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UNWTO PUBLICATIONS

Measuring Employment in the Tourism Industries

Guide with Best Practices

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Guide with Best Practices

15 October 2014, UNWTO Statistics and Tourism Satellite Account

Measuring Employment in the Tourism Industries – Guide with Best Practices
ISBN printed version: 978-92-844-1614-1
ISBN electronic version: 978-92-844-1615-8

Published by the World Tourism Organization (UNWTO) and the International Labour Organization (ILO).
Printed by the World Tourism Organization (UNWTO), Madrid, Spain.
First printing: 2014

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World Tourism Organization (UNWTO)
Calle Capitán Haya, 42
28020 Madrid
Spain

Tel.: (+34) 915 678 100
Fax: (+34) 915 713 733
Website: www.unwto.org
E-mail: omt@unwto.org

International Labour Organization (ILO)
4 route des Morillons
1211 Geneva 22
Switzerland

Tel: (+41) 22 799 7301
Fax: (+41) 22 799 6938
Website: www.ilo.org
E-mail: pubvente@ilo.org

Citation: World Tourism Organization and International Labour Organization (2014), *Measuring Employment in the Tourism Industries – Guide with Best Practices,* UNWTO, Madrid.

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Acknowledgments

The report *Measuring Employment in the Tourism Industries – Guide with Best Practices* was written by Mr. Igor Chernyshev, former Senior Labour Statistician at the ILO Department of Statistics. Many people have assisted, directly and indirectly, in the work on this Guide, some by generously sharing their views, ideas and experiences, some through contributing their information, cases and materials.

In this regard, UNWTO and ILO would like to thank Mr. Antonio Massieu, former Chief of the UNWTO Department of Statistics and Tourism Satellite Account, who initiated with ILO the process of creating such a Guide back in 2008, following the adoption of the IRTS 2008. Particular thanks are due to Mr. Rafael Diez de Medina, Director of the ILO Department of Statistics, who supported the development of the work of measuring employment in the tourism industries and the preparation of the Guide.

UNWTO and ILO would also like to extend their appreciation to Mr. Oliver Herrmann, Programme Director of the UNWTO Statistics and Tourism Satellite Account, for his valuable comments on the outline and contents of the Guide, as well as Ms. Clara Van Der Pol, Programme Officer, UNWTO Statistics and Tourism Satellite Account, for her professional and efficient assistance in the process of updating the country practices and collecting other materials.

UNWTO and ILO thank the following internationally renowned experts in tourism statistics who contributed with national case studies: Ms. Andrea Bastos da Silva Guimarães (Brazilian Institute of Geography and Statistics), Ms. Sarah Crichton (Ministry of Business, Innovation and Employment, New Zealand), Ms. Jillian Delaney (Central Statistics Office of Ireland), Ms. Elena Fouce García-Parra (Turespaña – National Tourism Organisation of Spain), Mr. Chris Jackson (Statistics Canada), Ms. Demi Kotsovos (Statistics Canada), Dr. Peter Laimer (Statistics Austria), Dr. Steve MacFeely (Central Statistics Office of Ireland), Mr. Scott Meis (Canadian Tourism Human Resource Council), Mr. Ricardo Moraes (Brazilian Institute of Geography and Statistics), Ms. Patrícia A. Morita Sakowski (Institute of Applied Economic Research of Brazil), Mr. Ueli Schiess (Federal Statistical Office of Switzerland), Mr. Eddie Smith (Office for National Statistics of the United Kingdom) and Dr. Sean White (Office for National Statistics of the United Kingdom).

Special appreciation and acknowledgement go to Professor Tom Baum, Head of Department at the University of Srathclyde, Glasgow, and to Dr. Mihail N. Diakomihalis, Assistant Professor of the Accounting Department at the Technological Educational Institution of Epirus, Greece, for their comprehensive and inspiring background materials consulted in the preparation of this publication.

Finally, special thanks go to Dr. Peter Laimer and Dr. Steve MacFeely for their peer review of the Guide and for their most insightful comments, improvements and time.

Foreword

Statistical data are indispensable tools for sound evidence-based decision-making, planning, implementation and monitoring of any policies and programmes. Consequently, the level of detail and the reliability of data, as well as of its interpretation and use, have a direct impact on the effectiveness of such policies and programmes. Among these are tourism statistics and tourism employment-related data which are fundamental to understand tourism labour markets, and device adequate job creation policies, promote employment opportunities, plan workforce needs and the development of human resources through education and relevant training.

Tourism is a people's sector in all its aspects and dimensions. However, data on tourism-related employment is still fragmented, lacks quality and international comparability. This is the case not only at the international level, but also at the national level where different methods and sources often result in different figures and results. Enhancing the quality and comparability of tourism employment statistics would significantly improve the monitoring of tourism labour markets and the promotion of productive activities, as well the effective use of qualified labour, the principal factor in ensuring sustainable tourism development and its contribution to economic growth and employment.

In order to strengthen and harmonise data collection tools and the measurement framework of employment in the tourism industries, the International Labour Organization (ILO) and the World Tourism Organization (UNWTO) have been collaborating in measuring employment and decent work[1] in tourism. The two organizations launched a set of joint statistics initiatives geared towards enhancing the national capacity in measuring employment in the tourism industries and improving the international comparability of employment-related tourism statistics. The Inter-agency Agreement on Cooperation was approved by the Governing Body of the ILO in March 2008 and ratified by the General Assembly of the UNWTO in 2009.

The ultimate objectives of the Agreement are:

- The improvement of the reliability and comparability of data on employment in the tourism industries;
- The setting up and testing a core set of decent work statistical indicators for measuring progress towards decent work in tourism;
- The preparation of a joint comprehensive guide with best practices of measuring employment in the tourism industries; and
- The promotion of international standards on labour and tourism statistics.

1 *Decent work* sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men. More detailed information is provided at: www.ilo.org/global/topics/decent-work/lang--en/index.htm.

In line with the above objectives, the following outputs have been produced:

- Joint ILO/UNWTO publication on *Sources and Methods in Labour Statistics – Employment in the Tourism industries (Special Edition);*
- New chapter on *Employment in the tourism industries* in the revised *International Recommendations for Tourism Statistics 2008* (IRTS 2008, chapter 7); and
- Comprehensive technical guide for chapter 7 of the *Compilation Guide for Tourism Statistics.*

This joint publication on *Measuring Employment in the Tourism Industries – Guide with Best Practices* is one of the technical outputs produced under the joint ILO/UNWTO Agreement and completes a series of international references and methodological tools on tourism employment statistics.

In addition to its technical value as an authoritative manual and reference book on the topical issues of tourism-related employment statistics and measures, the Guide complements the *International Recommendations for Tourism Statistics 2008* and its *Compilation Guide* as well as the *Tourism Satellite Account Recommended Methodological Framework 2008* as it improves their understanding and extents their application in the national systems of tourism statistics.

We trust that ultimately this Guide will enhance the production of reliable, consistent, comprehensive and internationally comparable statistics on employment in the tourism industries in a growing number of countries and thus improve the capacity of all stakeholders to plan and implement effective tourism employment and education policies and programmes.

Oliver Herrmann
Programme Director,
Statistics and Tourism Satellite Account
World Tourism Organization (UNWTO)

Rafael Diez de Medina
Chief Statistician, Director,
Department of Statistics
International Labour Organization (ILO)

Introduction

Tourism is a rapidly growing phenomenon and tourism activities, taken as a whole, are accounting for a growing share of economic activity in most countries. This upward trend looks likely to continue into the future. With globalization, the world economy is becoming increasingly integrated; trade, investment, financial and information flows are all fuelling this process of integration.

Thus, according to the latest *UNWTO World Tourism Barometer* (volume 12, April 2014), international tourist arrivals grew by 5% in 2013, reaching a record 1,087 million arrivals. Despite global economic challenges, international tourism results were well above expectations, with an additional 52 million inbound tourists travelling the world in 2013. For 2014, UNWTO forecasts 4% to 4.5% growth – again, above the long-term projections.

UNWTO forecasts international arrivals to increase by 4% to 4.5% in 2014, against its long-term forecast of annual growth by 3.8% between 2010 and 2020. The UNWTO Confidence Index, based on the feedback from over 300 experts worldwide, confirms this outlook with prospects for 2014 higher than in previous years.[1]

International tourism continues to exceed expectations, supporting economic growth in both advanced and emerging economies and bringing much needed support to job creation, GDP and the balance of payments of many destinations. Notably, one job in tourism generates 1.5 jobs elsewhere.

Tourism involves a wide range of different activities, types of establishments, employment contracts and working arrangements. It provides working people with income and working experience and therefore contributes to their social inclusion and personal development. The tourism employment pattern is characterized by notable differences between regions of a country and between seasons of the year.

Employment is of major importance in the economic analysis of productive activities and this is true also of tourism. The focus on employment in the tourism industries is further justified by the fact that tourism industries have matured into a major consumer market experiencing increasing global and national competition, market turbulence and changes in consumer demand. These changes are deserving of attention, not only to understand the quality of the tourism products and

1 World Tourism Organization (2014b), *International tourism exceeds expectations with arrivals up by 52 million in 2013,* UNWTO Press Release No. PR140o4, Madrid (online), available at: http://media.unwto.org/press-release/2014-01-20/international-tourism-exceeds-expectations-arrivals-52-million-2013 (14-05-2014).

services, but also to understand the quality in human resources – one of the major assets of the tourism industries.[2]

However, the facts and findings presented in this Guide only confirm that the world of work in tourism, in general, and the economic value of tourism in terms of employment, as source of productive labour in particular, remain inadequately measured and insufficiently studied. Employment in the tourism industries needs to be measured and described in a more consistent way supported by proper statistical instruments developed, based on international tools and enhanced through international cooperation.

To meet the above challenges, International Labour Organization (ILO) and the World Tourism Organization (UNWTO) launched a set of joint statistical initiatives which are geared towards enhancing the national capacity in measuring employment in the tourism industries and improving international comparability of employment-related tourism statistics. These joint efforts culminated in the approval by the ILO Governing Body at its 301st Session (March 2008) of the Agreement[3] on cooperation between the ILO and the UNWTO with further ratification by the General Assembly of the UNWTO.

Closer collaboration and liaison between the two organisations is expected to improve the present situation, where currently the lack of reliable statistics on quantitative and qualitative aspects of employment in the tourism industries causes a major problem in providing the National Tourism Administrations, the Ministries of Labour and the Ministries of Finance with relevant statistical indicators to monitor and analyse developments in the tourism-related labour market, as well as measure various dimensions and deficits of decent work in the tourism sector.

The Guide is considered to be one of the technical outputs produced under the joint ILO/UNWTO Agreement which completes a series of international references and methodological tools produced within the framework of the joint ILO/UNWTO Agreement.

The Guide consists of an introduction, five chapters and two annexes.

Chapter 1 gives an overview of tourism statistics on work and employment as a key variable of tourism statistics. Also, a particular nature of Tourism characteristic activities (TCA)[4] or industries is discussed and the need to measure employment in the tourism industries is explained.

Chapter 2 looks at different aspects of measuring employment in tourism. It begins with a brief genesis of tourism economy and a view on major challenges that tourism statisticians must consider when measuring employment in the tourism industries. Finally, the two useful conceptual measures of tourism employment and employment in the tourism industries are described and detailed.

2 World Tourism Organization and United Nations (2014), *International Recommendations for Tourism Statistics 2008 – Compilation Guide,* chapter 7, UNWTO, Madrid, UN, New York.

3 International Labour Office (2008), *Agreement between the International Labour Organization and the World Tourism Organization,* Committee on Legal Issues and International Labour Standards, 301st Session of the Governing Body, Fourth Item on the Agenda: Other legal issues, GB.301/LILS/4, ILO, Geneva.

4 TCA can be identified as those productive activities which principal output is characteristic of tourism.

Chapter 3 shows three major international tourism industries measurement frameworks, as well as main groups of employment data sources. It also contains results of the findings from the joint ILO/UNWTO publication *Sources and Methods in Labour Statistics – Employment in the Tourism Industries (Special Edition)* and advocates the promotion of sustained statistical capacity as a premise of production of reliable, timely and consistent statistics.

Chapter 4 discusses cross-country comparability of employment statistics. It highlights the benefits of having internationally comparable employment statistics and examines some of the reasons for data discrepancies, and opportunities and pitfalls in international comparisons. An insight is provided to different levels of comparability achieved through data comparison, adjustment, reconciliation and integration procedures. Also, three data integration frameworks are recommended for comprehensive measurement of employment in the tourism industries.

Chapter 5 provides some examples of best practices of measuring employment in the tourism industries from countries that have demonstrated capacity to develop a comprehensive set of employment indicators in addition to the estimates compiled for the TSA table 7 that add value and provide a clear link between the numerous industry groupings to each other, and the resultant contribution of tourism to the economies of the respective countries. While a number of similarities can be perceived, each country's practice demonstrates an individual approach to facing challenges and finding solutions in measuring multiple aspects of the tourism labour market. Notably, a number of country practices described in chapter 5 illustrate numerous examples of presentation of key variables of employment in the tourism industries, as well as analysis of tourism labour market situations and trends based on rich and comprehensive employment statistics.

The various chapters and sections of the guide contain numerous cross-references to the two main sets of international standards on tourism statistics – *International Recommendations for Tourism Statistics 2008* (IRTS 2008)[5] and *Tourism Satellite Account: Recommended Methodological Framework 2008* (TSA:RMF 2008)[6]. Also, the Guide largely draws on the *Compilation guide for tourism statistics* and its chapter 7: *Measuring employment in the tourism industries,* in particular.[7]

Annex 1 includes a synoptic table on statistics of employment, wages and hours of work in the tourism industries constructed on the basis of findings from the joint ILO/UNWTO publication *Sources and Methods in Labour Statistics – Employment in the Tourism industries (Special Edition).*

Annex 2 contains a List of tourism characteristic activities (tourism industries) and grouping by main categories according to ISIC (Rev. 4) and explanatory notes.

The reader will not find a chapter in this Guide entitled "Conclusions". This is deliberate as time has not yet come to draw definitive conclusions and leaves this to future readers. It is hoped that this publication will encourage countries to expand their national statistical programmes so as to make separate collection of data on employment in the tourism industries an integral part of their

5 United Nations (2010), *International Recommendations for Tourism Statistics 2008* (online), available at: http://unstats.un.org/unsd/tradeserv/tourism/manual.html (13-05-2014).

6 Commission of the European Communities, Organization for Economic Cooperation and Development, United Nations and World Tourism Organization (2010), *Tourism Satellite Account: Recommended Methodological Framework 2008* (online), available at: http://unstats.un.org/unsd/tradeserv/tourism/manual.html (13-05-2014).

7 World Tourism Organization and United Nations (2014), chapter 7.

regular statistical systems. The other group of countries, already producing minimum statistics on tourism characteristic activities, driven by best practices documented in this Guide may find it useful and stimulating to follow one of the approaches proposed to widen the coverage of data collected and extend the list of variables produced.

All these efforts should make it possible to upgrade and harmonise information available on employment and conditions of work in the tourism sector, both nationally and globally, providing governments, policy makers and specialists in tourism development with relevant statistical indicators to measure various dimensions of the tourism labour market.

Chapter 1

Employment in tourism

1.1 The world of work in tourism

As stated in the *International Recommendations for Tourism Statistics 2008* (IRTS 2008), tourism is a phenomenon for which statistical representation has particular challenges because of its special nature.[1]

In general terms, tourism is about travel, visitors and travellers. Travel refers to the activity of travellers; a traveller is someone who moves between different geographical locations for any purpose and any duration; a visitor is a traveller taking a trip to a main destination outside his/her usual environment, for less than a year for any main purpose other than to be employed by a resident entity in the country or place visited (e.g. for holiday, leisure and recreation, business, health, education or other purpose).[2]

Furthermore, tourism is a social, cultural and economic phenomenon related to the movement of people between places outside their usual place of residence.

Tourism has an impact on the economy, the natural and built environment, the local population at the places visited and the visitors themselves.

Being a socio-economic phenomenon, tourism acts both as an engine of economic development and a social force, impacting a wide range of industries. Thus, as a demand-side phenomenon, tourism refers to the activities of visitors and their role in the acquisition of goods and services. At the same time, tourism can also be viewed from the supply side and it will then be understood as the set of productive activities that cater mainly for visitors.[3] As such, tourism is an important source of job creation and countries are interested in its development for this reason.

