PAPER

Measurement of tourism labour in Austria: Data sources, methodology and challenges

12th Global Forum on Tourism Statistics
15 to 16 May 2014, Prague, Czech Republic

<u>Session 3</u>: **Measuring the tourism economy and labour market**

Peter Laimer
Statistics Austria
Guglgasse 13
1110 Vienna
Austria
phone: +43 (1) 711 28-7849
fax: +43 (1) 4934300
e-Mail: peter.laimer@statistik.gv.at
Statistics Austria: http://www.statistik.at/web_en/
Tourism Statistics: http://www.statistik.at/web_en/statistics/tourism/index.html

March 2014

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0. Introduction

Tourism is playing a significant role in various economies and "the development of human resource capacity in tourism is a primary area of public intervention" [1]. In order to measure the importance of tourism on a monetary basis, Tourism Satellite Accounts (TSA) have been developed in a lot of countries[2]. Accordingly, the crucial role of tourism for the economies implies **significant effects on the labour market** and contributes considerably to the **employment situation** of the countries, therefore.

With regard to the supply chain in the sector, one job in the core "Hotel, Catering and Tourism Sector" (HCT) industry indirectly generates roughly 1.5 additional jobs in the related economy. In 2010, the sector's global economy will account for more than 235 million jobs, equivalent to about 8 per cent of the overall number of jobs (direct and indirect), or one in every 12.3 jobs. The "UN World Tourism Organisation" (UNWTO) is expecting the sector's global economy to provide 296 million jobs in 2019.[3]

According to "World Tourism & Travel Council" (WTTC) the Travel & Tourism's direct contribution to world GDP and employment in 2012 was US$ 2.1 trillion (2012 prices) and 101 million jobs.[4] For EU-27 Europe it had been estimated that in 2006 about 4.2% of all persons employed are working in the hotel and restaurant sector, which has been steadily increasing since 2000 (based on Labour Force Survey; LFS).[5] In Austria, based on TSA-estimates, about 315 100 jobs or 254 500 FTEs can be directly attributed to the tourism characteristic industries in 2011, contributing 7.3% and 7.2% to the overall employment in Austria.[6]

Internationally agreed methodological standards in regard to the measurement of employment in tourism are available[7]; furthermore, a lot of initiatives regarding the measurement of employment on national level have been occurring in the past years (e.g. EU-countries[8], Canada[9], Norway[10]). Nevertheless, measuring tourism employment subsumes several challenges since tourism involves a wide range of different activities, types of establishments, employment contracts and working arrangements. Furthermore, the tourism employment pattern is characterized by notable differences between regions of a country and between seasons of the year.

The **purpose of this paper** is aimed to share experiences in regard to the compilation of employment data, and in particular its implication and limits. The paper intends to show international concepts of labour (**Chapter 1**) and discusses the existing sources in general and the usability for tourism purposes in particular (**Chapter 2**). The paper concerns the challenges of developing employment figures related to tourism, taking into account Austrian estimates based on TSA methodology (**Chapter 3**).

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[1] OECD Tourism Trends and Policies 2012, ISBN 978-92-78-40856-5, Paris 2012, p.117.

[2] UNWTO, TSA data around the world, Madrid 2010 (http://statistics.unwto.org/sites/all/files/pdf/tsa_data.pdf).

[3] ILO, Developments and challenges in the hospitality and tourism sector, issues paper for discussion at the „Global Dialogue Forum for the Hotels, Catering, Tourism Sector", 23–24 November 2010 (http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_162202.pdf).

[4] WTTC, Economic Impact of Travel & Tourism 2013 Annual Update: Summary, London 2013 (http://www.wttc.org/site_media/uploads/downloads/Economic_Impact_of_TT_2013_Annual_Update_-_Summary.pdf)

[5] Eurostat, Tourism Statistics, Pocketbooks, 2008 edition, ISBN 978-92-79-09451-4, Luxembourg 2008, p.15 (http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DS-08-001/EN/KS-DS-08-001-EN.PDF).

[6] See also http://www.statistik.at/web_en/statistics/tourism/tourism_satellite_accounts/labour_force/index.html

[7] ILO: Standards and guidelines on labour statistics (http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/lang--en/index.htm).
OECD: Measuring the Role of Tourism in OECD Economies. The OECD Manual on TSA and Employment (http://www.oecd.org/cfe/tourism/2401928.pdf).
UNWTO: TSA: Recommended Methodological Framework 2008 (http://unstats.un.org/unsd/publication/Seriesf/SeriesF_80rev1e.pdf).

[8] EUROSTAT: TSA in the European Union, Report on the implementation of TSA in 27 EU Member States (Volume 1; http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-09-021/EN/KS-RA-09-021-EN.PDF).

[9] Statistics Canada: Human Resource Module of the Tourism Satellite Account, 2012 (http://www5.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=13-604-M2013072&lang=eng).

[10] Statistics Norway, Employment in tourism industries 2004-2009 (http://www.ssb.no/a/english/kortnavn/turismesat_en/tab-2010-03-25-15-en.html).

1. Concepts and classification of labour

The "International Labour Organisation" (ILO) is internationally the leading organisation producing internationally comparable labour statistics.[11] Labour statistics describes the size, structure, characteristics, outputs and contributions of the participants in the labour market and how these change over time. From an economic perspective, these statistics are useful to analyse, evaluate and monitor the way the economy is performing and the effectiveness of current and longer term economic policies.[12]

1.1 Conceptional framework

Labour statistics cover a wide range of topics including statistics on the size and structure of the **economically active and inactive population**:[13]

➢ The **economically active population** according to ILO definitions consists of **employed** and **unemployed** persons:[14]

- A person is considered to be **employed** if he or she worked for at least one hour in the reference week, or did not work due to holiday, illness, etc. but is normally in employment. Persons on long term absences as e.g. women on parental leave are included in the category of employed persons if they have a formal attachment to the job.

