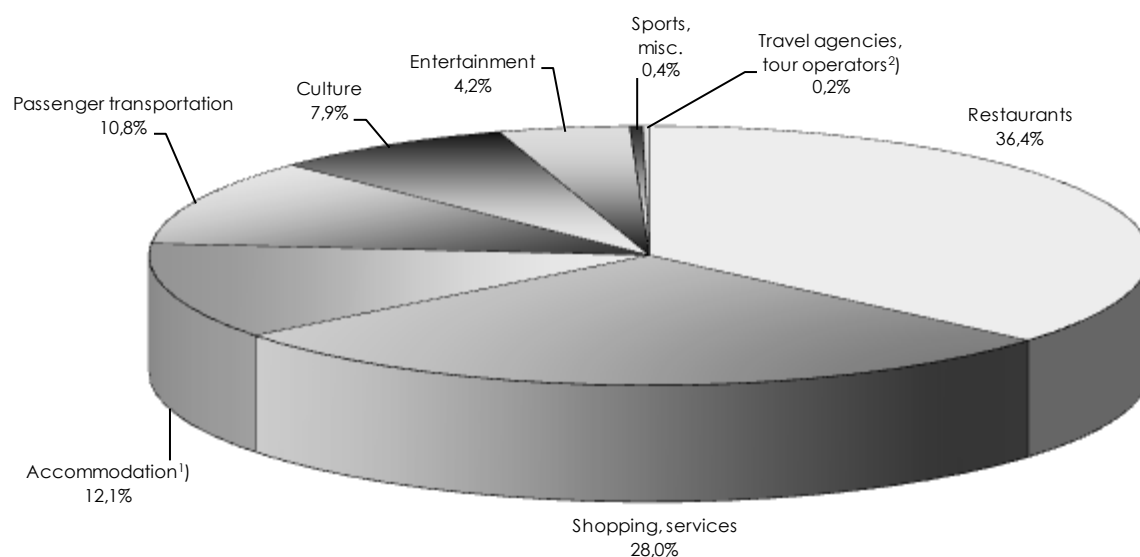
Altogether 28.0 percent of the tourist consumption in Upper Austria derives from goods and services (shopping). This regional value lies distinctly above the Austrian average and emphasizes the importance of shopping tourism in the course of day trips to this Austrian federal state.

The remaining expenditure by tourists in Upper Austria, including overnight guests as well as day visitors, holiday-makers as well as business travelers, together makes up € 2.36 billion, broken down as follows (*Figure 2*):

Restaurants take 36.4 percent and are thus the greatest beneficiaries, followed by spending on accommodation (including stays with relatives/friends or at second homes) at 12.1 percent.

Upper Austria's guests spent 10.8 percent on passenger transport, 7.9 percent on culture and 34.2 percent on entertainment. Sports and miscellaneous spending make up 0.4 percent, and travel agents and tour operators represent 0.2 percent of the visitors' total expenditures.

Figure 1: Tourist consumption, by products (2012)



Source: Statistik Austria, WIFO. – <sup>1)</sup> Including weekend houses and second homes. – <sup>2)</sup> Margins only: parts of packages are included in the services.

## TSA extensions

As discussed above, the TSA results for direct effects need to be extended by indirect effects calculated on the basis of a regional input/output table (Smeral, 1995, 2005 and 2006). However, no database is available on regional delivery interlinkages for Upper Austria. Therefore, these indirect effects need to be captured by estimates. In estimating the regional indirect effects, it is assumed that they can be estimated by taking Upper Austria's GDP share of indirect effects of tourism in total Austria.

According to this method we get **direct and indirect value-added effects** of € 3.00 billion for Upper Austria in 2012 (see [Table 2](#)). In other words, tourism contributed 5.8 percent to the overall regional gross value added in Upper Austria, and Upper Austria produced 12.3 percent of the touristic value added in all of Austria.

In order to view the total macroeconomic impact of **tourism and the leisure-time industry**, local leisure-time consumption by the Upper Austrians needs to be taken into account as well. According to a study of the tourism and leisure-time industries in Austria, leisure-time consumption by Austrians in the usual environment produced € 22.82 billion in direct and indirect value added in 2012 (Smeral, 2014A).

Applying the relevant structures obtained from the last available consumption survey and estimating the indirect effect in line with the method described above, we calculated the direct and indirect value added effects of leisure-time consumption by Upper Austrian residents at € 3.80 billion (7.3 percent of the regional GDP or 16.6 percent of the total Austrian volume).

*Table 2: The macroeconomic importance of tourism and the leisure-time industry (2012)*

Aggregates	Austria		Upper Austria		
	Million €	Percentage share in GDP	Million €	Percentage share in gross regional product	Share in Austria in total
<b>Tourism Satellite Account – direct value added as per TSA</b>					
Excluding business trips	16,918	5.5	1,567	3.0	9.3
Including business trips	17,943	5.8	1,720	3.3	9.6
<b>TSA extensions – direct and indirect value added</b>					
	Million €	Contribution to GDP in percent	Million €	Contribution to gross regional product In percent	Share in Austria in total
Tourism <sup>1)</sup>	22,713	7.4	3,002	5.8	12.3 <sup>2)</sup>
Leisure-time consumption of Austrians at home	22,821	7.4	3,798	7.3	16.6
Tourism and leisure-time industry in Austria	45,534	14.8	6,800	13.1	14.4 <sup>2)</sup>

Source: Statistik Austria, WIFO. – <sup>1)</sup> Austria excluding business trips; Upper Austria including business trips. – <sup>2)</sup> The Austrian figure including business trips was used for calculating the share.

In total, the tourism and leisure-time industry in Upper Austria produced € 6.80 billion (13.1 percent of the regional GDP or a share of 14.4 percent of the overall value added in Austria).



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