Statistics can shed light on the contribution of tourism businesses to job creation and assess the impact of public policy and private investments on the job creation potential of tourism-characteristic activities or tourism industries. Such groupings of industries are usually referred to as “sectors” even though they do not constitute institutional sectors as used in the System of National Accounts.

In the process of catering for varied demand of a wide range of visitors, tourism creates opportunities for entrepreneurs and many small and micro enterprises, be they in the formal or

1 IRTS 2008, p 1.

2 IRTS 2008, chapter 2.

3 TSA:RMF 2008, p. 1.

the informal sector. Large tourism enterprises are concentrated in accommodation and transport activities. Although few in number, they generate a substantial share of total jobs. Vast majority of posts are recruited from the local labour markets.

The tourism labour market has a dynamic nature, i.e. high labour turnover between organisations, wide range of remuneration levels and schemes, seasonality, etc. In developing countries, there is typically high competition for tourism jobs by a large, often very young and undereducated, population.

Being a labour intensive sector, tourism offers opportunities for employment for persons entering the labour market for the first time or having difficulties in finding employment elsewhere. Thus tourism plays a role in providing opportunities for low-skilled workers and workers with little qualification in general, ethnic minority groups and migrants, unemployed youth, long-term unemployed, as well as women with family responsibilities who can take only part-time jobs. Also, these types of job opportunities are an important supplemental income component for retired people and others who are experiencing work transitions.

Tourism businesses tend to provide incentives for entrepreneurial behaviour of individuals. Thus, applied sociological research suggests[4] that many people enter tourism jobs from other industries and that tourism skill sets tend to have background impact on favouring positions, while still making it possible for motivated individuals to work up through the ranks and attaining higher managerial and professional positions. Patterns of mobility, orientation to work and self-evaluation are the hallmarks of successful tourism workers. In particular, accelerated opportunities for advancement and incentives for entrepreneurialism lead to general satisfaction of those who successfully remain employed by tourism businesses.

Tourism businesses are often individually or family owned[5] and tend to allow for more contact between locals and guests. Small and medium scale business typically require less capital to construct facilities, providing people who typically cannot afford to start their own business with an opportunity to do so. Often, women use their existing skills to open small-scale businesses such as guesthouses and restaurants.[6]

Consequently, tourism industries provide entry points for women's employment and opportunities for creating self-employment in small- and medium-size income generating activities, thus creating paths towards the elimination of poverty of women and local communities in developing countries.

Accommodation is a vital and integral part of the tourism market and, as travel, it represents one of the pillars of tourism. The accommodation industry employs a high proportion of young workers, and a significantly higher level of part-time, seasonal and casual labour than other tourism industries, placing accommodation employers at heightened risk of repeated high labour

4 Strietska-Ilina, O. and Tessaring, M. (eds.) (2005), 'Trends and skill needs in tourism', *Cedefop Panorama Series,* p. 115, Office for Official Publications of the European Communities, Luxembourg. This publication is based on the proceedings of the international workshop Trends and skill needs in the tourism sector held in Halle, Germany, 29–30 April 2004.

5 MacFeely, S. and O'Brien, C. (2009), 'Family businesses in the Irish services sector: Profile and productivity', *Journal of the Statistical and Social Inquiry Society of Ireland,* volume XXXVIII, pp. 1–41 (online), available at: www.ssisi.ie/journals.php and http://hdl.handle.net/2262/36127 (14-05-2014).

6 Mc Kenzie, K. (2007), 'Belizean Women and Tourism Work – Opportunity or Impediment?', *Annals of Tourism Research,* volume 34 (2), pp. 477–496.

turnover necessitating increased costs due to on-going recruitment and important additional training efforts.

In spite of the variety of jobs generated in the tourism sector, there is a general perception that the tourism industries offer mostly low-skilled jobs. This is largely due to the high proportion of hospitality workers (hotels, restaurants and similar) in service occupations; and the major source of service occupations is food and beverage operations. The low annual average wages paid in hotels, restaurants and similar establishments are due to industry-specific characteristics such as paying only minimum wages because of tips and hiring a substantial amount of part-time workers.

These characteristics do not relate to differences in the type of food and beverage services provided to tourists versus residents. Indeed, the low annual average wages for hotels, restaurants and similar establishments are characteristic of the food services industry in general and not unique to the tourism industry.

Irrespective of individual or general perceptions about the role that tourism plays in supporting developments in the national labour markets. It has real potential as a source of economic growth and job creation.

In the accommodation industry, globally there is an average of one employee for each hotel room. One job in the core tourism industry creates about one and a half additional (indirect) jobs in the tourism-related economy. Further, there are three workers indirectly dependent on each person working in hotels, such as travel agency staff, guides, taxi and bus drivers, food and beverage suppliers, laundry workers, textile workers, gardeners, shop staff for souvenirs and others, as well as airport employees.[7]

1.2 Employment as a key statistical variable

1.2.1 Tourism sector

Tourism sector, as contemplated in the *Tourism Satellite Account,*[8] is the cluster of production units in different industries that provide consumption goods and services demanded by visitors. Such industries are called *tourism industries*[9] because visitor acquisition represents such a significant share of their supply that in the absence of visitors, the production of these would cease to exist in meaningful quantity.

7 Bolwell, D. and Weinz, W. (2008), 'Reducing poverty through tourism', *International Labour Office, Sectoral Activities Programme,* Working Paper No. 266, Geneva, p. 6.

8 See chapter 3 of this Guide.

9 World Tourism Organization (2014a), *Glossary of tourism terms* (online), available at: https://s3-eu-west-1.amazonaws.com/staticunwto/Statistics/Glossary+of+terms.pdf (14-05-2014).

1.2.2 Tourism industries

Because tourism is not an industry in the traditional sense of the word and is not defined as an own sector within National Accounts (NA), measuring tourism characteristic employment is particularly complex. The IRTS 2008 provide the following definition of tourism industries:[10]

- *Tourism industries,* also referred to as *tourism activities,* are the activities that typically produce tourism characteristic products; and
- *Tourism characteristic products* are those that satisfy one or both of the following criteria:
  - *Tourism expenditure* on the product (either good or service) should represent a significant share of tourism expenditures (share-of-expenditure/demand condition); and
  - *Tourism expenditure* on the product should represent a significant share of the supply of the product in the economy (share-of-supply condition). This criterion implies that supply of a *tourism characteristic product* would cease to exist in meaningful quantity in the absence of visitors.

Tourism industries are not readily identifiable. Therefore, with the adoption of the revised international classifications of activities and products (International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4)[11] and the Central Product Classification (CPC Ver. 2)[12], countries are encouraged to identify tourism characteristic activities and products, and collect data classified in terms of ISIC classes and CPC subclasses.

Table 1.1 below presents the typology of tourism characteristic consumption products and tourism characteristic activities (tourism industries)[13] grouped in the 12 categories.[14] Categories 1 to 10 comprise the core for international comparisons and are described in annex 3 of the IRTS 2008. The two other categories are country specific.[15]

10 World Tourism Organization (2014a).

11 United Nations (2008a), *International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 4* (online), available at: http://unstats.un.org/unsd/cr/registry/isic-4.asp (13-05-2014).

12 United Nations (2008b), *Central Product Classification (CPC),* Ver. 2 (online), available at: http://unstats.un.org/unsd/cr/registry/cpc-2.asp (13-05-2014).

13 See annex 2 of this Guide.

14 See figure 5.1 in IRTS 2008, p. 42.

15 For more detailed information on tourism industries see World Tourism Organization and United Nations (2014), chapter 7, as well as its annex 2 and annex 3.

See also TSA:RMF 2008, table 7.

Table 1.1 **List of categories of tourism characteristic consumption products and tourism characteristic activities (tourism industries)**

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

Source: IRTS 2008, figure 5.1, p. 42.

It should be noted that the total output of a "Tourism characteristic industry" (TCI) usually exceeds consumption by visitors, as some of the outputs of most TCI's is purchased by non-visitors. Even for a commodity such as *meals in restaurants,* visitors' purchases will usually account for a portion of the total number of meals produced. Concurrently, the total employment of a tourism characteristic industry does not necessarily equate to the employment generated by tourism demand. In the above example, output of food services will involve substantial sales to non-visitors. It would be inappropriate to allocate all employment in food services – therefore, it is necessary to use an allocator to approximate more closely the levels of employment generated by tourism sector. This is dealt by the use of the *tourism ratio* or the *tourism value added industry ratio.* This method of using the tourism value added industry ratios involves an assumption that the employment generated by tourism in each industry is in direct proportion to value added generated by tourism in the benchmark year.

1.2.3 Employment in the tourism sector

Stemming from the earlier statements, by its nature, tourism is about people – visitors are people, subject to changes in their behaviour, demands and decision-making. Such changes are difficult to predict and anticipate. Tourism products and services are also about people. The tourism industries are heavily dependent on the human factor (in addition to other factors such as natural resources, infrastructure and capital) to ensure delivery and quality of its products and services.

Furthermore, many tourism products include people as an integral part of the expertise offered, whether as performers or as members of the cultural environment. People are clearly central to the effective operation and further development of the tourism industries as a whole.[16]

Therefore, labour should not be treated simply as variable costs, but as human capital. A high-quality skilled workforce will ensure greater competitiveness and innovation, improve job prospects and ease the process of adjustment in changing markets. Given that, employment and human resource issues should be key topics for research and analytical studies in the tourism industries.[17]

According to the IRTS 2008, "employment in the tourism industries refers to all the jobs (or persons engaged) in both tourism-characteristic activities and non-tourism-characteristic activities in all establishments in tourism industries".[18]

The need for a range of enhanced employment data on the tourism sector is seen as an important step in gaining a better understanding of the employment structure of the tourism industries and for policy making by governments on issues affecting the sector.

The focus on employment in the tourism industries is also reinforced by the fact that the tourism sector has matured into a consumer market through increasing global and national competition, market turbulence and changes in consumer demand. This requires paying greater attention, not only to quality in products and services, but also to quality in human resources – one of the major assets of the tourism sector.

However, in spite of the fact that tourism's job-creating potential has long been recognised, employment in the tourism industries has up to now been one of the least studied aspects of tourism. Only a few countries have fully developed an advanced set of statistical procedures and derivative applications for measuring and analyzing a multitude of employment aspects in the tourism industries much needed to develop, implement and monitor efficient tourism labour market policies and actions (see chapter 5 of this Guide).

The lack of valid data can be explained by the diverse nature of tourism and by difficulties encountered in collecting reliable data for these industries (see section 1.2.2 above). Statistics on employment in tourism industries should play an important role in monitoring developments and undertaking different types of analysis of the tourism labour market, provide tourism policy makers with valid information for tourism labour force planning and projections; it should also serve individual businesses or regions for benchmarking purposes.

16 Baum, T. (1995), *Human Resource Management in the European Tourism and Hospitality Industry,* Chapman & Hall, London.

17 Organisation for Economic Cooperation and Development (2000), 'Part II. OECD Manual on Tourism Satellite Accounts: Employment Module', *Measuring the Role of Tourism in OECD Economies: The OECD Manual on Tourism Satellite Accounts and Employment,* pp. 125–203 (online), available at: www.oecd.org/industry/tourism/2401928.pdf (12-05-2014).

18 IRTS 2008, p. 61.

For more detailed information also see: World Tourism Organization and United Nations (2014), chapter 7, section B.3.

Stemming from the above, it is possible to draw a conclusion that the production of comprehensive employment statistics in the tourism sector has the following three broad objectives:

1. Statistics can be used to describe and analyse the current employment situation in the tourism characteristic industries in terms of a number of employed persons or as a number of jobs; socio-demographic characteristics of the labour force, conditions of work, mobility, productivity, labour cost, labour intensity, labour utilisation, job requirements, vacancies and recruitment strategies, as well as education and training provisions;
2. Statistics are needed to analyse or predict the impact of (changes in) tourism flows and expenditures on employment levels and structures in different tourism characteristic industries. This entails linking the supply side to the demand side of tourism. Such a linkage can be provided through a Tourism Satellite Account (TSA);[19] and
3. Data on employment can yield important information for policy makers to carry out analysis at different levels of detail, check consistency with financial data, shed new light on the role of tourism in creating, preserving and diversifying employment, as well as on the number, structure and remuneration levels of jobs in the tourism industry.

Examples include: improving productivity and competitiveness through education and training; improving the efficiency of labour markets by reducing skill and occupational mismatches between supply and demand for labour; reducing the costs of high labour turnover; minimising unemployment, stimulating flexible labour practices; evaluating labour costs; and improving job prospects by evaluating labour structures and labour conditions. Data should also provide insights into the economic importance of the tourism industry and its potential to create new employment.[20]

Last but not least, tourism is commonly used as a tool to stimulate marginal economics[21] and to promote development through the jobs and incomes that it can foster. Although not always explicitly stated, it is often hoped that it will reduce hardships through the promotion of upward labour mobility.

19 For comprehensive information on the TSA see: Commission of the European Communities, Organization for Economic Cooperation and Development, United Nations and World Tourism Organization (2010).

20 Organisation for Economic Cooperation and Development (2000).

21 *Marginal economics* is defined as activities having to do with enterprises that produce goods or are capable of producing goods at a rate that barely covers production costs and/or relating to commodities thus manufactured and sold.

Chapter 2

Measuring employment in the tourism industries

Looking at the growing impact of tourism and the positive side effects it can have for a country, it indeed seems unreasonable that some countries, while compiling most of the TSA tables, do not recognize the need for comprehensive statistics on employment in the tourism industries. It should also be recognized that in their majority, countries producing TSA table 7 *Employment in the Tourism Industries* do not consider it necessary to go beyond the TSA. The truth is that even though TSA table 7 is a very useful tool, governments, policy makers and specialists in tourism development need reliable statistical indicators on employment, occupations, income, compensation, hours of work of person employed and their conditions of work in the tourism sector in order to measure various dimensions of tourism labour market. Most importantly, tourism is promoted in policy agendas on the grounds that it will enhance the lives of local people and visitors, impacting on countries' economical welfare.

As already mentioned, a limited number of countries have already fully developed an advanced set of statistical procedures and derivative applications for measuring and analyzing a multitude of employment aspects in the tourism industries much needed to develop, implement and monitor efficient tourism labour market policies. Chapter 5 of this Guide shares the experiences of those countries that have advanced in using pioneering methods of data compilation and/or generating a rich variety of employment categorical variables produced beyond the TSA table 7. Sections below briefly explain the anatomy of tourism economy, discuss difficulties encountered in measuring employment and present different conceptual measures of employment in tourism.

2.1 A clockwork of tourism economy[1]

This section describes in a nutshell the "functioning mechanisms" of tourism economy, as well as the way it impacts the tourism industries' income and employment.

In general terms, tourism can be classified into the following categories:

1. International tourism:
   a) Inbound; and
   b) Outbound.
2. Domestic tourism:[2]
   a) Inbound; and
   b) Outbound.

1 Partially adapted from Dr. Gaur, Shweta, *Types of Tourism and Impacts of Tourism*.

2 IRTS 2008, p. 15.

2.1.1 Economic impact of tourism

The economic impact of tourism can be summaries as: (i) a powerful economic force providing employment, foreign exchange and tax revenue; (ii) visitors are generators of economic impact for a country, a region, a city or a destination area: directly from their spending and indirectly from the tourism multiplier effect. It should be noted that inbound tourist spending is an *export,* while outbound tourist spending is *an import.*

Economic impact of tourism is measured in terms of its effect on:
- Income;
- Employment;
- Investment and development; and
- Balance of payment.

2.1.2 Effect on income

Income is generated from:
- Wages and salaries;
- Interests;
- Rents; and
- Profits.

In a labour intensive industry such as tourism, the greater proportion of income is likely to be derived from wages and salaries paid to those working in jobs either directly serving the needs of tourists or benefitting indirectly from tourists' spending.

Income will be greater in the areas:
- Which generate large numbers of tourists;
- Where visitors tend to stay for longer periods;
- Where the destinations attracts an up-market or more free-spending clientele; and
- Where there are many opportunities to spend.

Income is also generated from interest, rent, and profits on tourism businesses. This could include, for example, interest paid on loans to an airline in order to buy or lease an aircraft, or rent paid to a landowner for car parking or a campsite near the sea.