- A person is considered to be **unemployed** if he or she is not employed in the above sense, is taking active steps to look for work, and is able to start work at short notice.[15]

➢ Persons who are **not economically active** are neither employed nor unemployed. Among the economically inactive population, **two population groups** are increasingly acknowledged to be important: providers of services for own household consumption, and discouraged workers.

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[11] Youngl, A.,S., Statistics in the ILO: Roles and responsibilities (see http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_087923.pdf).

[12] The above topics are conventionally covered in national programmes of labour statistics, as established by Convention (No. 160), and international guidelines on their measurement exist in the form of international resolutions and guidelines, adopted by the International Conference of Labour Statisticians (see http://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/lang--en/index.htm).

[13] Hussmanns, R., Measurement of employment, unemployment and underemployment – Current international standards and issues in their application, ILO (issuer), Geneve 2007 (http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_088394.pdf).

[14] The 13th ICLS Resolution distinguishes between two measures of the economically active population:
- The currently active population (labour force), measured in relation to a short reference period such as one week or one day, and the usually active population, measured in relation to a long reference period such as a year;
- The usually active population comprises all persons above a specified age (e.g. 15 years) whose main activity status as determined in terms of number of weeks or days during a long specified period (such as the preceding 12 months or the preceding calendar year) was employed or unemployed.

[15] The unemployed comprise all persons who during the reference period were
- „without work", i.e. were not in paid employment or self-employment as defined by the international definition of employment (see section 5 above);
- „currently available for work", i.e. were available for paid employment or self-employment during the reference period; and „seeking work", i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment.

1.2 Classification of labour

Employment and unemployment are surveyed by **two concepts**, the international comparable Labour-Force-Concept and nationally used concepts:

> ➤ The measurement of the currently active population is based on the **labour force framework**. The labour force framework permits pressure on the labour market to be measured in terms of the current supply of labour, through an integrated measurement of employment and unemployment. The essential feature of the labour force framework is that individuals are categorised according to their activities during a specified short reference period by using a specific set of priority rules. The result is a classification of the population into three mutually exclusive and exhaustive categories: employed persons, unemployed persons, and persons not in the labour force (or persons not currently active).[16]

> ➤ Alternatively, the activity status can be measured by the **subsistence concept** (the so called self-declared main status). In this case respondents specify their social status themselves. [17] The main status is based exclusively on self-assessment. In principle, the data relates to the population living in private households (i.e. a student might be declare himself as a student, although he is working several hours per week and would be seen according to the ILO-concepts as "employed").

The purpose of international classification schemes is to provide a framework for the international comparison of national statistics. The classification according to main economic activity carried out where work is performed (industry; "International Standard Classification of All Economic Activities" (**ISIC**)) is fundamentally different from that according to main type of duties performed (occupation; "International Standard Classification of Occupations" (**ISCO**)):

> ➤ In ISIC, all persons working in a given establishment are classified under the same industry irrespective of their particular occupations.

> ➤ ISCO brings together individuals working in similar types of work, irrespective of where the work is performed.

Where the data are given according to national classifications, it should be borne in mind that the industrial and occupational classifications used by the different countries present many points of divergence.

The "International Classification of Status in Employment" (**ICSE**) classifies jobs with respect to the type of explicit or implicit contract of employment the person has with other persons or organizations. The basic criteria to define groups of the classification are the type of economic risk and the type of authority over establishments and other workers which the job incumbent has or will have.

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[16] Hussmanns 2007, p.6.

[17] However, in Austria before 2004 persons who worked at least 12 hours per week were considered as employed, persons in parental leave with valid employment contracts included.

2. Data sources for labour

Accurate measurement of the usually active population and its components is in practice not a simple task. The use of harmonised classifications, units, concepts and definitions enhances the comparability between statistics obtained from different sources. Data users must be aware that each source has its strengths and limitations, that different sources can validly provide different estimates, and that the use of several sources can help in analysing different facets of the employment situation, and in evaluating and improving the quality of statistics obtained from each source.[18]

2.1 Labour market statistics – supply and demand

Labour force status is the cornerstone concept for labour market statistics. Like any other market, the labour market consists of a **supply side** and a **demand side**:[19]

➢ The labour **supply** of the population, referred to as the economically active population or labour force, has two components: employed persons and unemployed persons.

➢ The labour **demand** of enterprises and other production units, too, can be broken down in two components: jobs (filled posts) and job vacancies (unfilled posts).

Due to the existence of multiple jobholding, the number of jobs tends to be larger than the number of employed persons. In most countries, statistics on the supply of labour are far better developed than statistics on the demand of labour. As a result, current international recommendations on labour market statistics deal almost exclusively with statistics on labour supply.[20]

2.2 Labour force sample surveys

"Labour Force Surveys" (LFS) are **sample inquiries directed to households**, designed to obtain information on the labour market and related issues through a series of personal interviews. LFSs are a source of regular information on both the total labour force (employed plus unemployed) and total inactive population. For total employment, these surveys cover all status groups, that is, not only employees (wage earners and salaried employees), including paid family workers, but also employers, own-account workers, members of producers' cooperatives, contributing family workers and workers not classifiable by status. The data generally relate to employment during a specified brief period, either one week or one day. Usually, no distinction is made between persons employed full time and those working less than full time.[21] [22]

In measuring the economically active population in household surveys, it is essential that careful attention be paid in questionnaire design and interviewer instructions so as to translate the notion of economic activity into appropriate questions, because the interviewers´ and respondents´ own subjective understanding of economic activity may differ from what the concept intends to include. This requirement is fundamental, as it sets the frame for all subsequent information collected in the course of the interview.[23]

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[18] Hussmanns 2007.

[19] See also Statistics Austria, http://www.statistik.at/web_en/statistics/labour_market/index.html.

[20] Hussmanns 2007.

[21] Hussmanns 2007.