Taxation on tourism activities, such as value added tax, hotel bills, petrol used by tourists and other direct forms of taxation which countries may choose to levy on tourists to raise additional public income, is another source of tourism impact on income.

2.1.3 Employment

Tourism employment can be categorized at two separate levels depending on their involvement in or contribution to tourism supply-side. Front offices in hotels, restaurants, travel agencies, tourism information offices, aircrafts, cruise lines, resorts or shopping outlets provide *direct employment* because their employees are in contact with tourists and cater for tourist demand.

Tourism also supports *indirect employment* in activities like restaurant suppliers, construction companies that build and maintain tourist facilities, as well as necessary infrastructure, aircraft manufacturers, various handicrafts producers, marketing agencies, accounting services, which are more or less dependent on the companies providing direct employment for their revenues.

2.1.4 Tourism income multiplier[3] effect

Tourism's contribution to an area is enhanced by a phenomenon known as the *tourism income multiplier* (TIM). This arises because money spent by tourists in the area will be re-spent by recipients augmenting the total. The multiplier is the factor by which tourist spending is increased in the process. However, local hotels may also be foreign owned. So the profits earned are repatriated back to the hotel chain's headquarters and as a result are lost to the region or country. This might be also true of other tourist facilities in the area; even local ground-handling agents or coach operators may be owned by companies based elsewhere outside the country leading to further losses in multiplier effect. Leakage is minimal when the firms are in the hands of the locals. As a result, TIM is higher.

2.1.5 Impact on employment

The impact of tourism industries on employment is brought in the following ways:

- Direct employment in the tourism industries (see above);
- Indirect employment in the sectors supplying inputs to the tourism industries (see above);
- Induced effect on employment as a result of subsequent rounds of spending;[4] and
- Total effect on employment which is reflected in the employment multiplier, with the remark that a high employment multiplier of the tourism industries would indicate that countries facing high levels of unemployment could opt for tourism promotion as a possible effective means of absorbing the excess manpower.[5]

The empirical example below demonstrates the "mechanism" of tourism employment multiplier effect.

In terms of employment, tourism multiplier effect means that it stimulates job creation in all sectors of the area concerned. For example, to provide quality service, a hotel (tertiary sector) would most probably employ more people to look after a growing number of arriving tourists. Consequently, other sectors (primary, secondary) would then also try to cater for the growing needs of the hotel. Thus, wholesalers (secondary sector) would sell more food to our hotel which will lead to engaging more staff to work as wholesalers. In turn, this would trigger demand at the food factory down the road (primary sector) who would try to produce more food for wholesaler stocks and, as a result, the factory itself would need to employ additional staff as well.

3 *Multipliers* capture the secondary economic effects (indirect and induced) of tourism activity. Multipliers represent the economic interdependencies between sectors within a particular region's economy. They vary considerably from region to region and sector to sector. There are many different kinds of multipliers reflecting which secondary effects are included and which measure of economic activity is used (sales, income, or employment).

4 It is possible to say that this is similar to TIM but in terms of employment.

5 Economic and Social Commission for Asia and the Pacific (1990), *Guidelines on Input-Output Analysis of Tourism,* ST/ESCAP/836, UN, New York.

2.1.6 Impact on investment and development

Trade, travel and investment follow each other. The benefits that business travel brings to international trade also foster investment by domestic firms and by foreign direct investors. Foreign direct investments that result from business travel introduces capital, technology, skills, people, know-how, demand for local supplies to the domestic economy, and brings improvements in trade balances.[6]

It can also create new products and provide opportunities for local businesses further down the supply chain. The competition for foreign direct investment is intense, not only between countries but also between regions within countries. Without the connectivity provided by the travel and tourism sector in general, and the aviation sub-sector in particular, regions would find it more difficult to attract foreign direct investment.

A survey of over 600 companies in five countries by the International Air Transport Association (IATA) found that 63% of firms stated that travel networks are 'vital' or 'very important' to investment decisions and that 30% of firms would be highly likely to invest less in a region if travel networks were constrained.[7]

A survey of senior executives in the travel industry conducted by Oxford Economics on behalf of the World Travel and Tourism Council provides additional insight. Nearly 86% of the respondents found that development of their local tourism industry had led to an increase in local job creation through increased foreign direct investments.

Airport hubs are critical for increasing foreign direct investment by providing connections to a parent company, specialist supplies, and facilitating exports.

Demand for travel and tourism – both international and domestic – stimulates investment. For example, in 2011, USD 650 billion in capital investment, or 4.5% of total, was driven by travel and tourism. While a portion of this is related to individual investments in facilities that directly benefit tourists, such as the construction of hotels and resorts, travel and tourism industries also drive infrastructure improvements that collectively benefit tourists, local residents, and the wider economy.

Growth in the travel and tourism sector typically leads to development of restaurants, bars, cafes, retail establishments, and other tourism related businesses. Not only are these businesses part of the direct impacts generated by the sector, but also they help improving the quality of life for local residents by expanding the choices available to them in their local community. For example, the increase in international business and leisure travel in Abu Dhabi has led to private investments in Saadiyat Island, a mix of residential and leisure projects off the coast of Abu Dhabi.[8]

6 'Aviation: The Real World Wide Web' (2011), Oxford Economics, Oxford (online), available at: www.oxfordeconomics.com (17-07-2014).

7 International Air Transport Association (2006), *IATA Economics Briefing Number 3,* IATA (online), available at: www.iata.org (17-07-2014).

The five countries include Chile, China, the Czech Republic, France, and the United States of America.

8 World Travel and Tourism Council (2012), 'The Economic Advantages of Travel and Tourism', *The Comparative Economic Impact of Travel & Tourism,* Oxford Economics (online), available at: www.wttc.org/research/benchmarking-travel-tourism/comparative-economic-impact-travel-tourism/ (17-07-2014).

Tourism industry has strong linkages with many other industries within national economies. The industry is also highly geographically dispersed. These aspects of travel and tourism sector can make expansion of the industry an effective tool for broader economic development, particularly for rural and low-income regional economies.

Tourism-based businesses create jobs, bring new money into the region and also help diversify the local economic base. Economic diversity is critical to the success of most rural areas in both the developed and developing world.

Tourism also benefits local economies by enhancing labour mobility and makes it easier for migrants to stay in touch with family and friends and to also return home to visit. Both the host country and the country of origin benefit from the increased labour mobility. The remittances a migrant sends home to family members have become an increasingly important source of revenue for developing countries.

Also, the host economy benefits from the addition and availability of skills and labour – such as foreign language, technology, and cultural knowledge. Increased labour mobility allows companies' access to a larger pool of skilled workers.

2.1.7 Balance of payments (BoP)

International tourists are buying tourist services in another country, and these payments are noted in a country's accounts as "invisible". For instance, the money spent by a Swiss visitor to Austria is credited to Austria's BoP, becoming an invisible receipt for Austria, while it is debited as a payment against the Swiss balance of payment. The total value of receipts minus the total payment made during the year represents a country's BoP on the tourism account.

It is therefore considered beneficial to have a large number of inbound tourists rather having bigger number of outbound tourists. Countries like Japan and Ukraine are struggling to increase inbound tourism, as these are the countries producing a large number of tourists travelling to other countries. France and Singapore are the examples of having a high number of inbound tourists. Hence, they enjoy a largely positive balance of payment.

2.1.8 In conclusion

Tourism has a great potential in generating employment (direct and indirect). Notably, the lower the leakages from the economy, the greater the tourism multiplier effect of the spending made in the local economy. A greater number of inbound travellers is beneficial both for the economy and employment creation in the tourism sector.

2.2 Measuring employment in tourism: challenges to encounter

Information on employment is of considerable importance to the analysis of any industry, but it seems to be of particular importance in the case of tourism. As already discussed in this Guide, data on employment in tourism is necessary for government and sector analysts in order to understand the nature of the underlying dynamics (type of employee, age, sex, education, occupation, etc.), improving productivity and competitiveness through education and training, evaluating labour costs and improving job prospects by evaluating labour structures and working conditions.

It should be admitted that it is more difficult to measure employment in the tourism industries than is the case for many other industries. The reason being that tourism employment is often characterised by one or more of the following factors:

- Seasonality;
- Part-time and/or excessive hours of work;
- Low-paid (or unpaid) family labour; and
- Informal or sometimes illegal labour where measurement is notably more difficult.[9]

The number of employed will be underestimated when, for example, companies providing raw materials for the production of tourism-related goods and services are left out of the picture and therefore indirect tourism-characteristic jobs are excluded. Conversely, the number of employed will be overestimated when persons engaged in an establishment belonging to a tourism industry also participate in the establishment's non-tourism-characteristics activities.

One of the problems related to human resources in the tourism industries is the rapid turnover of staff.[10] Tourism industries rely on a flexible workforce based on part-time, fixed term, temporary contracts and agency work far more than any other industry.

There are in fact a variety of other reasons for employee turnover, of which poor career prospects, low pay, unsocial working hours and physical stress appear to play a part. Working hours are irregular for half of all employees in the tourism industries, most of whom perform work on Sundays and in the evenings and almost half of whom also work at night.[11]

Further, employment in the tourism industries involves a disproportionately high degree of employers/owner/proprietors, as well as own-account workers (self-employed), i.e. those who work on a contractual basis for a specified period of time but where there is no formal employer-employee relationship. Information on these entities is frequently difficult to obtain and, from the employer's point of view, they are considered to be an intermediate cost and not part of the *labour cost.*

9 For information on measuring employment in tourism establishments of informal sector and informal employment in the tourism industries see: World Tourism Organization and United Nations (2014), chapter 7, section D.2.1.

10 International Labour Office (2010), *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), ILO, Geneva.

11 International Labour Office (2001a), *Human resources development, employment and globalization in the hotel, catering and tourism sector,* report for discussion at the Tripartite Meeting on the Human Resources Development, Employment and Globalization in the Hotel, Catering and Tourism Sector, ILO, Geneva.

Also, the tourism industries are characterized by diversity both on the basis of intra-national and international criteria and have a major impact on the nature of work in the sector. The range of sub-sectors, the size of businesses, their ownership, the markets they serve illustrate the factors which contribute to determining the range of tasks which are undertaken, the numbers employed and the skills required. It becomes increasingly necessary to take a broad view of the tourism labour market and consider its close links to other labour markets. Cooks, for example, have the whole food sector to choose from, like contract catering, the food processing industry or the retail trade. Likewise, service staff can also use their qualifications and experience in other trades where social skills are essential, e.g. health services. So, people come to tourism with varied backgrounds and professional educations and leave it for a range of other economic activities. The tourism industries thus share the labour market with other trades, and the benefits are – potentially at least – mutual.[12]

In general, a labour market consists of all industry sectors, their personnel requirements and skills needs, as well as those currently outside the actual labour force, whether unemployed, temporarily unable to work because of illness or injury, or undergoing specific vocational training or more general preparation for the workforce within the school systems. Increasingly, labour markets are experiencing porosity as a result of the forces of globalisation and the growing mobility of the workforce at all levels. Particularly, within the tourism labour market, there are fundamental challenges (structural and perceptual) relating to, among other things, the volatile demand cycle, high levels of labour turnover (see above) and demanding working conditions.[13] These factors shape the structure of the tourism labour force, making it difficult to maintain high permanent staffing levels. There is a generic tendency to operate on the basis of a core staff and to employ the labour needed for day-to-day operations under atypical contractual arrangements.[14]

The above does not cover all possible situations but illustrates the multiple pitfalls to avoid and difficulties to tackle in measuring employment in the tourism industries.

2.3 Different conceptual measures of employment in tourism[15]

There are two major conceptual measures of employment in the tourism sector: *tourism employment* and *employment in the tourism industries.*

Each of the two major employment conceptual frameworks – *tourism employment and employment in tourism industries* – are useful in revealing different aspects and dimensions of the employment effects of tourism, and both ultimately serve different information needs of end-users.

12 Hjalager, A. M. and Steen, A. (2001), 'Tourism employment: contingent work or professional career?', *Employee Relations, Bradford: 2001,* volume 23 (2), p. 115.

13 Baum, T. (2008), 'Implications of hospitality and tourism labour markets for talent management strategies', *International Journal of Contemporary Hospitality Management,* volume 20, number 7, Department of Hospitality and Tourism, University of Strathclyde, Glasgow, pp. 720–729.

14 International Labour Office (2001b), *Developing a labour accounting framework for tourism: issues and approaches,* paper annexed to Note by the Secretary-General to Item 3 (b) of the provisional agenda for the 32nd session of the UN Statistical Commission, 6–9 March 2001 (online), available at: http://unstats.un.org/unsd/statcom/sc2001.htm (08-05-2014).

15 For more detailed information see World Tourism Organization and United Nations (2014), chapter 7, section B.

2.3.1 Tourism employment

The concept of *tourism employment,* in accordance with the IRTS 2008, refers to "employment strictly related to the goods and services acquired by visitors and produced by either tourism industries or other industries".[16] Hence, tourism employment is a measure of the number of jobs directly attributable to tourism demand in tourism and non-tourism industries, held by employees, self-employed and contributing family workers.

Tourism employment can be measured as *direct tourism employment* and as *direct tourism employment in the tourism industries.* While the former measures jobs in tourism industries that can be attributable to tourism spending plus jobs in non-tourism industries that can be directly attributed to tourism spending, the latter refers to jobs that can be attributed to tourism spending in tourism industries. For instance, Canada measures direct tourism employment in terms of jobs and full-time equivalents (see chapter 5 of this Guide).

2.3.2 Employment in the tourism industries

The concept of *employment in the tourism industries* refers to all jobs (in all occupations) in the tourism industries.

In each country, the tourism industries will include all establishments whose main activity is a tourism-characteristic activity.[17] These tourism industries are common to all countries except for the individual country-specific tourism characteristic activities. It should be noted that persons engaged in tourism-characteristic activities of an establishment belonging to a non-tourism industries (e.g. all establishments whose principal activity is not a tourism-characteristic activity) will not be included in "employment in the tourism industries". On the other hand, persons employed in an establishment belonging to a tourism industry who participate in the establishment's non-tourism-characteristic activities will be included in "employment in the tourism industries"[18].

In other words, *employment in the tourism industries* refers to all the jobs (or persons engaged) providing tourism-characteristic and non-tourism-characteristic services in all establishments in tourism industries.

Figure 2.1 outlines schematically different types of tourism related employment discussed above.[19]

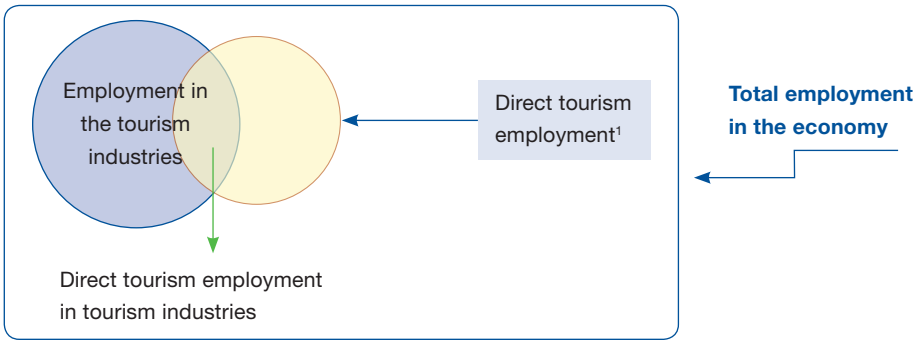
16 IRTS 2008, paragraph 7.3.

17 IRTS 2008, paragraphs 6.15. to 6.20.

18 IRTS 2008, paragraph 7.4.

19 Adapted from World Tourism Organization and United Nations (2014), chapter 7, section B.3.

Figure 2.1 **Employment in tourism industries**



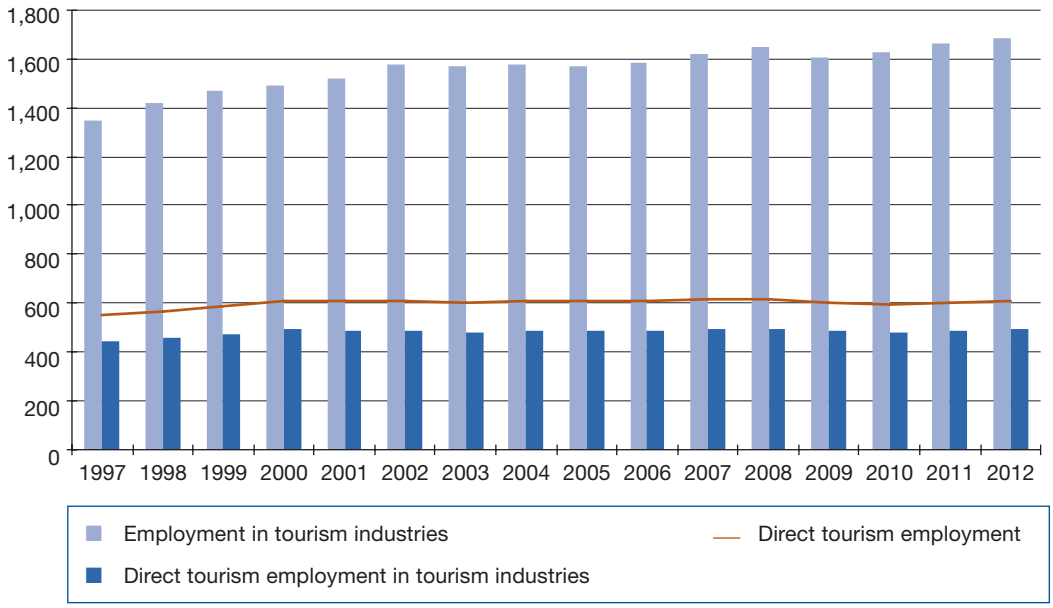
1) Jobs that can be attributed to tourism spending in tourism and non-tourism industries.

By way of illustration, figure 2.2 below shows the different dimension of each of the three conceptual measures of tourism related employment noted above.

TSA table 7 contains the following information: 12 tourism characteristic industries are cross-classified by the following employment variables:

- Number of hours worked by status in employment, of which number of employees and self-employed by total, males and females; and
- Number of full-time equivalent jobs by status in employment, of which number of employees and self-employed by total, males and females.[20]

Figure 2.2 **Canada: employment in tourism industries versus direct tourism employment, 1997–2012 (× 1,000)**



Source: IRTS 2008, pp. 67–68 and *Compilation guide for tourism statistics,* chapter 7, section B, *Concepts and definitions.*

20 TSA:RMF 2008, p. 65.

Thus, while TSA provides a more comprehensive picture of tourism's impact on generating employment, it does not provide the government and tourism sector analysts with information on employment, occupations, income, compensation, hours of work of person employed and their conditions of work in the tourism sector. This information is much needed for measuring various dimensions of employment in tourism and understanding the underlying dynamics of the tourism labour market and the quality of tourism employment.

As is explained in section 2.1.3 above, the IRTS 2008 chapter 7 provides a comprehensive methodological framework for collection and compilation of a wide range of variables for each of the tourism industries and for the tourism sector as a whole.[21]

21 World Tourism Organization and United Nations (2014), section D.2., Key variables.

Chapter 3

Major international tourism industries measurement frameworks and data sources

3.1 Major international tourism industries measurement frameworks

As it is hardly feasible to gauge and analyze employment in the tourism industries comprehensively on the basis of only one statistical source, the integration of data from different sources is a preferable solution. This method yields more comprehensive information, provides a better overview and a more consistent picture, and results in a more accurate analysis.

Currently, there are three major international methodological frameworks for integrating or reconciling data form different sources which provide for measuring various dimensions of tourism-related employment:

- The Tourism Satellite Account;
- The OECD Employment Module; and
- The International Recommendations for Tourism Statistics 2008.

Each framework serves its own objectives but all three complement each other.

3.1.1 Tourism Satellite Account

The international standard entitled *Tourism Satellite Account: Recommended Methodological Framework 2008* (TSA:RMF 2008)[1] notes that the TSA purpose is (see also section 4.4.4) to analyze in detail all the aspects of the demand for goods and services associated with the activity of visitors; to observe the operational interface with the supply of such goods and services within the economy; and describe how this supply interacts with other economic activities.[2]

One way to distinguish the essential characteristics of a "Tourism Satellite Account" is to analyze this term.

First, as specified above, the TSA deals with a specific set of human activities called "tourism." Tourism is defined by UNWTO as "specific types of trips: those that take a traveller outside his/her usual environment for less than a year and for a main purpose other than to be employed by a resident entity in the place visited".[3] "Usual environment" is defined as "the geographical area (though not necessarily a contiguous one) within which an individual conducts his/her regular life routines".[4]

1 TSA:RMF 2008.

2 TSA:RMF 2008, p. ii.

3 TSA:RMF 2008, p. 12.

4 TSA:RMF 2008, p. 13.

So, the TSA deals strictly with the activities of "visitors" (defined as a traveller taking tourism-type trips in a country, including both residents of the country and non-residents)[5], who leave their usual environment for any purpose but to be employed by a company or other organization in the places visited. The TSA should scrupulously avoid including any effects of expenditures or other consumption activities of local residents remaining in their usual environment.

Second, the TSA is a "satellite" to a larger body, in this case the system of national accounts presented in SNA 2008.[6] It is subordinate to and dependent upon the concepts, definitions, structure and compilation rules of SNA 2008. As a satellite, it must define its major outputs ("macroeconomic aggregates") in reference to those that are defined and measured in SNA (2008). These outputs are specified in TSA:RMF 2008.

Finally, at its core, the TSA is an "account", that is, a table or set of tables "which records, for a given aspect of economic life, the uses and resources or the changes in assets and the changes in liabilities and/or stock of assets and liabilities existing at a certain time".[7] This recording is based on observations or counts of economic variables.

Other methods of estimating economic consequences of tourism activity are models: "a simplified description of a system, process, etc., put forward as a basis for theoretical or empirical understanding".

TSA table 7 shows employment by the tourism industries cross-classified by such categorical variables as number of jobs, full-time equivalents, hours worked etc. For estimating tourism employment, tourism ratios, based on TSA table 6, are applied to TSA table 7 by tourism industries and the respective results are summed up.

In relation to TSA table 7, it is important to consider that the indirect effects of tourism on the total employment are not taken into account (TSA:RMF 2008 in general does not consider indirect effects). This means that persons providing tourism-characteristic services of an establishment belonging to a non-tourism characteristic industry (e.g. establishment whose principal activity is "agriculture") should not be included in TSA table 7 *Employment in the tourism industries.* However, 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 TSA table 7 *Employment in the tourism industries.*[8]

To sum-up, in general terms, a TSA links tourism statistics with the mainstream of macro-economic analysis thereby measuring the contribution of tourism to an economy and its GDP. Importantly, as is noted above, the TSA provides a more comprehensive picture of tourism's true impact in generating employment.

5 IRTS 2008, p. 10.

6 United Nations (2009), *System of National Accounts 2008* (online), available at: http://unstats.un.org/unsd/nationalaccount/sna.asp (13-05-2014).

7 United Nations (1993), *System of National Accounts 1993* (online), available at: http://unstats.un.org/unsd/nationalaccount/sna.asp (15-05-2014), p. 26.

8 For more information see: World Tourism Organization and United Nations (2014), chapter 7, section B.3.

In order to compile a TSA, it is necessary to have reliable data sources beforehand. Therefore, providing reliable TSA results of high quality requires data sources which fulfil high data quality standards. This is of particular importance for drawing reliable conclusions for tourism policy reasons – taking the results as a basis.

3.1.2 The OECD Employment Module (OECD EM)[9]

The OECD EM (see also section 4.4.4) provides a statistical framework and methodological guidelines to establish the level and some characteristics of employment in the tourism industries linking up with the TSA. *Importantly,* only the employment in a set of selected tourism-characteristic industries is taken into account. This is mainly done from a supply-side perspective. It should however be emphasised that in employment related tourism statistics, demand side are "visitor-oriented" (persons) while supply is "industry-oriented" (e.g. accommodation).

In other words, only the direct employment in a set of selected tourism-characteristic industries is taken into account.

The OECD EM establishes a process that links basic employment data with the TSA, by using the EM as an integration framework (micro-macro linkage). This process uses such indicators of the general level of employment as jobs, persons employed or full-time equivalents – with a further distinction for seasonal employment and "jobs on the side" (or secondary/additional jobs) – and a number of relevant key employment variables.

It should be noted that the OECD EM process is based on the pioneering approach proposed for the production of labour accounts.[10] The labour accounting integration process is conducted in four stages:

- Harmonization;
- Completion (i.e. achieving full or identical coverage);
- Minimisation of measurement errors; and
- Balancing.[11]

In the Dutch pilot study carried out by CBS in 2007, the compilation of TSA table 7 was based solely on labour accounts (supply side) and provided some information on the impact of tourism on employment. Two indicators were presented for employment in tourism for the six characteristic industries: number of jobs and number of persons employed.[12]

9 Organisation for Economic Cooperation and Development (2000), pp. 125–203.

10 The methodology for the construction of the first labour accounts was developed at the end of the 1980s by the Statistics Netherlands. The idea of producing labour accounts belongs to Mr Ralph Turvey, the former Director of the ILO Department of Information and Statistics.

11 Leunis, W. P. and Verhage, K. G. (1996), *Labour accounts, core of the statistical system on labour* (online), available at: www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_087915.pdf (08-05-2014).

12 Statistical Office of the European Union and Organisation for Economic Cooperation and Development (2007), *Manual on Business Demography Statistics,* Eurostat, OECD, p. 134 (online), available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-RA-07-010 (13-05-2014) and www.oecd.org/std/business-stats/eurostat-oecdmanualonbusinessdemographystatistics.htm (13-05-2014).

3.1.3 *International Recommendations for Tourism Statistics 2008* (IRTS 2008)

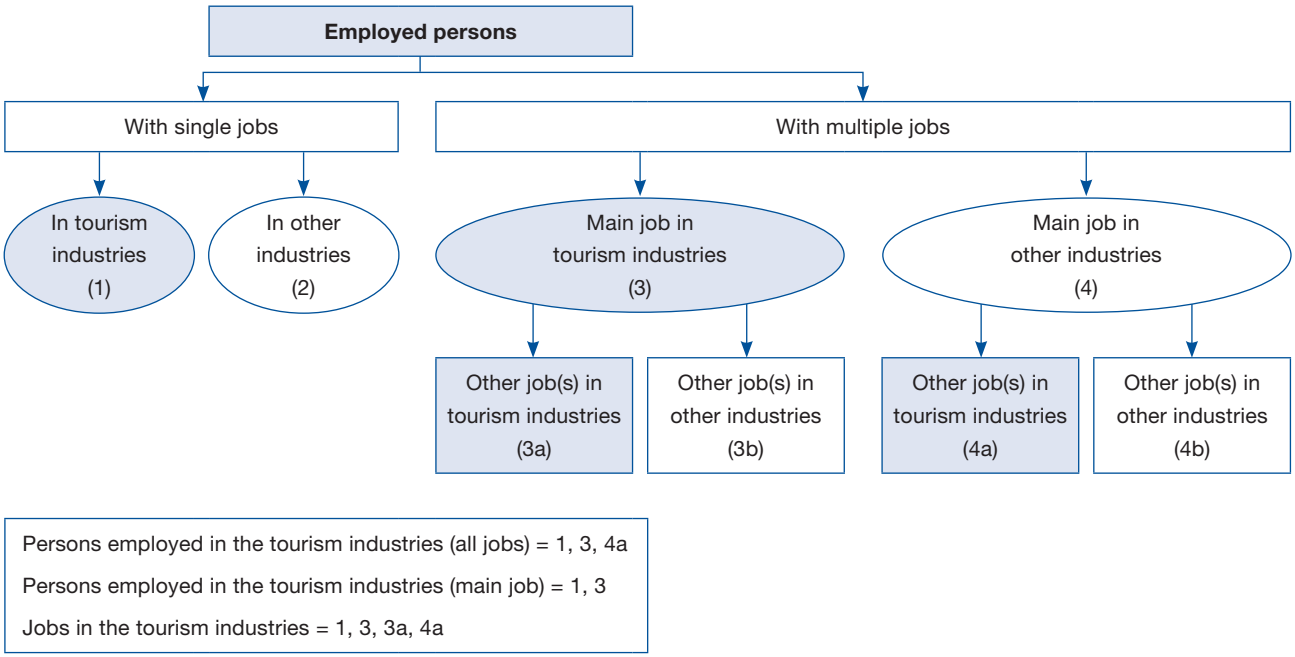
The IRTS 2008 provides a comprehensive methodological framework for collection and compilation of tourism statistics in all countries irrespective of level of development of their statistical systems. Its primary audience is the staff of national statistical offices and national tourism administrations involved in compilation of these statistics. The IRTS contains a wealth of information which might be of interest to data users who would like to understand better the nature of tourism data.

The IRTS 2008 conceptual framework of employment in the tourism industries, encompassed in its chapter 7, *refers to all the jobs (or persons engaged) in both tourism-characteristic activities and non-tourism-characteristic activities in all establishments in tourism industries.* The chapter describes concepts, definitions, basic categories and indicators of employment in the tourism industries from "a general statistical rather than a specific national accounts perspective". Notably, the concepts and definitions recommended in chapter 7 are largely compatible with relevant concepts of TSA:RMF 2008 and OECD EM.

According to the IRTS 2008 measurement framework, employment in the tourism industries can be measured in terms of (a) persons employed (all jobs or any job); (b) persons employed in the tourism industries (main job); and (c) jobs in the tourism industries (see figure 3.1 below).

Detailed comments and explanations of different concepts introduced and recommended in IRTS 2008 chapter 7, orientation on the issues behind these recommendations, guidance on how to compile the recommended variables and aggregates and examples of how some countries have solved some of the problems in implementing the recommendations are given in the *Compilation guide for tourism statistics,* chapter 7: *Measuring employment in the tourism industries.*

Figure 3.1 **Measurement framework: single versus multiple job holders in the tourism**



Source: IRTS 2008, figure 7.1.

3.2 Joint ILO/UNWTO publication

In accordance with the ILO/UNWTO Agreement (see Introduction to this Guide), a pioneering joint publication entitled *Sources and Methods in Labour Statistics – Employment in the Tourism Industries (Special Edition)* was published in June 2008.[13] That publication contains methodological descriptions of statistical data on employment, wages and hours of work in the tourism industries derived from different statistical sources, as well as methods used by countries to compute the above variables.

The aim of issuing these descriptions was three-fold:

1. To provide users and producers of tourism and labour statistics, in general, with comprehensive descriptions of the latest sources and methods used in countries throughout the world to collect data on various aspects of tourism characteristic activities, so as to enhance their usability for particular needs;
2. To indicate the differences between various statistical series published nationally and internationally with respect to the concepts and methodologies applied, thereby assisting users in evaluating data quality and cross-country comparability; and
3. To facilitate the understanding of methods underpinning the countries' tourism satellite account (TSA).[14]

Another aspect of this publication is that in addition to the descriptions of concepts, definitions and sources of data collection, it presents methods used by countries for the computation of national data on employment, wages and hours of work in the tourism industries.

The information was collected through a specially developed set of questionnaires sent to National Statistical Offices and National Tourism Administrations in more than 200 countries and territories. Each questionnaire corresponded to a different type of statistical source.

In total, responses were received from over 100 countries and territories, of which 81 sent their returns with questionnaires completed.[15] Analysis of the information revealed that out of these 81 countries and territories, only a few produced both comprehensive sets of statistics on employment in the tourism industries and the TSA employment table. As for the others, they collect a limited number of variables on tourism characteristic activities and only a small fraction of them also produce or have begun to prepare producing TSAs (see annex 1 of this Guide).

A summary of the main findings of the analysis of the metadata contained in the *Sources and Methods in Labour Statistics – Employment in the Tourism Industries (Special Edition)* is presented below:

The majority of countries covered by the joint ILO/UWNTO publication have mainly confined the tourism sector to tourist arrivals numbers and hotel and accommodation capacity as the core variables. Consequently, they have not been able to define the scope, scale and significance of

13 International Labour Office and World Tourism Organization (2008), *Sources and Methods, Labour Statistics – Employment in the Tourism industries (Special Edition),* UNWTO, Madrid.

14 TSA:RMF.

15 Taking into consideration the nature, scope and the level of detail requested, as well as the fact that many countries did not respond simply because that had nothing to report, the response rate was satisfactory.

tourism characteristic industries to enable them develop mechanisms of measuring employment, wages and hours of work in the tourism sector.