[22] In EU-Europe the LFS is a quarterly sample survey in the EU, EFTA (except Liechtenstein) and Candidate Countries. The EU LFS sample size amounts approximately to 1.5 million individuals each quarter. The quarterly sampling rates vary between 0.2% and 1.6% in each country. In providing quarterly and annual data on employment, unemployment and inactivity, the EU LFS is an important source of information about the situation and trends on the labour market in the European Union (see http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/EU_labour_force_survey_-_methodology#Labour_force_status_definition).

[23] Hussmanns 2007, p. 5

2.3 Establishment surveys

Establishment surveys provide data on the number of workers for a specified payroll period or working day in this period. In general, there are **two types of establishment statistics**:

➢ The first type covers **all establishments** of a given importance, e.g. those fulfilling certain conditions, such as having more than a certain number of employees, having an annual output of more than a certain value, etc. The data thus obtained may be subject to some bias owing to the exclusion of establishments which are below the minimum size fixed for the series. Moreover, a shift of employment from small to large establishments will be reflected in a rising trend in the series. Provided that this minimum is small, the scope of these series is usually very wide and they can furnish a close approximation of the fluctuations in paid employment.

➢ The second type of statistics relates to a **sample of establishments**. The chief difficulty with such statistics is to ensure that the sample of establishments remains representative of the whole. For example, changes in industrial structure, the growth and decline of individual establishments, general population movements and pronounced changes in the levels of activity in some sectors of the economy tend to introduce a cumulative bias in this sample which may become appreciable after several years.

In certain countries where statistics of the first type (all establishments of a given importance) are available only at annual or longer intervals, they may be combined either by linking or by interpolation with statistics of the second type (samples of establishments) which are available more frequently. [24]

In **EU-Europe** the number of persons employed is defined, within the context of "Structural business statistics" (SBS), as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service. [25]

2.4 Official estimates

Official estimates are provided by national authorities. Such estimates are usually based on combined information drawn from one or more of the other sources described here:

➢ "**National Accounts**" (NA) are a powerful source of information for studying many aspects of the economy. The main aggregates, covering the annual and quarterly "Gross Domestic Product" (GDP) and its components, are among the most significant indicators of the state of any economy, be it at a national or European level. Data on the evolution of GDP, production, expenditure and income as well as related indicators (on employment and productivity) are often headline figures and are of key interest to users.

➢ **Quarterly flash estimates for employment** represent a key indicator for strategies defined as part of the "Principal European Economic Indicators" (PEEIs) for the monitoring and early verification of economic trends within the EU. They are calculated on the basis of the conceptual standards set out by the "European System of Accounts" (ESA 2010). [26] Flash estimates are published no later than 45 days following the end of the reference quarter. The data is also reported to EUROSTAT, where it is used to calculate EU and Eurozone aggregates.

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[24] Hussmanns 2007.

[25] See also http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Persons_employed_-_SBS.

[26] See http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-02-13-269/EN/KS-02-13-269-EN.PDF.

With regard to employment, NA refers both to **persons** and to **jobs** (activities) and **full-time equivalences**. Quarterly flash estimates for employment are based on the person concept so that an employed person is recorded only once and multiple instances of employment are not taken into account. Employees and self-employed persons are shown separately. While seasonally adjusted data is provided, unadjusted results are also published.

2.5 Social insurance statistics

Social insurance statistics covers the **working population** protected by sickness, accident or unemployment insurance schemes, or the like. The number of contributors or of contributions paid provides a measure of the number of insured persons in employment (unemployed persons being exempt from the obligation to pay contributions). Persons working a very short time, receiving very low pay or who are above a certain age, are sometimes excluded from these statistics. In addition to changes in the actual number of persons employed, employment statistics based on social insurance records may also reflect changes in coverage of particular industrial, occupational or status groups.[27] [28])

2.6 Employment data from NA versus LFS

The LFS and NA are the two **main sources of employment data**. These two sources are not independent; indeed LFS is frequently an input to NA employment estimates. Although using common definitions, LFS and National Accounts have, however, their own aims and measurement approaches, which may lead to different results. In addition, other statistics based on business surveys or administrative sources also provide estimates of employment which may differ from the LFS. These may also be used as input to the National Accounts.

The **main differences** between LFS and NA concern elements of geographical coverage (resident persons employed in the LFS vs. employment in resident production units in NA), other coverage issues such as age boundaries and treatment of institutional households and some borderline differences regarding for example the recording of conscripts, unpaid apprentices and trainees or work in agriculture solely for own-consumption (see also Chapter 3.3.3).

In order to ensure the consistency of productivity indicators, the primary source of information for employment growth and branches of activity is NA data, while the EU LFS data are used for employment rates and for the gender and socio-economic breakdowns. [29])

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[27] See also ILO, Main statistics (annual) – Employment (http://laborsta.ilo.org/applv8/data/c2e.html).

[28] Hauptverband der österreichischen Sozialversicherungsträger (Main Association of Austrian Social Security Organisations), Statistische Daten aus der Sozialversicherung, Beschäftigte in Österreich, Jahresdurchschnitt 2012, Wien 2013.
In Austria the "Main Association of Austrian Social Security Organisations" has data on the complete Austrian workforce: male and female workers in different sectors, self-employed workers and farmers, age, accidents and diseases, cases of permanently disabled people, treatments in hospital. The collection of data is based on legal requirements and is strictly regulated. Employment data based on the main social insurance organisation are considering jobs and unemployed persons; a person having two jobs is counted twice. All person are taken into account who have an upright employment, including those with a free service contract, persons who are marginal employed are excluded. The employed persons are applied to the respective sector according to ÖNACE 2008.

[29] Eurostat, Labour market statistics, pocketbooks, 2011 edition, Luxembourg 2011
(http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-32-11-798/EN/KS-32-11-798-EN.PDF).

3. The measurement of labour in tourism

In general, the measurement of labour turns out to be quite complex due to conceptual and definitional circumstances (see Chapter 1 and 2 above). The measurement of labour in tourism is additionally a rather challenging issue due to the fact that tourism is a many-facetted industry comprising several economic sectors and due to the nature of work in the tourism industry.

3.1 Employment in tourism

Tourism is extremely **labour intensive** and a significant source of employment. It is among the world's top creators of jobs requiring varying degrees of skills and allows for quick entry into the workforce for youth, women and migrant workers. It accounts for 30 per cent of the world's export services.

The sector is characterized by **diversity**, **complexity**, **interlinkage** and **fragmentation** in terms of employment relations. Direct occupations are not the only jobs linked to the sector's activities (e.g. hotels and restaurants employees); there are also many jobs that have indirect relationships with the sector (e.g. taxi drivers, other means of transport, tourist guides, gift shops). These relationships influence the many types of workplace contracts that include full-time, part-time, temporary, casual and seasonal employment and have significant implications for "Human Resource Department" (HRD) within the sector. The sector often crosses the fluid boundaries between the informal economy and the formal economy, with a number of formal establishments offering black market jobs. Opportunities for street vending in high-traffic areas for tourists generate livelihoods predominantly for women and children in developing countries.

The predominance of on-call, casual, temporary, **seasonal** and **part-time** employment is related to insecurity, comparatively low pay (frequently below the national average), job instability, limited career opportunity, a high level of subcontracting and outsourcing, and a high turnover rate. All of these vary from country to country.

It is important to highlight that the sector and its **informal components** provide a significant number of jobs to workers with little or no formal training and who do not want to enter long-term employment commitments (e.g. students). In addition, the sector provides opportunities for migrants to find jobs as well as for workers who have family responsibilities. Tourism can provide opportunity for those facing significant social and capability disadvantages in a way that is not always offered by other environments.[30])

3.2 Measuring employment in tourism – some peculiarities

Seasonality, high variability in the working conditions, flexibility and the **lack of formality** of many work contracts in many small producing units are the major challenges for deriving meaningful figures on employment in the tourism industries. This explains why, although there is no doubt that employment is a crucial variable for the description of the economic contribution of tourism and for the use of the TSA as an advocacy instrument, present statistical limitations in most countries have been taken into account.

Additionally, and because **labour is a factor of production** and is generally associated with an establishment in which usually various outputs are produced, relating employment to a specific output or specific portions of different outputs of a given establishment is a complex issue. - In this respect it has to be considered that persons providing tourism-characteristic services of an establishment belonging to a non-tourism characteristic industry (e.g. establishment whose principal activity is "agriculture" according to KAU-concept) will not be included in "employment in the tourism industries"; on the other hand persons employed in an establishment belonging to a tourism characteristic industry who participate in the establishment's non-tourism-characteristic activities (e.g. in "information and communication") will be included in "employment in the tourism industries".

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[30] ILO, Developments and challenges in the hospitality and tourism sector, issues paper for discussion at the „Global Dialogue Forum for the Hotels, Catering, Tourism Sector", 23–24 November 2010 (http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_162202.pdf).

Some countries may seek to narrow down the gross sum of total employment in the tourism industries toward the number of jobs, volume of hours worked, etc., actually attributable to servicing tourism internal consumption by applying the industry **tourism ratios** to measure these employment variables for each industry and summing the results. When such a modeling procedure is applied, the country should make clear that the assumption implicit in such a procedure is that the production function of any fraction of output of an industry consumed by visitors is the same as that of the total output of this industry. [31]

The measurement of employment is limited to employment in the **tourism industries** and the variables used to express its volume are the number of jobs and hours worked (in a specific period of time), which are also indicators of the intensity of labour force utilization. - Because, tourism characteristic activities are generally labour intensive, governments are particularly keen in measuring the contribution of tourism in terms of generating jobs and providing people with access to income. [32]

The ILO definition of the tourism component of the sector includes specific segments of transport, travel agencies and tour operators. Hotels, catering and restaurants are all considered by most organizations to belong to the tourism-characteristic industries and are subsumed under tourism, therefore. TSA as a conceptual framework that links a comprehensive reconciliation of tourism data and macroeconomic analysis measures the contribution of tourism to the overall economy providing a complete picture of tourism's impact in generating employment. [33]

3.3 Measuring employment in tourism via TSA - the Austrian case

The high economic significance of tourism affects the labour market, making a considerable contribution to the **overall employment in Austria**. A further evaluation criterion for the importance of tourism is the assessment of tourism´s involvement in the employment situation of the country, therefore. - The first reference year for the Austrian "TSA Employment Tool" (TSA-ET) related calculations on employment based on TSA-Table 7 [34] was 2003, and the results are continuously updated by "Statistics Austria" (STAT) and the "Austrian Institute of Economic Research" (WIFO).

3.3.1 Methodology and data sources

The TSA-Table 7 represents a methodical approach for recording and evaluating employment in (or resulting from) the "**tourism industries**". The Austrian approach related to the measurement of employment in tourism represents a method to draw a more comprehensive picture of tourism´s impact on the labour market and its potential in job creation. - In contrast to most other available studies on tourism related employment, all TSA-defined tourism industries (tourism industries: e.g. "Accommodation for visitors", Food and beverage service activities", "Passenger transport", "Travel agency, tour operator, reservation service and related activities" and "Culture, entertainment and sport") [35] and the corresponding effects on demand (tourism ratio of the item of internal tourism consumption on the respective component of supply, based on TSA-Table 6) are taken into account in the assessment of the employment effects. Accordingly, only a corresponding share of jobs and FTEs is assigned to tourism in the TSA-Table 7. [36]

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[31] UN, TSA: Recommended Methodological Framework 2008, Series F No. 80/Rev.1, Luxembourg, Madrid, New York, Paris, 2010 (TSA-RMF 2008).

[32] Chapter 7 of the IRTS 2008 describes (para 7.1-7.35) concepts and definitions of employment in the tourism industries, its basic categories, major classifications as well as statistical measures and therefore can be consulted to better understand the interrelationships of the TSA data integration framework.

[33] ILO 2010.

[34] TSA-RMF 2008.

[35] ISIC Rev.4: 49, 50, 51, 52, 55, 56, 59, 60, 79, 90, 91, 92 and 93; due to the lack of available data "Renting and leasing of motor vehicles" (ISIC Rev.4, 771) is not considered so far.