In spite of an important number of countries reporting the collection and publication of statistics on employment, wages and hours of work in the tourism industries a great majority of countries were not in a position to produce even simple tables with total employment in the tourism industries.

Many countries have no capacity to measure and collect data on the extensive and diverse nature of the tourism sector, thus they lacked valid data to interlink the different industries to each other. Many of them did not identify or classify the diverse groupings that make up tourism-characteristic activities/industries, hence, they were unable to incorporate other jobs/persons and occupations found outside the accommodation establishments.

Only a few countries have the capacity and requisite analytical tools to measure employment and tourism's contribution to their respective economies and their gross domestic product (GDP).

Austria, Brazil, Canada, Ireland, New Zealand, Spain, Switzerland and the United Kingdom are good case studies of countries with models that exemplify best practices in measuring employment, wages, hours of work and other employment categorical variables.[16] It should be recognized that while their similarity is enshrined in the variety of indicators produced, each of them gives an example of an individual approach to the measurement of employment beyond the TSA.

Tourism is a two-sided phenomenon that should be viewed from both the demand-side and the supply-side, thus it constitutes a complex interaction of complementary groupings of industries or sectors. As a demand-side phenomenon, tourism refers to the activities of visitors and their role in the acquisition of goods and services. Viewed from the supply-side, it is understood as the set of productive activities that cater mainly for visitors.

In view of the above, employment in the tourism industry is elaborate with a scope that ranges from the core industries comprising transport, accommodation and restaurants to entertainment and recreation, and consequently involves a wide range of suppliers, both formal and informal.

The countries listed above have defined the scope of the tourism sector by narrowing down the sources, producers and suppliers of tourism-characteristic activities, as well as tourism-characteristic products thus enabling them to develop a comprehensive set of employment indicators in addition to the estimates compiled for the TSA table 7 estimates that give value and a clear link between the numerous industry groupings to each other, and the resultant contribution of tourism to the economies of the respective countries.

The interaction and interlinkages between various industry groupings is critical to understanding the complementary and supporting roles played by each grouping and how those specific roles converge to form the economic aggregate that is the tourism gross domestic product.

Employment in tourism industries is characterized by varying seasonal and regional demand for jobs, which is dictated by the respective peak activities. Hence employment contracts and other

16 The experiences of these eight countries are described in greater detail in chapter 5 of this Guide.

working arrangements tend to reflect these differences, and the types of establishments that supply them. The above countries have been able to measure the economic value of tourism in terms of employment as a source of productive labour. They have also developed formulae to incorporate different working time arrangements, contracts, hourly payments and hours of work, etc.

3.3 Statistical capacity[17]

The ability to produce consistent, reliable statistical information requires a sustained statistical capacity. This requirement is not a one-off capacity but implies the ability to produce statistics on a regular basis and with the timeliness needed.

In particular a sound statistical infrastructure is essential. By this is meant:

- Underpinning systems to create and maintain sampling frames for business and household surveys;
- A critical mass of ongoing statistical activities: survey design, data collection and analysis in order to nurture the basic professional skills;
- The technical and methodological capacity to maintain and develop systems in accordance with international standards as these are developed over time;
- A developed analytical capacity;
- Adequate statistical frameworks and IT infrastructure;
- Good management to make the most use of the resources that are available; and
- All of the above embedded within a wider legal and administrative structure that recognises the importance of good statistical information and the need to sustain the conditions in which it can be produced with high professionalism and integrity, consistent with the *UN Fundamental Principles of Official Statistics.*

Without this core capacity and the ongoing resources to support it, neither statistical needs of the country nor those of the international community will be reliably served.

In this regard, statistical indicators of employment in the tourism industries need to be viewed as the end product of often complex statistical infrastructures that are essential if the indicators are to be produced with adequate quality. To date much emphasis has been placed on the indicators and too little on the statistical sources that underpin these.

3.4 Major data sources of employment in the tourism industries[18]

Generally speaking, the sources of information on the topics of tourism statistics are households, families, individual persons, institutions, establishments, administrative records and registers. The methods used for assembling the relevant data are normally censuses, surveys, or exploitation of readily available records. Each source and each method has its own advantages and drawbacks. In some cases, therefore, it may be necessary to use two or more sources and combine two

17 Adapted from Holt, D. (2003), 'Methodological Issues in the Development and Use of Statistical Indicators for International Comparisons', *Survey Methodology,* June 2003, volume 29 (1), Statistics Canada, p. 8.

18 For detailed information see: World Tourism Organization and United Nations (2014), chapter 7, section E.

or more methods for producing sufficiently reliable data. This is especially true in the case of measuring multiple dimensions of tourism economy in general and employment in the tourism industries in particular.

Stemming from the above, the collection of data on employment in the tourism industries should be integrated in a regular national statistical system. In order to achieve a better coverage and get more detailed characteristics of persons employed in tourism, countries should, as far as possible, use the following major groups of sources of data collection:

1. Measuring *labour demand:* establishment-level data: establishment censuses and establishment-based sample surveys;
2. Measuring *labour supply:* household-level data: population censuses and household-based sample surveys; and
3. *Administrative records,* such as: employment office registers; social security files; unemployment insurance records; labour inspection records; tax records, etc.

A special mention should be made of the National Accounts as the major synthetic data source used to produce TSA table 7 *Employment in the Tourism Industries.* The employment data from the National Accounts form the basis for the final results of table 7 (e.g. employment full-time equivalents). It is used for extrapolating structural information (breakdown by sex, according to ISIC or NACE[19], at a 2-digit-level) from other sources to ensure compatibility with the Tourism Satellite Account.

3.4.1 Major groups of data sources on employment

Establishment-based sample surveys

From the standpoint of data collection, *establishment-based sample surveys* have certain advantage over other sources of statistics on jobs, persons employed, earnings, remunerations and hours of work on a current basis and at frequent intervals. In the first place, establishments, which hire and pay workers, are in the best position to furnish detailed information on jobs, employment, wages paid, hours worked, labour cost, etc. Secondly, establishments can be identified easily by type of economic activity and geographic location. Hence, when the interest is in specific industries, which is the case with tourism industries, establishment surveys, given an adequate sampling frame, can provide an in-depth picture of target industries.

All these multiple topics are covered by a variety of establishment surveys, each designed to obtain specific information such as production; export; employment, average earnings and hours of work; occupational employment and wage structure; labour cost; job vacancies, hiring and firing practices; skill level; future employment prospects. Notably, as informal establishments are not covered by conventional establishment surveys, employment in the informal sector is measured with specially designed informal sector surveys[20].

However, an establishment survey counts each employee, whether full- or part-time, regular or casual, as one person employed, which results on double counting through the enumeration of

19 The European Union Member States use NACE (Rev. 2) classification which has large similarity with ISIC (Rev. 4).

20 For detailed information on the measurement of employment in the informal sector and informal employment in the tourism industries, see: World Tourism Organization and United Nations (2014), chapter 7, section F.2.

some individuals in more than one job or in more than one establishment. Measurement errors in the data on a single large establishment may have a substantial effect on total findings.

As an establishment survey is a sample survey, the reliability and completeness of its results is fully dependent on the completeness and efficient updating of the country's Business Register. In addition, establishment surveys usually will not cover small-scale businesses well. Thus in some countries they are formally excluded from the sample, in other, they are included but not as thoroughly sampled nor as well captured as larger businesses. This is of particular concern in tourism, where a large proportion of the establishments may be small.

Economic censuses are essential to develop a list or a Business Register and area-based frames for establishment surveys. Therefore, considerable time lag between updates of "births" and "deaths" of establishments in business registers between the censuses may bias final survey results. However, in countries with highly efficient administrative records systems, where updates are made almost automatically, many business registers are compiled exclusively from administrative data sources (e.g. tax records etc.).

Population census

A *population census* is the total process of collecting, compiling, evaluating, analysing and publishing or otherwise disseminating demographic, economic and social data pertaining, at a specified time, to all persons in a country or in a well delimited part of a country.

In addition to investigating such topics as household demographic, social characteristics and educational characteristics, population censuses also collect data on the following economic characteristic of the population: activity status, occupation, industry, status in employment and, in addition, may be specially designed to capture time worked, income, employment in the informal sector and the like. Census is also a source for information on previous job, if unemployed or out of the labour force at the time of the observation. This is useful for analyses of persons who formerly had a job in the tourism sector. Further, it is a source of valuable information on individual's nationality, ethnicity and immigration status, where appropriate.

It should be noted that in case of tourism, the census information on the economic characteristics of the population classified by occupation, industry, status in employment and educational level is of particular usefulness and importance.

However, in spite of its numerous advantages (e.g. complete coverage of the population or universe under investigation), a population census is very costly and, given that, it is conducted at long intervals – usually every 10 years. Similarly, because of the gargantuan nature of the exercise, the final results cannot be available for several years after the reference period of the census taking. Moreover, because a population census embraces many different topics concerning a country, its people, economy, etc., all at the same time, it is not a specialised instrument for in-depth probing into a specific subject through the use of exhaustive inquiries or questions. The survey method is the one which serves as a specialised instrument for investigating the details on particular topics.

Household-based sample surveys

Household-based sample surveys are among the most flexible methods of data collection. In theory almost any population-based subject can be investigated through household surveys. In sample surveys part of the population is selected from which observations are made or data are collected and then inferences are made to the whole population. Because in sample surveys there are smaller workloads for interviewers and a longer time period assigned to data collection, most subject matter can be covered in greater detail than in censuses.

Household labour force sample survey

Household labour force sample survey is an important data source that can in principle cover the entire population of a country, all industries, and all categories of workers, including the self-employed and casual workers. It can also capture work performed in both formal and informal sectors, as well as informal employment.

Importantly, the household labour force surveys collect data from individuals and thus provide information on persons who may be employed in more than one job (multiple-job holders) and different industries (tourism or non-tourism). Furthermore, usually the concepts and definitions of the LFS are based on the ILO international recommendations, which can be used as a yardstick for international comparisons on this topic.

However, because it is a sample survey, it cannot provide all the information needed, especially for local areas and for detailed sector disaggregation. In general, the reliability of results derived from a sample decreases with its size, as well as with the frequency with which the measured characteristic occurs and the evenness with which it is distributed in the population. Thus, there are limits to the use of LFSs for monitoring trends over a small-time intervals or involving only minor movements. Notably, because of tourism activities usually are not evenly distributed across the country geographically, and because they usually constitute a small proportion of the national economy a household survey may reflect a relatively small number of cases of employment in the tourism industries unless the sampling plan has been designed to compensate form this.

Also, due to its coverage (members of households), usually, the LFS only estimates the employment within the borders of a given country and does not capture for example cross border workers or foreign seasonally workers.[21]

Administrative records

Statistics based on *administrative records* (such as social security files, tax reports, employment reports) are usually by-products of administrative processes. They are often based on continuous operations, and can therefore be a useful source of flow statistics and other longitudinal data.

21 As household surveys usually exclude institutional population, this can be an important gap in counties where some groups of tourism workers – for example migrants – live in institutional settings. It should be noted that some countries, such as Canada, capture this type of workforce.

Direct use of individual administrative records by statistical agencies has been growing rapidly during the past two decades. One of the advantages of statistics collected from various administrative sources is that their maintenance is much cheaper than any of the above-mentioned statistical observations. Also, statistics from administrative source are not subject to sampling error and hence, unlike LFS, provide accurate information for local areas.

However, in order to use them properly, the following points should be considered by both data producers and data users.

A principal distinction between the use of administrative records, as opposed statistical data from statistical sources, is the degree to which a statistician is in control of the design and collection of the records. In their majority, administrative records are initially designed with little or no thought about their possible statistical use. The coverage rules, content, reference periods, concepts, and definitions reflect the administrative system which exists in a given country.

A specific feature of the statistical use of administrative source is that they are not subject to sampling error and hence, unlike LFS, provide accurate information for local areas. True, sample surveys provide a wealth of information at the national level but it is not feasible to conduct regular national surveys large enough to yield reliable local (small area) estimates. Administrative data are also cost effective, if they can be converted to appropriate statistical information, as there are no direct collection costs.

The availability and applicability of administrative records for statistical purposes vary from country to country and from regions to regions.

Problems that affect the nature of administrative records and their applications, and that can limit their value, fall into the following categories:

- Quality of data themselves: the accuracy, with which the entities in question are counted, processed and reported;
- Incongruity of concepts, definitions used and the content of administrative records per se within and across countries (question of cross-country comparability);
- Scope and coverage: in most cases administrative records do not refer to the total working age population and do not cover persons employed in the informal sector or person occupying informal jobs (undercount and various types of biases);
- Confidentiality of information registered on individual records (limitations on use imposed by national legislation vary from one country to another); and
- Access, particularly, when registers are kept outside the NSO.

It should be noted that chapter 5 contains examples of two pioneering approaches to the use of administrative records for measuring employment in the tourism industries: the cases of Ireland and New Zealand.

Chapter 4

Issues concerning cross-country comparability of employment statistics

4.1 What are international comparisons used for?

International comparisons are a valuable tool to compare and contextualise general trends in the behaviour of economic and social phenomena, to produce labour force projections and estimates which can reflect global changes of labour utilisation over the course of the business cycle.[1]

There are many ways to show the efficiency and usefulness of international comparisons, but it is difficult to express it better than Carol L. Jusenius and Burkhard Von Rabenau who once wrote:

> "International comparisons […] are useful for various reasons. They serve as a gauge or yardstick against which the performance of one's country can be measured. They are necessary for policy formulation and coordination among countries. For the researchers they provide new insights into […] determinants which may be constant within a country, but may vary among countries. And for the policy analyst, it becomes possible to evaluate the effectiveness of alternative programme. Learning from the success and failure of others may effectively substitute for costly experiments and trial programmes in one's own country".[2]

Although the methodologies used to compile tourism statistics are generally well documented, the comparability of statistical measurement has many shortcomings and even elementary tourism data such as nights, arrivals, number of beds, number of accommodation establishments, occupancy ratios and length of stay may vary significantly. One major problem that tourism managers still face is the availability and comparability of tourism market research information, given the social, economic and environmental impact of tourism as international issue that does not stop at national borders.[3]

Having reliable and comparable tourism statistics offers many advantages of high value to tourism stakeholders at a global scale, i.e. being aware of the meaning of tourism for the respective country, being able to reveal trends and make forecasts, to provide stakeholders with valuable information and assess the economic value of tourism in the economy, being in a position to better allocate resources and carry out cross-country comparisons of the tourism workforce's

1 For detailed information see: Chernyshev, I. (1991), *ILO-Comparable Employment and Unemployment Estimates: A Technical Guide,* Working paper No. 91–3, ILO, Geneva.

2 Jusenius, C. L. and Rabenau, V. B. (1979), *Unemployment Statistics in the United States and the Federal Republic of Germany: Problems International Comparisons,* Background Paper No. 30, National Commission on Employment and Unemployment Statistics, Washington D.C. (online), available at: http://hdl.handle.net/2027/pur1.32754060150731 (14-05-2014).

3 Wöber, K. W. (1997), 'International City Tourism Flows', *International City Tourism – Analysis and Strategy,* Continuum International Publishing Group, London, pp. 39–53.

quality. The latter has a growing importance as a result of the internationalisation and opening of national tourism labour markets to foreign labour and due to ardent competition among the major international tourism agencies and hotel chains for clients and purchases of top quality tourism products and services provided to them. Given that, the need for internationally comparable concepts and definitions for the production of tourism labour market data is obvious.

As follows from the previous chapters, the measurement and understanding of tourism labour market is still inadequate. The main problems are twofold: (a) lack of data and /or technical capacity to produce relevant indicators; and (b) lack of cross-country comparability. While the former has already been covered in earlier chapters of this Guide, the reasons for possible discrepancies and difficulties associated with cross-country comparisons of statistics on employment in the tourism industries at the international scale are discussed in sections below.

4.2 Why do data differ?

While the multiple sources of data on employment in the tourism industries provide users with a wide spectrum of statistics, they may sometimes create confusion as to which of them reflect more accurately and more completely a given phenomenon. Moreover, it is not uncommon that data collected for the same economic variable but from different sources may give not only different results but show opposite trends.

Stemming from the descriptions of the three major groups of sources presented in section 3.4.1 above, such discrepancies of may occur due to the reasons listed below (the list is not exhaustive):

- Different sources: household-based surveys and population census vs. establishment-based surveys and economic census vs. administrative records (NACE or ISIC is a good example, where industry NACE is attributed in accordance with primary activity and contribution to GVA whereas from Household sources, attribution is typically more subjective);
- Conceptual differences: units of observation: counts of jobs (establishments) vs. persons (households/administrative records);
- Reference period and units of measure: point in time vs. averages;
- Coverage (inclusive/exclusive): geographic, population and population groups, etc. (age ‘cut-offs’ can be a particular challenge);
- Definitions: e.g. LFS employment/unemployment vs. establishment survey employment and administrative sources employment/unemployment;
- Difference in sampling frames, sampling techniques, measurement and sampling errors;
- Different economic and population classifications used;
- Changes in relevant household-based and establishment-based survey questionnaires and registration forms;
- Changes in regulations and law (especially in the case of administrative records);
- Bias and error – administrative or sample data may contain errors or bias that have not been identified or corrected; and
- Poor metadata may lead to misunderstandings and misinterpretations. In particular changes to administrative rules that result in changes to scope or coverage but are not recorded in the metadata.

Consequently, it is possible to conclude that, in general terms, cross-country comparability of statistics on employment in the tourism industries is hampered by differences in definitions,

classifications, population groups covered and methods of collection used. Therefore, in order to achieve international comparability, it is important to ensure that the definitions and methodology of data collection are carefully described and, to the extent possible, based on the international definitions, international statistical measurement frameworks and follow the internationally recommended methodological guidelines.

4.3 "Yardsticks" for international comparisons

International comparability can be carried out either between countries with a homogeneous economic structure and relatively equal level of economic development or between different groups of countries. Obviously, the latter case is much more complicated and demands a special set of international uniform measures which should satisfy all participants in such an exercise. Moreover, not all statistical indicators can be directly compared, even though they may have similar names (e.g. *employment* measured through an LFS which includes (country "a") or excludes (country "b") persons in informal employment or employment in the informal sector of the tourism labour market). Another example is unemployment data from Employment Office. Due the legal differences and relevant regulations, it is hardly feasible to arrive at internationally comparable estimates of registered unemployment rates.

It should be noted that in practice, it is very difficult, to achieve a perfect cross-country comparability. The matter is that even with a perfect match of definitions, sources, questions, timing of the statistical observations and the statistical measurement framework, there will still remain differences due to sampling and non-sampling errors, non-response rates, individual perception of questions and a number of other factors. Given that, the ultimate objective of a comparative exercise should be arriving at reasonably comparable and consistent estimates, i.e. achieving an overall cross-country comparability.

The quality and results of work related to the computation of comparative estimates greatly depend upon the selection of a common conceptual basis and measurement framework. In turn, selection of a common basis and framework will depend upon the final objective of the comparative study. Thus, if the study is aimed at a "unilateral" comparison of selected variables, i.e. how one country performs as compared to another country or a group of countries, then the national definitions of the given country should directly be used.[4] Conversely, if the aim of the study is a "bilateral" comparison (i.e. how countries compare against each other) or "multilateral" comparison (i.e. how a range of countries compared among themselves), then relevant internationally recommended standards should be used as a yardstick for cross-country comparisons.[5]

Multilateral comparisons of statistical indicators significantly enhance analytical capabilities to identify common trends in social and economic development of different groups of countries and the global community in general. The results of such comparisons help to identify the levels and patterns of development of various countries through comparisons of the systems of comparable parameters.

4 Bureau of Labor Statistics, U.S. Department of Labor, *International Labor Comparisons (ILC) Programme* (online), available at: www.bls.gov/fls/ (08-05-2014).

5 Organisation for Economic Cooperation and Development (OECD), *Harmonised Unemployment Rates Programme.*

In the case of tourism statistics, the current recommendations, those outlined in the IRTS 2008, constitute the updated reference framework for all national Systems of Tourism Statistics (STSs). It is the essential reference document for the harmonization, coordination and integration of statistical information on tourism (non-monetary indicators, expenditure, consumption and employment).[6]

The recommendations set out in IRTS 2008 for national STSs will facilitate international comparisons, as well as integration within each country's National Statistical System.

It should be specially noted that the *IRTS 2008 Compilation Guide* is another important element in achieving the objective of harmonised and comparable tourism statistics. The Guide has been conceived as a tool for helping the national compilers of tourism statistics to translate the IRTS 2008 recommendations and requirements into the national STSs and to implement relevant national observations following a harmonised methodology. It is a hands-on tool with recommended guidelines. Its main focus is on explanatory notes to the concepts, definitions, classifications, variables and breakdowns. The guide also includes a set of recommendations to the national data producers to be taken into account when carrying out the surveys and data collections to assure the production of high quality and comparable results. In addition, the four annexes included in the *Compilation Guide* contain model questionnaires, classifications of tourism-characteristics activities (industries) and tourism characteristic products, as well as other useful information for harmonisation of national tourism statistics.

A scheme presented in figure 4.1 below illustrates the main components of the conceptual framework for measuring tourism. It highlights the concepts, the corresponding statistical units and their characteristics, as well as the classifications to be used and the basic data and indicators to be included in tables summarizing the main interrelationships within the framework.

6 World Tourism Organization and United Nations (2014), paragraph 1.16.

Figure 4.1 **Basic information framework for international comparability**

1. Conceptual framework	**Concepts**	**Statistical units**	**Related characteristics**
	Visitor (IRTS 2008 paragraph 2.9)	Visitor Travel party	Overnight visitor (tourist), same-day visitor (excursionist) Country of residence/regions Demographics Size
	Trip (IRTS 2008 paragraph 2.29)	Tourism trip Visit	Main purpose Duration Origin and main destination Modes of transport Types of accommodation Organization Expenditure
	Tourism industries (IRTS 2008 paragraphs 6.19–20)	Establishment	– Monetary – Output – Intermediate consumption – Gross value added – Compensation of employees – Gross Fixed Capital Formation – Non-monetary Rooms, bed-places, (room or bed) occupancy rates, and others often specific to the tourism industry
	Employment (IRTS 2008 paragraphs 7.4–9)	Establishment Households Person Jobs	Persons employed Size Status in employment (employees, own-account workers, etc.) Sex Jobs Hours of work Full-time equivalent jobs Wages and salaries
2. Classifications	2.1 Forms of tourism 2.2 Classification of consumption products acquired by visitors 2.3 Classification of productive activities serving visitors 2.4 Other classifications		
3. Tables of results: basic data and indicators	3.1 Inbound tourism 3.2 Domestic tourism 3.3 Outbound tourism 3.4 Tourism industries 3.5 Employment 3.6 Complementary indicators		

Note: Adapted from World Tourism Organization and United Nations (2014), chapter 7, paragraph 1.29, figure 1.1.

4.4 Comparison, adjustment, reconciliation and integration of employment statistics

Chapter 7 of the *International Recommendations for Tourism Statistics 2008* and its *Compilation Guide,* which can serve as an international basis for cross-country comparisons of employment statistics, provided comprehensive conceptual and methodological notes on the measurement of the following key variables of employment in the tourism industries:

- Employment by age group, sex and nationality/country of residence (if relevant) expressed in terms of number of jobs, persons, hours of work, full-time equivalent;
- Employment by type of establishments (size, formal, informal, etc.);
- Employment classified by occupation and status in employment;
- Permanent/temporary employment expressed in terms of number of jobs, persons, hours of work, full-time equivalent, etc.;
- Employment by educational attainment;
- Hours of work (normal/usual, actually worked, paid for);
- Working time arrangements;
- Compensation of employees;
- Labour cost; and
- Mixed income of self-employed persons.

These attribute type data are absolutely essential if proper gender or pay-gap analyses are to be done. While very few countries are in a position to compile all these statistics and indicators, many of them may be tempted to compare their own performance with other countries using the data available.

It should be recalled that direct comparison of selected indicators may sometimes result in misinterpretation of definitions and methodologies, as well as misunderstandings, even though data compared may have similar names and come from similar statistical sources. This statement fully applies to the variable listed above.

In terms of cross-country comparative exercises carried out either by individual countries or international organisations, the following levels of international comparisons are discussed in this Guide.

4.4.1 Comparison

Cross-country *comparison* is limited to the juxtaposition of results from one or various sources *ad hoc* or on a regular basis in order to highlight differences and similarities (irrespective of the action undertaken as a result of this comparison). It will typically involve a graphic or tabular presentation of the alternative series, perhaps accompanied by a commentary, which may include a qualitative explanation of any overall differences in level or trend. Comparison of data may take place at the level of the aggregates or at the level of the individual data (micro-level).[7] This type of comparison will have the highest effect if the concepts, definitions, classifications, sources and reference period of the compared variables have *a priori* been harmonised on the basis of

7 Leunis, W. P. and Altena, J. W. (1994), *Labour Accounts in the Netherland, 1987–1993: How to reconcile information from different sources* (Mimeographed), Statistics Netherlands, Voorburg.

the agreed set of uniform recommendations/standards. Statistics collected through the European Union Labour Force Survey (EU-LFS) present a good example of such harmonisation.

4.4.2 Adjustment

Adjustment, also referred to as *harmonisation,* goes one step further and implies an established set of procedures employed to improve the coverage, classification, timing and valuation of the data; to conform to a recording basis; or to address data quality differences in compiling specific data sets, usually coming from similar statistical source.

The degree or complexity of the adjustment procedures depend on the expected level of detail of the cross-country comparisons. For example, the objective of the ILO international comparison programme is to produce ILO-comparable employment and unemployment annual estimates. Therefore, to achieve the objective, the 19th ICLS *Resolution concerning statistics of work, employment and labour underutilization* should be used as a common basis for cross-country comparisons.[8] Further, as stated in the resolution, "in general, household-based surveys are best suited for collecting statistics […] of the labour force covering the resident population, their participation in all jobs and in all forms of work […] Labour force surveys are the main source of statistics for monitoring labour markets, labour underutilization including unemployment, and the quality of jobs and working conditions of persons in employment and in unpaid trainee work"[9].

Consequently, the adjustment procedures is based on data collected through national Labour Force Surveys and harmonised with the ILO labour force framework encompassed in the 19th ICLS resolution.

Given that the ultimate objective of the ILO programme is to produce ILO-comparable employment and unemployment annual estimates broken down by sex, age groups and major ISIC (Rev. 4) industries, the adjustment procedure involves a meticulous study of the national LFS definitions of the labour force categories of the countries included in the ILO comparative programme, their comparison with the relevant ILO definitions and categories underpinning them, detailed documentation of the differences in definitions, etc. found, followed by adjustments (additions or subtractions of conflicting data) to remove/reduce the differences revealed. Notably, if the discrepancies are negligible, in terms of their magnitude, the adjustments are usually disregarded.

In addition, given the fact that in case of country-to-country comparisons averages can better smooth out seasonal variations than monthly or point in time estimates, the ILO programme has opted for annual averages. Hence, the harmonised annual, biannual or quarterly LFS data are finally converted to annual averages according to the established procedures and formulae.

8 International Labour Office (2013), *Resolution concerning statistics of work, employment and labour underutilization,* adopted by the Nineteenth International Conference of Labour Statisticians (October 2013), Geneva (online), available at: www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS_230304/lang--en/index.htm (08-05-2014).

9 At regional or small area, other data sources may become more important if LFS cannot provide granularity required.

4.4.3 Reconciliation

Reconciliation can be defined as a complement of a comparison with an attempt to quantify reasons for differences with a view to diminishing or even fully adjusting the discrepancies resulting from different sources. It is used to bridge distinctive gaps in coverage of individual sources, smooth over measurement errors and clear up differences in definitions and classifications used. This often involves analysis at the level of sub-aggregate components and sometimes at the level of individual analytical units. Simply speaking, reconciliation is adjustment of different data sources in order to avoid conflicting data.[10]

4.4.4 Integration

Finally, the highest level of data manipulation with the objective to enhance overall data reconciliation, consistency and comparability is *integration* of data from different sources or *construction of accounts* such as labour accounts, Tourism Satellite Accounts, social accounts, etc., whereby the various types of inconsistent data are reconciled to yield a hybrid "best" estimates. In general terms, an accounting system is an interrelated set of definitions, classifications and measurement conventions which are useful for organising quantitative description, planning and analysis,[11] as well as international comparison of integrated data.

Labour Accounting System

Proceeding from the above definition, a labour accounting system (LAS) may be defined as a system where statistics on labour supply and demand, wages and labour costs are reconciled with demographic, migration and education statistics in a cross-sectorial and longitudinal dimension and integrated into a single overall system, which can be further linked with interrelated variables of a system of national accounts. More specifically, to construct labour accounts, it is necessary to identify the conceptual basis for links with a wider set of social and demographic statistics on one side and with general economic statistics on the other. Creating LAS involves identifying basic structural elements and units of observation, reference periods, as well as identification of major distributive variables and their value sets.

In the process of LAS reconciliation of data from different sources, the following four stages are distinguished:

1. *Harmonisation* whereby the differences in definitions, etc. are removed. Source data are adjusted in such a way that for each variable data according to one single definition becomes available. The same can be said about differences in classification and level of detail;
2. *Completion* whereby full coverage is reached by using data from various sources. Sometimes estimation procedures are needed;

10 Chernyshev, I. (2001), 'Improving Labour Statistics in Ukraine Through the Integration of Employment and Unemployment Data From Different Sources', *ILO Bulletin of Labour Statistics 2001-4* (online), available at: www.ilo.org/global/statistics-and-databases/WCMS_087904/lang--en/index.htm (08-05-2014).

11 Turvey, R. and Hoffmann, E. (1990), 'A Labour Accounting System', in: Turvey, R. (ed.), *Developments in International Labour Statistics,* Pinter Publishers, London, p. 17.

3. *Minimisation of measurement errors* whereby the source data are adjusted in such a way that measurement errors are eliminated as far as possible. This stage can be characterised as "an organised hunt for errors", by confronting countries from different sources; and
4. *Balancing* whereby the discrepancies which still remain after the first three stages are eliminated by a balancing method. Sometimes balancing is done "manually", sometimes mathematical procedures are used (e.g. a Lagrange minimisation procedure). Usually, an element of judgement is needed in making the balancing decisions: which data sources must be adjusted mostly depends on judgements on the relative accuracy of the various sources. When relations between various variables exist, judgements are needed on which variables are measured most accurately.

By way of example of LAS utilisation in tourism statistics, the Dutch TSA table 7 *Employment in the Tourism Industries,* compiled as a result of the CBS pilot study, was based only on the labour accounts and made it possible to know the impact of tourism on employment.

Tourism Satellite Account

The international conceptual framework for tourism statistics is largely provided by the *Tourism Satellite Accounts* (see also section 3.1.1 of this Guide). They serve a practical conceptual framework reconciling tourism supply and demand, for which the data produced by various statistical sources must be compatible. It helps the policy-makers to understand what tourism is, its socio-economic impact and the role it plays in trade, investment and economic development. Thus, the TSA helps to organise the decision-making process in a more systematic way. It provides those involved in tourism with a common, credible methodology and offers a complete data base with mutually consistent data, comparable over time, for the purpose of measuring the economic importance of tourism at national level.

The TSA framework is linked to the SNA, which provides an overall framework for organizing economic data and enables policy-makers to compare the tourism industries with other national industries and thus to steer their policy decisions by taking an overall view of tourism in relation to other sectors of the economy.

The TSA table 7 covers *Employment in the Tourism Industries* in terms of number of jobs; hours of work; and full-time equivalent jobs by status in employment of employees and self-employed, all broken out by twelve tourism characteristic industry/activity groups.[12]

From the logical and conceptual point of view, a TSA should provide a robust basis for cross-country comparisons. While it is true in principle, the international comparability and consistency of TSA estimates, including those presented in its table 7, can only be achieved if countries progressively harmonise and standardise the concepts, definitions and primary sources of statistical data (household surveys, establishment surveys, accommodation surveys, consumption expenditure surveys, etc.). These sources furnish the TSA builders with primary data, which are further processed, reconciled and linked to produce interrelated TSA variables. To this end, if the "input data" are comparable, the "outputs" produced should also be comparable.

12 TSA:RMF 2008, pp. 64–65.

In their process towards harmonisation and standardisation of the concepts, definitions and primary sources of statistical data, countries are encouraged to follow the IRTS 2008 and its *Compilation Guide,* which provides comprehensive conceptual and methodological notes on the measurement of the key variables of employment in the tourism industries.