[36] Laimer, P., Öhlböck, P., "A TSA-Employment Module for Austria, employment in tourism industries 2003", commissioned by the Austrian Federal Ministry of Economics and Labour, Vienna 2005.

The employment data from the NA forms the basis for the final results. It is used for extrapolating structural information (breakdown by gender, NACE 2-digit-level) from other sources, to ensure compatibility with the TSA. - The other **data sources** taken into consideration are:[37]

- ➢ Structural Business Statistics (SBS)
- ➢ Social Insurance Records
- ➢ Labour Force Surveys (LFS)
- ➢ Business Register

To overcome problems due to seasonal fluctuations annual averages are used.

The reference values for the **jobs** and **FTEs** for employees and self-employed derive from the NA. Since the data is only available on a 2-digit-level and not broken down by gender, additional data sources are taken into account: [38][39]

- ➢ SBS data on job-holders is used for information on gender and status of employment (employee, self-employed) on a 4-digit-level, as well as, for the number of establishments (except for "Culture, entertainment and sport" (=NACE 59, 60, 90, 91, 92 and 93)). The data is accordingly allocated to the FTEs. For the structural information of jobs the Social Insurance Records are taken into account.
- ➢ Since the SBS do not cover "Culture, entertainment and sport", structural information from the Social Insurance Records has to be taken into account here for the weighting of jobs and FTEs.
- ➢ The number of establishments for "Culture, entertainment and sport" is taken from the Business Register.
- ➢ For the gender distribution of the total economy, the LFS is used.

Employment in the tourism industries is derived by **applying the tourism ratios**[40] from the most recent TSA-results to the employment estimates for each industry. This method follows the assumption that the employment generated by tourism in each industry is in direct proportion to the value added by tourism.

The methodological basis of the Austrian TSA-ET is in line with the requirements of the TSA-Table 7 ("Employment in Tourism Industries") of the TSA-RMF 2008, and with the "System of National Accounts 2008" (SNA 2008) and the "European System of National and Regional Accounts 2010" (ESA 2010), therefore; furthermore, the "OECD Manual on Tourism Satellite Accounts and Employment" serves as an important methodological basis. This ensures a rather complete compatibility with the TSA and enables a comprehensive portrayal of the effects of tourism on employment within a consistent macro-economic framework.

According to classification **three divergences** from TSA-RMF 2008 might be mentioned:

- ➢ Due to the lack of available data "Renting and leasing of motor vehicles" (ISIC Rev.4, 7710) is not considered so far.
- ➢ "Passenger transport supporting industry" (part of ISIC Rev.3, 6303), as required by TSA-RMF 2001, is still considered.
- ➢ For "Retail trade of country-specific tourism characteristic goods" and "Other country-specific tourism industries" data are not available; however, the importance might be estimated rather low.

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[37] A more detailed description of the data sources used can be found in: ILO and UNWTO, Sources and Methods, Labour Statistics: Employment in the Tourism Industries (Special edition): Spain, Madrid 2008, pp. 25 - 31.

[38] Since there are comparability problems concerning jobs and full-time equivalents.The "hours of work" – as required by TSA-RMF 2008 - will be included in the near future; presently, the respective data within NA-statistics are not available as disaggregated as necessary, further investigations have to be done, therefore.

[39] The number of jobs is higher than the number of full-time equivalents, since one person may have one or more jobs. For the measurement of the jobs and FTEs employed and self-employed persons, who work in the tourism industries in any of their jobs, are taken into account. Jobs, however, differ in size; they can be full- or part-time. To obtain a better indication of the labour performed during a specific period, the number of jobs is converted to full-time equivalents by dividing the total hours actually worked by the average hours worked in a full-time job. The FTEs provide an indication of the potential number of full-time jobs in an industry or job group.

[40] The "tourism ratios" derive from the comparison of the tourism internal consumption and the "total revenue" (=domestic supply). The tourism ratio for the "Hotel and restaurant" industry is, for example, approximately 75%; i.e. in the "Hotel and restaurant" industry 75% of the demand can be allocated to tourists, while 25% can be allocated to residents within their usual environment.

The Austrian approach focuses only on **paid labour** (employees and self-employed) which is in line with both, the SNA and the TSA-concepts, defining employment as a production factor. It does not include any estimates of black or illegal labour or contributing family workers, nor seasonal adjustments. These important aspects of labour in the tourism industries may be dealt with in future studies.

Employment can be expressed as employed persons (labour force concept), jobs, full-time equivalents or hours of work. The Austrian TSA-ET figures currently include "jobs" and "full-time equivalents".

3.3.2 Tourism employment - results 2011

About **315 100 jobs or 254 500 FTEs** can be directly attributed to the tourism characteristic industries in 2011, contributing 7.3% and 7.2% to the overall employment in Austria.

Compared to other sectors the Austrian tourism industry features a higher-than-average share of **self-employment**. Altogether 7.9% of all self-employed FTEs can be assigned to the tourism characteristic industries, whereas the share for employed FTEs is 7.1%. 15.0% of all FTEs in the tourism characteristic industries are self-employed. The share of self-employed FTEs in the total Austrian economy is lower and amounts to 13.6% (see Table 1).

58.0% of all FTEs work in the "Hotel and restaurant" industry, with 34.9% working in "Restaurants and similar establishments" and 23.1% working in "Hotels and similar establishments". The remaining part of FTEs is attributed to "Passenger transport" (33.5%) and "Cultural, entertainment and sport" (8.5%; 5.5% can be attributed to "Culture", and only 3.1% to "Sport"; see Table 2).

Within the **tourism characteristic industries** the share of self-employed varies from industry to industry: The highest ratio of entrepreneurs is to be found in the section "Culture, entertainment and sport" (21.8%), followed by "Food and beverage serving industry" (19.5%) and "Accommodation for visitors" (17.3%). With 6.9% the share of self-employed to be found in the passenger transportation industry is - not surprisingly - rather low. In the field of "Railway passenger transport" for example almost no self-employed can be found, since this sector is dominated by the "Austrian Federal Railways" (see Table 3).