OECD Employment Module (OECD EM)[13]

The OECD EM is a methodological framework for integration of data through an employment module linked to the TSA (see also section 3.1.2 of this Guide).

Tourism employment should not purely be seen as a production factor (TSA concept), but also as a social phenomenon (e.g. number of persons employed, their socio-demographic profiles, conditions of work, motivation, etc.). The TSA provides the employment module with an economic context, which offers opportunities to get more insight into the relationships between, for example, labour markets and other economic processes. Such a system cannot be limited to such aspects as productivity and indirect employment effects, but should also be able to make further differentiation of labour income, for example, by sex, working schemes or other variables. It is, therefore, important that the TSA can be used as a framework for the construction of an employment module, providing a central frame for its concepts, definitions and classifications.

The main idea behind linking the TSA with the Employment Module is to create an internationally accepted statistical framework, within which different sources of micro-data on employment can be integrated, through the module, into the more aggregated macro data of the TSA.

In a standard TSA, labour is only treated as a single homogeneous factor of production, providing levels and volumes of employment. In other words, levels of tourism-related employment are mostly compiled from a demand-side approach. However, no details of the composition and structure of employment are provided. An integrated framework can be a tool to compile consistent time-series at a macro level, as well as consistent and integrated time-series on labour data at a micro level (supply-side). This permits the integration of labour market analysis (e.g. persons employed; households) into the TSA (e.g. industries and institutional units). The ultimate objective is to create a Tourism Social Accounting Matrix (TSAM)[14], whereby monetary data is linked with non-monetary data such as employment data.

To make this possible, a process of integration of basic data is needed. The broad outline of such a process of integration or micro-macro linkage is that basic employment data, for example a labour force or establishment survey, has to be brought in accordance with the concepts, definitions and classifications, described in the IRTS 2008 and its *Compilation Guide,* and based on National Accounting concepts.

This process of integration is not a straightforward exercise and can differ strongly between variables. Much depends on the availability of employment data in a country. Some general steps have to be followed.

13 Organisation for Economic Cooperation and Development (2000), pp. 125–203.

The discussion is partially adapted from: Heerschap, N. M. (1999), *The Employment Module for the Tourism Satellite Account of the OECD,* Statistics Netherlands, The Hague.

14 United Nations (2009), chapter D. *Social accounting matrices.*

First, there is the question of the selection of the *industries,* which demarcate tourism seen from a supply-side perspective. To link the employment module with the TSA, it is obvious that the selection of industries must be in line with the industries chosen in the TSA.

A second question is which *variables* are used to make the first connection with the TSA? In general, the National Accounts (NA), and hence the TSA, describe an economic process. In that process labour volumes and labour cost play an important role in the production of tourism goods and services. On the other hand, tourism production leads to value added of which a part goes to the compensation of employees and mixed income of self-employed.

A third question is how to make the *actual connection?* Or better, the connection between the available basic sources of employment data, like a labour force or establishment survey for example, and the employment module/TSA. For this purpose the ideas behind *labour accounting* can be applied.

As already previously explained, the basic problem of the integration process is that different sources of information on employment use different concepts and definitions. The easiest way out of this problem is to use only one source, that is the most reliable or broadly-based source of information (preferable some kind of household or labour force survey). In that case, however, often not all data can be produced. A second option is to use different sources of information and just provide some clarification for the discrepancies between these sources. The best but most difficult option is to integrate available sources of information. This can mean that different data-sources have to be joined together or that one basic source is benchmarked against other sources. This could be, for example, the employment data of jobs of employees of a labour force survey set against the data of jobs of employees of an establishment survey. Or the integration of employment levels calculated through the employment module and the estimates of the TSA, directly made through National Accounting. Or using distribution ratios, derived from one source, to disaggregate data from another source. Usually this means that data of different sources have to be mutually adjusted.

Similarly with the LAS integration procedure, the OECD EM process of statistical integration or reconciliation has the following four steps:[15]

1. **Harmonisation:** adjustments for differences in definitions, classifications, time of surveying and level of detail. This also means that beforehand a set of core definitions has to be defined (TSA/SNA-concepts), because that is the goal to aim at. For example, this is done by bringing the tourism-related employment data of a labour force survey in accordance with the definitions and classifications set in the employment module. Some main questions are: does everybody (people employed/jobs) in the data set fit the definitions and classifications of the employment module[16]; should groups be excluded or should groups be added; and are people employed/jobs assigned to the proper classification?
2. **Full or identical coverage:** adjustments for differences in coverage, because the different sources of information often do not describe the total or same population, for example only employees. So, the main question is: are there any groups left out who fit the definition of the employment module but who are not in the basic source of information, which is used?

15 Organisation for Economic Cooperation and Development (2000), pp. 160–163.

16 The Organisation for Economic Cooperation and Development (2000) definitions and classifications should be revised and aligned with the recommendations encompassed in IRTS 2008 and World Tourism Organization and United Nations (2014), as well as with the conceptual framework of SNA 2008.

3. **Minimisation of measurement errors:** corrections for measurement errors. Data from different sources of information are confronted with one another and measurement errors are eliminated as much as possible. This is an organised search, for which a top-down analysis is the most effective. Possibilities are, for example, benchmarking (totals) with other available sources; using interrelationships between variables; and comparison with figures of previous periods. If consistency does not hold than one or more variables probably suffer from measurement errors, comprising sampling, as well as non-sampling errors. The main question is: is the data internally and externally consistent, also in conjunction with other sources and identities?
4. **Balancing:** if only one basic source of information is used then this step can be skipped. If, however, more than one source is used, for example using a labour force and industry survey to determine the number of jobs of employees, than this step of balancing has to be applied. Even after the first three steps, there will be (small) differences between sources of information. The total reconciliation can then be achieved by using some kind of mathematical balancing algorithm, at least as long as the differences are not too big. This step could also be used if employment data is derived separately through National Accounting and through the employment module. In this case a better alternative is to set the TSA totals as target totals and reweigh the totals derived through the integration process of the employment module to these TSA-totals. Otherwise, at least in the case of the compensation of employees, this could even lead to the adjustment of tourism GDP in the TSA.

Important: in order to measure and harmonise tourism-related employment data directly in accordance with the employment module, the definitions and classifications encapsulated in the OECD EM 2000 should be revised and aligned with the recommendations encompassed in IRTS 2008 and its *Compilation Guide,* as well as with the conceptual frameworks of the TSA:RMF 2008 and SNA 2008. In the meantime, it is recommended to use the latter set of international standards for the OECD EM procedures.

Tourism research requires quantitative data (based on statistical figures) for calculation. Important in this respect are the problems of data comparability, completeness and detailing of statistical data and the timelines of its delivery.

It is not surprising therefore that a number of countries and international organisations consider it important, and even necessary, to compare data collected from different sources in order to both understand why similar activities yield different statistics and to provide users with “guidelines” on how to use them.

Further, if comparable, the benefits comprehend the ability to benchmark the input and outcome with other countries and adding additional meaning to the figures obtained, avoiding mistakes caused by misuse and/or misinterpretation of definitions and methodologies, as well as misunderstandings when comparisons are made. The invaluable advantage of having reliable and comparable tourism statistics cannot be questioned. The return outweighs the effort by far.[17]

17 Ostertag, J. (2007), *The Definition and Compilation of European City Tourism Statistics* (online), available at: http://tourmis2.modul.ac.at/material/Ostertag.pdf (13-05-2014).

Chapter 5

Best practices of measuring employment in the tourism industries: beyond the TSA

This is a special chapter of the Guide compiled with the objective to share the experiences of eight countries, selected from the joint ILO/UNWTO publication *Sources and Methods in Labour Statistics – Employment in the Tourism industries (Special Edition)*[1], as those whose models exemplify best or interesting practices in measuring employment, wages, hours of work and other employment categorical variables in the tourism industries. While a number of cross-references can be perceived, each country's practice demonstrates an individual approach to facing challenges and finding solutions in measuring multiple aspects of the tourism labour market.

Thus, while Austria, Canada and the United Kingdom methodology is consistent with the *TSA Recommended Methodological Framework* and the OECD employment module in particular, each follows its own path. In particular, Austria measures direct and indirect employment in the tourism industries, whereas Canadian's employment estimates gauge main jobs that can be attributed to tourism spending in tourism and non-tourism industries. As for the United Kingdom, the procedure used by the Office for National Statistics allows for analysis of all of the elements of employment in tourism highlighted in the IRTS 2008 measurement framework (see section 3.1.3. of this Guide).

Brazil has achieved impressive results attempting to measure both formal and informal jobs in the tourism industries, and in estimating formal tourism employment by combining administrative records statistics with data collected through a special sample telephone survey.

At the core of the analyses presented in the Irish practice are administrative data, particularly business demography statistics. These data are linked at the micro level to other administrative tax and social welfare data to provide broader regional analyses than have previously been possible in Ireland. A variety of estimates of tourism employment of New Zealand is also produced by linking micro data from administrative records and surveys. However, New Zealand uses a slightly different approach linking the Longitudinal Business Database and Integrated Data Infrastructure.

The experience of Switzerland presents the case when a county, due to data availability and in order to keep complications to a minimum, applies the tourism characteristic product structure rather than the tourism characteristic activities/industries to compile the TSA table 7 and related estimates of employment.

In order to carry out analysis of the tourism labour market, Spain has developed a conceptual framework for measuring employment in the tourism industries around the concept of employment measured through the Tourism Satellite Account. This example illustrates how existing employment sources can be used not only to compile TSA table 7 but can also serve as the basis for the construction of many other tables and an in-depth analysis of the Spanish tourism labour market.

1 See also section 4.2 of this Guide.

Section 5.1 below contains a brief overview of the above eight country practices followed by comprehensive methodological descriptions of the country-specific approaches used.

Some descriptions reiterate the importance of cross-country comparisons and detail in how these could be achieved.

Finally, a number of country practices described in this chapter illustrate numerous examples of analysis of key employment variables and tourism labour market situation and trends.

5.1 Brief overview of country practices

Austria: TSA Employment Tool

The *TSA Employment Module of Austria* represents an approach to draw a more comprehensive picture of the tourism industry impact on the labour market, considering *tourism characteristic industries.* In order to get a better idea about the composition of employment, a supply-side approach is mainly used which is adjusted using demand related data (TSA tourism ratios). The methodological basis of the Austrian measurement mainly refers – apart from the TSA:RMF – to the *OECD Manual on Tourism Satellite Account and Employment* (2000). In the Austrian TSA Employment Module the figures are displayed according to two concepts encompassed in the System of National Accounts, "number of jobs" and "full-time-equivalents" (FTE). The main data source used is the employment-related data from the National Account statistics. In order to maintain consistency with the Austrian TSA results, these figures form the Austria Manufacturing basis for the extrapolation of structural data classified by sex and according to NACE (Rev. 2) at 4-digit-levels. The data are mainly derived from the most recent results of the Austrian Labour Force Survey, Statistics and Services Survey, the Economic Census and culture statistics. In addition, relevant administrative data are also used.[2]

Brazil: measuring tourism related employment

The System of Tourism Statistics of Brazil has been developed as a result of two initiatives geared towards measuring the economic importance of tourism. One of these initiatives is developed by the Institute of Geography and Statistics of Brazil – IBGE and the other by the Institute of Applied Economic Research (IPEA). These are the complementary initiatives, because they tackle the same phenomena but from the different perspectives. At the same time, the two organisations are following similar parameters, especially regarding the UNWTO recommendations on the construction of a Tourism Satellite Account.

The IBGE is responsible for the development of a Tourism Satellite Account of Brazil, which interlinks macroeconomic aggregates of the tourism characteristics activities/industries – value added, number of jobs, total paid income and consumption of tourism characteristic products by families. The collection of this structural information is carried out annually.

2 Statistical Office of the European Union (2009), *Tourism Satellite Accounts in the European Union, Volume 1: Report on the implementation of TSA in 27 EU Member States,* Methodologies and Working Papers, Eurostat (online), available at: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-09-021/EN/KS-RA-09-021-EN.PDF (13-05-2014).

The IPEA measure both *tourism employment* in the tourism industries and *employment* in the tourism industries. The measurement of employment in the tourism industries is straightforward, whereas measuring tourism employment in the tourism industries requires data from a special telemarketing survey conducted by the IPEA. It should be emphasized that the IPEA focuses mainly on statistics of tourism employment in the tourism industries (see section 2.3 of this Guide).

Particularly, the methodology used in Brazil captures both formal and informal jobs in the tourism industries.

The IPEA, in partnership with the Ministry of Tourism, has developed an integrated *Tourism Labour Market Information System* (SIMT). The SIMT provides basic statistics and indicators on the importance and evolution of employment in tourism to support policy formulation for the sector. SIMT statistics are estimates of the formal and informal employment in the following seven tourism characteristic activities/industries (TCAs) in Brazil: accommodation services, food services, transport, auxiliary transport, travel agencies, rental transport, culture and leisure activities. In addition, it contains data on regions and states broken down by sex, age, education, occupations, compensation, size of establishment, length of service (job tenure) and some other employment relevant characteristics.

The IPEA Telemarketing Survey, conducted through telephone interviews, yields a percentage share of tourists' and residents' monthly consumption by TCAs and by state. It is carried out once every five years. Findings of the survey are used to build *coefficients of tourism services* within the 7 TCAs.

A detailed description of the methodology and procedures used to produce estimates for the *Tourism Labour Market Information System* (SIMT), statistical tables and survey methodology can be consulted on the official IPEA web page: www.ipea.gov.br *(Tourism Employment).* In 2009, SIMT estimates were integrated into a comprehensive set of indicators used by the Ministry of Tourism to monitor the implementation of the National Tourism Development Plan.

Canada: measuring employment in the tourism industries – Beyond the Tourism Satellite Account

Canada has a fully developed and highly advanced set of statistical procedures and derivative applications for measuring and analyzing a multitude of employment aspects in the tourism industries. This has become possible as a result of Canada's pioneering work in developing a Tourism Human Resource Module (HRM) of the Canadian Tourism Satellite Account (CTSA) according to the OECD Manual on Tourism Satellite Accounts and Employment (2000).

The CTSA-HRM forms a database of tourism-related employment statistics. It uses concepts/definitions of the SNA and TSA and integrates and reconciles data from several sources. The CTSA is carried out by Statistics Canada with funding from Canadian Tourism Human Resource Council (CTHRC).

From CTHRC's perspective, tourism labour markets are central to the tourism economy and the socio-economic benefits derived from tourism.

The methodologies and data generated in the Canadian experience apply the main concepts, measures and definitions relating to the characterization of the employment dimension of tourism identified in the International Recommendations for Tourism Statistics 2008, including: employment in the tourism industries, tourism employment, persons employed, jobs, hours worked, full-time equivalent employment, labour income, salaries and wages.

The concept of *tourism employment,* which in accordance with the IRTS 2008, refers to employment strictly related to the goods and services acquired by visitors and produced by either tourism industries or other industries, is measured through the CTSA-HRM.

One of the main objectives of the development of the CTSA and its HRM is to provide aggregate measures of the economic importance of tourism in terms of these economic variables that are directly comparable with similar measures from the CSNA for other industries and the overall economy – particularly gross domestic product and employment.

In addition to serving the framework for measuring tourism employment, the CTSA provides the initial central framework and point of leverage for the development of still further statistical applications and extensions that generate even more data and information about the employment and labour aspects of tourism in national and regional economies. These further measurement advances beyond the TSA are included within the complementary Canadian Tourism Labour Market Information System (TLMIS).

Like all markets, tourism labour markets run on information. And to function well, they require accurate and timely information. Tourism labour market information (TLMI) is knowledge; facts, data, and relevant institutional information on tourism labour supply and demand.

Due to the lack of comprehensive sets of data the tourism labour market remains one of the least studied areas of tourism economics. As a result, tourism-specific labour markets are generally described in the tourism and labour policy literature as comparatively little known.

The CTSA provides the prerequisite keys enabling tourism statisticians and researchers to move beyond jobs and also reveal employers and, most importantly, tourism workers and their characteristics. As a result, various extensions and applications of the TSA have enabled Canada to move beyond the TSA in describing the characteristics of both the jobs in tourism industries and the characteristics of the persons employed in those jobs in even more detail.