In "Accommodation for visitors" and in the industry "Culture, entertainment and sport" there is a rather balanced picture of male and female self-employed FTEs. In some fields the share of male self-employed dominates more significantly, e.g. in the "Air passenger transport", where the share of female self-employed was only 17.0% in 2011.

However, the average share of self-employed females in the tourism characteristic industries (45.0%) is still higher than in the total Austrian economy (37.9%). This high ratio of female entrepreneurs in the tourism industries can be traced back to the dominance in "Accommodation and food and beverage serving industry".

Table 1: Tourism industries compared to other industries (FTE) in 2011 [1]

NACE Rev.2	Full time equivalents (FTE)					
	Employees		Self-employed		Total	
	in 1 000	Share in %	in 1 000	Share in %	in 1 000	Share in %
A AGRICULTURE, FORESTRY AND FISHING	23,5	13,0	156,8	87,0	180,3	100,0
B MINING AND QUARRYING	5,3	97,0	0,2	3,0	5,4	100,0
C MANUFACTURING	545,1	96,6	19,4	3,4	564,5	100,0
D ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	25,1	94,9	1,4	5,1	26,5	100,0
E WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	20,0	97,6	0,5	2,4	20,5	100,0
F CONSTRUCTION	254,9	90,7	26,2	9,3	281,1	100,0
G WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	463,1	88,5	60,0	11,5	523,0	100,0
H TRANSPORTATION AND STORAGE	183,2	94,0	11,7	6,0	194,9	100,0
I ACCOMMODATION AND FOOD SERVICE ACTIVITIES	176,9	81,4	40,4	18,6	217,3	100,0
J INFORMATION AND COMMUNICATION	72,8	83,3	14,6	16,7	87,5	100,0
K FINANCIAL AND INSURANCE ACTIVITIES	105,8	93,3	7,5	6,7	113,3	100,0
L REAL ESTATE ACTIVITIES	37,6	79,5	9,7	20,5	47,3	100,0
M PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	128,7	70,0	55,3	30,0	184,0	100,0
N ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	157,9	92,9	12,0	7,1	169,9	100,0
O PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	228,2	100,0	-	-	228,2	100,0
P EDUCATION	208,8	96,6	7,3	3,4	216,1	100,0
Q HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	294,4	91,6	27,0	8,4	321,3	100,0
R ARTS, ENTERTAINMENT AND RECREATION	38,6	77,7	11,1	22,3	49,7	100,0
S OTHER SERVICE ACTIVITIES	76,5	79,0	20,3	21,0	96,9	100,0
T ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE	5,7	100,0	-	-	5,7	100,0
U ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES	-	-	-	-	-	-
A - U Total	**3.052,0**	**86,4**	**481,2**	**13,6**	**3.533,3**	**100,0**
TSA Tourism industries	**216,3**	**85,0**	**38,1**	**15,0**	**254,4**	**100,0**

S: STATISTICS AUSTRIA, National Accounts, Tourism Satellite Accounts; WIFO (Austrian Institiute of Economic Research). Compiled February 2013. - 1) Preliminary results.

Table 2: Number of jobs and full time equivalents (FTE) in tourism characteristic industries 2011 [1]

Tourism industries	Number of jobs		Full time equivalents (FTE)					
			Employees		Self-employed		Total	
	in 1 000	Share in %	in 1 000	Share in %	in 1 000	Share in %	in 1 000	Share in %
Accommodation and food and beverage serving industry								
Total	**190,5**	**60,5**	**120,1**	**55,5**	**27,5**	**72,2**	**147,6**	**58,0**
Accommodation for visitors	76,1	24,2	48,6	22,5	10,2	26,8	58,8	23,1
Food and beverage serving industry	114,4	36,3	71,5	33,1	17,3	45,4	88,8	34,9
Passenger transport								
Total	**95,8**	**30,4**	**79,2**	**36,6**	**5,9**	**15,5**	**85,2**	**33,5**
Railway passenger transport	8,1	2,6	7,1	3,3	-	-	7,1	2,8
Road passenger transport	45,6	14,5	38,1	17,6	4,0	10,5	42,2	16,6
Water passenger transport	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Air passenger transport	5,9	1,9	4,3	2,0	0,1	0,3	4,5	1,8
Passenger transport supporting industry	0,7	0,2	0,6	0,3	0,1	0,3	0,7	0,3
Travel agencies and other reservation services industry	35,5	11,3	29,1	13,5	1,7	4,5	30,7	12,1
Culture, entertainment, sport								
Total	**28,7**	**9,1**	**17,0**	**7,9**	**4,7**	**12,3**	**21,7**	**8,5**
Cultural industry	18,3	5,8	10,8	5,0	3,0	7,9	13,9	5,5
Sports and recreational industry	10,4	3,3	6,2	2,9	1,7	4,5	7,9	3,1
Total								
	315,1	100,0	216,3	100,0	38,1	100,0	254,5	100,0

S: STATISTICS AUSTRIA, Tourism Satellite Accounts for Austria; WIFO (Austrian Institiute of Economic Research). Compiled February 2013. - 1) Preliminary results.

Table 3: Status of employment (FTE) in tourism characteristic industries 2011 [1)]

Tourism industries	Full time equivalents (FTE) in %						Total
	Employees			Self-employed			
	Male	Female	Total	Male	Female	Total	Share in %
Accommodation and food and beverage serving industry							
Total	*31,6*	*49,8*	*81,4*	*9,5*	*9,1*	*18,6*	*100,0*
Accommodation for visitors	29,5	53,2	82,7	9,5	7,8	17,3	100,0
Food and beverage serving industry	33,0	47,6	80,5	9,5	10,0	19,5	100,0
Passenger transport							
Total	*67,5*	*25,6*	*93,1*	*5,2*	*1,7*	*6,9*	*100,0*
Railway passenger transport	90,7	9,3	100,0	0,0	-	0,0	100,0
Road passenger transport	76,2	14,2	90,4	7,2	2,4	9,6	100,0
Water passenger transport	66,2	23,2	89,3	8,3	2,4	10,7	100,0
Air passenger transport	51,7	45,1	96,9	2,6	0,5	3,1	100,0
Passenger transport supporting industry	85,4	13,1	98,6	1,2	0,2	1,4	100,0
Travel agencies and other reservation service	52,0	42,6	94,6	4,0	1,4	5,4	100,0
Culture, entertainment, sport							
Total	*41,7*	*36,5*	*78,2*	*11,6*	*10,2*	*21,8*	*100,0*
Cultural industry	39,3	38,9	78,2	11,0	10,9	21,8	100,0
Sports and recreational industry	46,0	32,2	78,2	12,8	9,0	21,8	100,0
Total							
	44,5	40,6	85,0	8,2	6,7	15,0	100,0

S: STATISTICS AUSTRIA, Tourism Satellite Accounts for Austria; WIFO (Austrian Institiute of Economic Research). Compiled February 2013. – 1) Preliminary results.

As an **extension to the basic TSA-ET** indirect tourism and leisure employment effects are estimated by the WIFO:

➢ The indirect effects are calculated with the help of the Input Output Analysis. For 2011 the direct and indirect employment effects accounted for 333 400 FTEs; according to this result the contribution of tourism to the overall employment amounted to 9.4%.

➢ Another extension takes into account the effects due to leisure activities of residents within their usual environment. Considering the leisure activities of residents within their usual environment, in 2011 the employment effects accounted for 291 500 FTEs. The contribution of leisure activities to the overall employment amounted to 8.3%.

In a total view of leisure consumption in **usual environment** and tourism consumption in non-usual environment (leisure and tourism industry), the notable economic impact of the tourism and leisure sector as a job generator becomes evident: Every sixth full-time equivalent is directly or indirectly generated by the tourism and leisure industry.

3.3.3 Results related to tourism labour based on different data sources

As mentioned above there are several data sources available in order to measure labour. In the case of Austria the following data sources might serve as a basis for **providing data on tourism employment**:

➢ Household sample surveys, which provides data on the economically active and inactive persons;

➢ Population census, which provides complete information on the population´s size and characteristics;

➢ Surveys on establishments, which provide economic variables of establishments;

➢ Administrative sources which are focusing on administrative processes.

As presented in <u>Table 4</u> below the results related to **employment in tourism industry** are different due to data sources used:

➢ Analyzing the "accommodation, food and beverage sector" according to TSA the number of FTE amounted to 147 600, according to **NA** it is 217 300; the difference between TSA and NA figures is due to the fact that tourism ratios (based on TSA) are applied to NA-results.

➢ Considering **SBS** the employed persons in that sector accounted for 270 000; this figure includes any person employed in this sector, not considering tourism demand.

➢ According to **LFS** 251 100 persons were employed in the "accommodation, food and beverage sector". On the one hand LFS does not differentiate between full- and half-time employees, the figure is a higher than NA-results, therefore. On the other hand the difference between the figures might be explained due different geographical coverage (national versus domestic concept), coverage differences in general (persons covered in collective households) and recording thresholds (age).

➢ Considering **administrative data** the number of jobs in the respective sector amounted to 184 500; marginally employed are not considered and the allocation to one or another sector according to NACE is due to the business but not according to the person´s work.

Table 4: Data sources and results for tourism labour in Austria 2011- an overview (in 1.000)

Tourism Industries	TSA		NA		SBS	LFS	Administrative data (social security)
	jobs	FTE	jobs	FTE	Employed (yearly average)	employed	jobs
Accommodation for visitors	76.1	58.8	280.5		106.1	84.7	.
Accommodation services for visitors other than 1.b	76.1	58.8	.		106.1	84.7	.
Accommodation services associated with all types of vacation home ownership	.		.		.	.	.
Food and beverage serving industry	114.4	88.8	.		163.9	166.4	.
Subtotal: Accommodation, food and beverage	**190.5**	**147.6**	**280.5**	**217.3**	**270.0**	**251.1**	**184.5** [4]
Passenger transport, of which							182.8
Railway	8.1	7.1	13.5	11.9	12.1 [1]	} 98.6	.
Road	45.6	42.2	114.1	105.5	109.4		.
Water	0.0	0.0	0.6	0.5	0.4	0.8	.
Air	5.9	4.5	7.9	5.9	7.7	10.6	.
Transport equipment rental	.	.	.	.	3.3 [2]		.
Travel agencies and other reservation services industry	35.5	30.7	35.5	30.7	33.5 [3]	16.4	.
Cultural industry	18.3	13.9	50.8	38.4	.	35.7 [7]	.
Sports and recreational industry	10.4	7.9	28.9	21.9	.	35.8 [8]	.
Retail trade of country specific tourism characteristic goods [6]	.	.	.	.	.	.	.
Other country-specific tourism industries [6]	.	.	.	.	.	.	.
Total tourism industry	**314.4**	**253.8**	**559.3**	**457.7**	**.**	**449.0**	**.**
Total economy	**4 304.3**	**3 533.3**	**4 304.3**	**3 533.3**	**2 739.7** [5]	**4 143.9**	**3 465.5**

S: Statistics Austria. - 1) Incl. transport of goods. - 2) Rental of motor vehicles < 3.5 t, sport utilities and air transport. – 3) Travel agencies and other passenger transport services (NACE, Rev.2, H52.29). - 4) Without marginally employed; number of jobs (if one person has two jobs it is counted as two). - 5) NACE 2008, Rev.2, Sections B-N, S95. - 6) Under sections above. - 7) Artistic activities, libraries and museum. - 8) NACE 2008, Rev.2: Gambling, lottery and betting, R92 and Sport and entertainment, R93. "." ….no data available

3.4 Challenges related to tourism employment data

From employment data the tourism policy expects a comprehensive picture, how successful tourism has been developed and influenced the employment market. Results related tourism employment might serve as a basis for benchmarking with other regions, national developments and with other economic sectors.

Nevertheless, further investigations are necessary, which concerns mainly the following topics:

➢ **Coverage of tourism employment**: In general employment in tourism has been measured from the supply side point of view only, and in most cases only "Hotels and Restaurants" have been considered as "tourism industry". Receiving a more comprehensive picture of the interlinkages between tourism supply and demand, the demand side – apart from supply side information - has to be integrated, therefore. [41]

➢ **Importance of employment on subregional level:** In rather small country (e.g. Austria) tourism occurs on a very local level; due to this fact the measurement of the impact of tourism on employment on local level is highly demanded. This highly depends on the availability of data which is in particular on local level (e.g. municipality) rather low.

➢ **Measurement in FTE:** Jobs, however, differ in size, they can be full- or part-time. Therefore, to obtain an indication of the amount of labour performed during a specific period and being in line with the SNA requirements, the "number of jobs" has to be converted to FTE.

➢ **Extensions:** The calculations related to tourism employment could be extended by considering the indirect effects of the tourism industry, and by forecasts for the current year and the following year. It is recommended to be done in order to receive a more complete information in regard to the effects of tourism to the overall employment and receiving a more comprehensive picture of the value chain.

➢ **How many new jobs could be created with more tourism:** Policy wants to know the effects due to its policy measures which should be shown through additional jobs. - In Austria in 2011 about 315 100 jobs were directly available in the tourism industries; in the same year the total nights spent accounted for 126 million. Applying simply the number of jobs to the nights spent, one night would generate 0.0025 jobs, and following 400 nights 1 job. This estimate is rather simple, and several assumptions and restriction have to be considered, e.g. jobs don´t depend on overnight tourism, only, but also on same-day tourism. [42]

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[41] Laimer, P., Öhlböck, P., "A TSA-Employment Module for Austria, employment in tourism industries 2003", commissioned by the Austrian Federal Ministry of Economics and Labour, Vienna 2005.

[42] Ostertag, J., "The use of TSA results for tourism policy – the Austrian experience", 2nd Workshop in the frame of the Eurostat Project on Tourism Satellite Accounts, 18/19 June 2009, Riga, Latvia.

4. Conclusion and outlook

The **tourism industry** is one that is projected to grow significantly over the coming decades. Considering the current economic and financial crisis tourism is an excellent opportunity for keeping the unemployment rates rather stable and compensate higher rates in other sectors of the economy.

However, currently available employment statistics does not sufficiently show the whole phenomenon of tourism related to the overall employment. Employment data are mainly elaborated **supporting the policy decision makers** in regards to their political strategies, providing them data to understand the size and importance of the tourism as a whole, being the prerequisite for new tourism policy initiatives and funding programs.

However, measuring employment in tourism is showing **multidimensional challenges**; the following should be considered, therefore:
- Data users must be aware of differences related to concepts;
- NA should serve as the basis;
- Considering indirect employment effects might be useful;
- Unemployed persons are not considered;
- Careful investigation related the possible data sources is crucial.

Furthermore, the **following** might be taken into account:
- TSA is an appropriate basis for measuring tourism employment;
- Measuring employment in tourism remains an estimate;
- Full- and half-time employment in tourism require FTE-figures;
- TSA-related estimates provide a comprehensive data base for further investigations and analysis in that respect;
- Employment data are improving and strengthening the reliability of the Tourism Statistics.

Generally speaking, **information** related to tourism labour
- contributes to benchmark the success of tourism policies and supports tourism policy decision makers;
- provides a basis to evaluate the tourism development compared to other economic sectors;
- represents a solid basis for policy relevant issues and determines the contribution of tourism to overall employment;
- serves as a basis to justify and distribute subsidies in tourism.

The necessity of developing employment statistics in the field of tourism has been recognised since through these estimates the major economic importance of tourism for the economy and the overall employment become obvious and is increasing the awareness of the importance of the sector, in order to create more and better jobs. [43] [44]

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[43] See also Eurostat http://ec.europa.eu/enterprise/sectors/tourism/cooperation/tourism-satellite-account/index_en.htm.

[44] Dupeyras, A., "Using TSA data for business and policy analysis", keynote, session VI of the 5th UNWTO International Conference on Tourism Statistics, Bali/Indonesia, 30 March-2 April 2009.

Abbreviations

BMWFJ	Federal Ministry of Economy, Family and Youth (since 1 March 2014: Federal Ministry of Science, Research and Economy; BMWFW)
EUROSTAT	Statistical Office of the European Union
e.g.	for example (exempli gratia)
ESA 2010	European System of Regional and National Accounts 2010
FTE	Full-Time Equivalents
EU	European Union
GDP	Gross Domestic Product
HCT	Hotel, Catering and Tourism Sector
HRD	Human Resource Department
ICLS	International Conference of Labour Statisticians
i.e.	that means (id est)
ILO	International Labour Organization
ICSE	International Classification of Status in Employment
IRTS	International Recommendations on Tourism Statistics
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification of All Economic Activities
LFS	Labour Force Survey
NA	National Accounts
NACE Rev.2	Nomenclature Générale des Activités Économiques dans les Communautés Européennes Rev.2
NSI	National Statistical Institute
NUTS	Nomenclature des Unités Territoriales Statistiques
OECD	Organisation for Economic Co-operation and Development
PEEIs	Principal European Economic Indicators
RTSA	Regional Tourism Satellite Accounts
SBS	Structural Business Statistics
SME	Small and Medium Enterprises
SNA	System of National Accounts
STAT	Statistics Austria
SUT	Supply-Use-Table
TSA	Tourism Satellite Accounts
TSA-ET	TSA-Employment Tool (Austria)
TSA-RMF 2008	TSA: Recommended Methodological Framework 2008
TVA	Tourism Value Added
UN	United Nations
UNWTO	World Tourism Organisation
WIFO	Austrian Institute for Economic Research
WTTC	World Tourism & Travel Council

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