One of such extensions is measuring the employment dimension of tourism through the concept of *employment in the tourism industries.* This concept focuses primarily on the social and work characteristics of persons employed in their main jobs in tourism industries in Canada regardless of whether their job or employment can be directly attributed to visitor consumption. It is important to remember that this involves the shift in above conceptual perspective moving from *tourism employment to employment in tourism industries.* It is also important to note that the estimates of persons employed in tourism industries are mainly derived from two different primary data sources – the Canadian Population Census and the Labour Force Survey – using different data compilation and estimation approaches.

Although the results of the studies based on the above conceptual framework are less timely than other subsequently developed complementary information sources, no other data source can

provide such detailed information on a multitude of social and demographic aspects of tourism workforce.

The developmental work on the methodology, scope and coverage of the employment in the tourism industries is led by the CHRTC in collaboration with Statistics Canada and the national Tourism Commission.

Ireland: using of administrative data for structural and regional analysis of employment in the tourism industries

The Irish approach, attempts to exploit information held on business registers and other administrative data sets by linking these data together, in order to compile a suite of indicators relating to tourism industries and employment in those industries. The Irish practice, included in this Guide, presents a profile of enterprise demography and employment for the tourism industries in Ireland at county level, which corresponds with level 4 of the European Union spatial classification NUTS[3]. New metrics, entitled *Tourism Dependency Ratios* are derived and mapped. These ratios illustrate how the tourism supply side can be analysed and understood from a spatial perspective. Estimates for part-time, full-time and full-time equivalent (FTE) employment in the tourism industries are also provided as are some of the key attributes of this labour: age, gender, nationality and income.

New Zealand: analyzing tourism employment from linked administrative and survey data

New Zealand's official measure of tourism employment (which includes both direct and indirect employment) comes from the Tourism Satellite Account (table 7 *Employment in the Tourism Industries).* This provides an estimate of the number of employees and self-employed, including the number employed part-time, full-time and full-time equivalents. These employment estimates are derived from survey-based estimates of industry level employment.

While these measures are useful, stakeholders want much more comprehensive and detailed information on tourism employment. Over the last 10 years Statistics New Zealand have linked together a large amount of administrative and survey data on businesses and individuals for statistical and research purposes. The Ministry of Business, Innovation and Employment is increasingly relying on this data for information on employment. Administrative data can not only tell the users about employment, by detailed industry and region, it can also provide insights on worker turnover, tenure, job creation and destruction.

Spain: using of different data sources to measure and analyse employment in the tourism industries

The system of tourism statistics in Spain consists of statistics produced by the National Statistics Institute of Spain and the Institute of Tourism of Spain (Turespaña). Both have developed the

3 NUTS – Nomenclature of Units for Territorial Statistics. At the top of the hierarchy are the individual member states of the European Union: below that are levels 1 to 3, then local administrative units (LAU) levels 1 and 2. See: www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/eurostat/index.html.

analysis of employment in tourism. The Statistics Institutes of the Autonomous Communities and Regional Tourism Ministries collect and distribute statistical data at the regional level.

The Institute of Tourism of Spain (Turespaña) is the body responsible for the production of the tourism-related information, as well as research and analysis of factors impacting tourism development. The latter is, in turn, subordinate to the State Secretariat of Tourism (Ministry of Industry, Energy and Tourism). The Institute's research work concentrates on the economic and socio-demographic aspects of tourism, including employment in the tourism industries.

In order to carry out analysis of the tourism labour market, the National Statistics Institute is responsible for the development of the TSA Employment Module of Spain which represents an approach to draw a picture of the tourism industry impact on the labour market, considering tourism characteristic industries. This module measures both tourism employment (which includes direct and indirect employment) and employment in the tourism industries.

The Institute of Tourism of Spain is focused on exploiting information of Labour Force Survey, Social Security administrative records, Labour Cost Survey and Labour Situation Survey, in order to compile a suite of indicators relating to employment in the tourism industries and in line with international recommendations. Each of the data sources is useful in revealing different aspects and characteristics of the employment in tourism (number of employees and self-employed by sex, age, level of studies, and regions in Spain. Number of employed persons by part-time and full-time, by permanent/temporary job, wages and hours of work), and all ultimately serve different information needs of end-users.

Switzerland: measuring employment in the tourism industries

To address the need for more detailed information in the field of employment in tourism industries and tourism employment, the Federal Statistical Office of Switzerland (FSO) compiles a Tourism Satellite Account every 3–4 years.[4]

The goal of the TSA is to provide answers on the status and development of tourism in Switzerland from an economic perspective. Three core variables are surveyed:

- Tourism consumption (i.e. total tourism consumption);
- Value added by tourism; and
- Tourism employment.

It should specially emphasised that, unlike the labour market statistics of the FSO, the *TSA for Switzerland is not structured according to industries or sectors of the economy, but according to tourism products.* In this respect the TSA for Switzerland does not follow exactly the *Tourism Satellite Account: Recommended Methodological Framework 2000* (TSA: RMF 2000), table 7. Due to data availability and in order to keep complications to a minimum, Switzerland decided to apply the same product structure to TSA table 7. It goes further than the TSA: RMF, however, in so far as not only employment in tourism industries is estimated, but also tourism employment, i.e. employment directly generated by tourism. On the other hand, the TSA only measures

4 So far a TSA for Switzerland has been compiled for the years 1998, 2001 and 2005.

employment in full-time equivalents (FTE), other variables concerning employment are not included in the estimation.

The number of employees is classified according to the following three types of employment:

1. Full-time as a single job in tourism industries;
2. Part-time as the main job in tourism industries – other job in tourism industries; and
3. Part-time as the main job in other industries – other job in tourism industries.

The above corresponds to the measurement framework of jobs in the tourism industries given in figure 7.1 of the IRTS 2008, chapter 7.

United Kingdom: measurement of employment in tourism

There are a number of different sources for measuring employment in tourism in the United Kingdom. One of the key aims of the new Tourism Intelligence Unit of the Office for National Statistics (ONS) is to construct a consistent framework for analysing tourism in line with international recommendations.

The data available at the ONS allows for analysis of all of the elements of employment in tourism highlighted in the IRTS 2008 measurement framework (see IRTS 2008 table 7.1). When examining employment in the tourism industries, the ONS makes estimates of the number of jobs in tourism and non-tourism activities broken down by employee and self-employed jobs as presented in table 7 of the UK TSA. The value of being able to then draw on household-based surveys to illuminate characteristics of tourism jobs, such as the prevalence of second jobs, and the characteristics of those who work in the tourism sector, is invaluable in providing context to this overall picture of employment in the tourism industries.

The following sections will explain in more detail country-specific practices of measuring employment in the tourism industries.

5.2 Austria: measurement of tourism employment

Tourism plays a significant role in the Austrian economy. In order to determine the importance of tourism in monetary terms, a *Tourism Satellite Account* (TSA) for Austria was set up in a joint project by Statistics Austria (STAT) and the Austrian Institute of Economic Research (WIFO), commissioned by the Federal Ministry of Economy, Family and Youth (BMWFJ). The first reference year for the TSA was 1999, and the results have been continuously updated. According to TSA figures, the direct value added by the Austrian tourism industries amounted to EUR 17 billion in 2011 (including business trips), which represents 5.8% of the total GDP.

The high economic significance of tourism positively affects the labour market, making a considerable contribution to the overall employment in Austria. Given that, the importance of tourism as a source of job creation is evaluated by the level of its contribution to the employment situation in the country. The objective is to determine the extent to which the Austrian labour market depends on the tourism economy. The first reference year for the Austrian *TSA Employment Tool* (TSA-ET) was 2003 and, since then, the results have been continuously updated by STAT and WIFO.

In 2011, according to the TSA-ET figures, 315,000 jobs – or 254,500 jobs in full-time equivalents (FTEs) – directly attributed to the tourism characteristic industries; which accounted for 7.3% and 7.2% of the total employment in Austria, respectively.

The TSA-ET represents a methodical approach for recording and evaluating employment in (or resulting from) the *tourism industries.* The Austrian approach to the measurement of employment in tourism represents a method drawing a more comprehensive picture of tourism´s impact on the labour market and its job creation potential. In contrast to most other available studies on tourism employment, all tourism characteristic industries[5] included in TSA and the corresponding demand effects are taken into account to assess the overall employment effect.

The methodological basis of the TSA-ET is in line with the requirements of the TSA Standard table 7 *(Employment in the Tourism Industries)* of the *TSA Recommended Methodological Framework 2008* (TSA:RMF), and therefore with the *System of National Accounts 2008* (SNA 2008) and the *European System of National and Regional Accounts 1995* (ESA-1995); furthermore, the *OECD Manual on Tourism Satellite Accounts and Employment* serves as an important methodological basis. This ensures 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 the Austrian classification, three divergences from TSA:RMF 2008 should be mentioned:

- Up to now, “Renting and leasing of motor vehicles” (ISIC Rev.4, 7710) is not considered due to the lack of available data;
- “Passenger transport supporting industry” (part of ISIC Rev.3, 6303), as required by TSA:RMF 2001, is still under consideration; and
- For “Retail trade of country-specific tourism characteristic goods” and “Other country-specific tourism industries” data are not available. However, relevant estimates show that their magnitude is rather insignificant.

5 ISIC Rev.4: 49, 50, 51, 52, 55, 56, 59, 60, 79, 90, 91, 92 and 93. Notably, due to the lack of available data “Renting and leasing of motor vehicles” (ISIC Rev.4, 771) has not been considered so far.

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 factor of production. It does not include any estimates of black or illegal labour or contributing family workers; any seasonal adjustments are not made. These important aspects of labour in the tourism industries may be dealt within future studies.

Employment can be expressed as employed persons (labour force concept), jobs, full-time equivalents or hours of work. Currently, the Austrian TSA-ET covers *jobs and full-time equivalents.*[6]

The number of jobs is higher than the number of full-time equivalents, since one person may have one or more jobs. Importantly, jobs differ in size; they can be full- or part-time. To obtain a better indication of the labour performed during a specific reference 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 a job group. For the measurement of jobs and FTEs, employees and self-employed working in the tourism industries *in any of their jobs* are included in tourism employment.

The employment data from the *National Accounts* (NA) form the basis for the final estimates. They are used for extrapolating structural information (broken down by sex according to NACE (Rev. 2) 2-digit-level), taken from other sources, to ensure compatibility with the TSA. The following sources are also taken into consideration:[7]

- Structural Business Statistics (SBS);
- Social Insurance Records;
- Labor Force Surveys (LFS); and
- Business Register.

Notably, to overcome problems due to seasonal fluctuations, annual averages are used.

The reference values for the *jobs* and *FTEs* for employees and self-employed are derive from the National Account. Since the NA data is only available at a 2-digit-level and not broken down by sex, *additional data sources* are taken into account:

- *SBS* data on job-holders, broken down by sex, is used for information on *status in employment* (employee, self-employed) at a 4-digit-level, as well as the *number of establishments* (except for "culture, entertainment and sport") (NACE Rev. 2, 59, 60, 90, 91, 92 and 93). The data is converted accordingly to the FTEs. For the structural information on jobs, the relevant *Social Insurance Records* are used;
- Since the SBS does not cover "culture, entertainment and sport", structural information from the *Social Insurance Records* has to be used for the weighting of jobs and FTEs;
- The number of establishments for "culture, entertainment and sport" is taken from the *Business Register;* and
- For the distribution by sex of employment in the total economy, the *LFS* estimates are used.

6 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.

7 A more detailed description of the data sources used can be found in: International Labour Organization and World Tourism Organization (2008), *Sources and Methods, Labour Statistics – Employment in the Tourism Industries (Special Edition),* UNWTO, Madrid, pp. 25–31.

Tourism employment is derived by applying the *tourism ratios*[8], produced from the most recent TSA, table 6, results, to the employment estimates for each industry. This method of using the tourism ratios follows the assumption that the employment generated by tourism in each industry is in direct proportion to the value added by tourism.

Compared to other sectors, the Austrian tourism industry features a higher-than-average share of *self-employment.* Thus, 15% of all FTEs in the tourism characteristic industries are self-employed. However, in total Austrian economy, the share of self-employed in FTEs is lower and amounts to 13.6% (see table 5.1).

It should be noted that 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 "Culture, entertainment and sport" (21.8%), followed by "Food and beverage serving industry" (19.5%) and "Accommodation for visitors" (17.3%). With its 6.9%, the share of self-employed found in "Passenger transportation" is rather low. At the same time, in "Railway passenger transport" almost no self-employed can be found, since this industry is dominated by the Austrian Federal Railways (ÖBB; see table 5.2).

In "Accommodation for visitors" and "Culture, entertainment and sport", almost an even gender balance is observed among self-employed in FTEs. At the same time, in some industries, the share of male self-employed dominates quite significantly, e.g. in "Air passenger transport", where the share of female self-employed was only 17% in 2011.

Nevertheless, it should be noted that the average share of female self-employed in the tourism characteristic industries (45%) is still higher than in total Austrian economy (37.9%). This high ratio of female entrepreneurs in the tourism industries is achieved due to the female dominance in "Accommodation and food and beverage serving industry".

8 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.

Table 5.1 **Tourism industries compared to other industries (FTE), 2011**[1]

NACE Rev. 2		Full-time equivalents (FTE)					
		Employees		Self-employed		Total	
		(× 1,000)	Share (%)	(× 1,000)	Share (%)	(× 1,000)	Share (%)
A	Agriculture, forestry and fishing	23.5	13.0	156.8	87.0	180.3	100
B	Mining and quarrying	5.3	97.0	0.2	3.0	5.4	100
C	Manufacturing	545.1	96.6	19.4	3.4	564.5	100
D	Electricity, gas, steam and air conditioning supply	25.1	94.9	1.4	5.1	26.5	100
E	Water supply, sewerage, waste management and remediation activities	20.0	97.6	0.5	2.4	20.5	100
F	Construction	254.9	90.7	26.2	9.3	281.1	100
G	Wholesale and retail trade, repair of motor vehicles and motorcycles	463.1	88.5	60.0	11.5	523.0	100
H	Transportation and storage	183.2	94.0	11.7	6.0	194.9	100
I	Accommodation and food service activities	176.9	81.4	40.4	18.6	217.3	100
J	Information and communication	72.8	83.3	14.6	16.7	87.5	100
K	Financial and insurance activities	105.8	93.3	7.5	6.7	113.3	100
L	Real estate activities	37.6	79.5	9.7	20.5	47.3	100
M	Professional, scientific and technical activities	128.7	70.0	55.3	30.0	184.0	100
N	Administrative and support service activities	157.9	92.9	12.0	7.1	169.9	100
O	Public administration and defence, compulsory social security	228.2	100	–	–	228.2	100
P	Education	208.8	96.6	7.3	3.4	216.1	100
Q	Human health and social work activities	294.4	91.6	27.0	8.4	321.3	100
R	Arts, entertainment and recreation	38.6	77.7	11.1	22.3	49.7	100
S	Other service activities	76.5	79.0	20.3	21.0	96.9	100
T	Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	5.7	100	–	–	5.7	100
U	Activities of extraterritorial organisations and bodies	–	–	–	–	–	–
A to U total		**3,052.0**	**86.4**	**481.2**	**13.6**	**3,533.3**	**100**
TSA Tourism industries		**216.3**	**85.0**	**38.1**	**15.0**	**254.4**	**100**

1) Preliminary results.

Source: Statistics Austria, National Accounts, Tourism Satellite Accounts for Austria; WIFO (Austrian Instituite of Economic Research). Compiled in February 2013.

Table 5.2 **Status of employment (FTE) in tourism characteristic industries, 2011 (%)**[1]

Tourism industries	Full-time equivalents (FTE)						
	Employees			Self-employed			Total share
	Male	Female	Total	Male	Female	Total	
Accommodation and food and beverage serving industry							
Total	**31.6**	**49.8**	**81.4**	**9.5**	**9.1**	**18.6**	**100**
Accommodation for visitors	29.5	53.2	82.7	9.5	7.8	17.3	100
Food and beverage serving industry	33.0	47.6	80.5	9.5	10.0	19.5	100
Passenger transport							
Total	**67.5**	**25.6**	**93.1**	**5.2**	**1.7**	**6.9**	**100**
Railway passenger transport	90.7	9.3	100	0.0	–	0.0	100
Road passenger transport	76.2	14.2	90.4	7.2	2.4	9.6	100
Water passenger transport	66.2	23.2	89.3	8.3	2.4	10.7	100
Air passenger transport	51.7	45.1	96.9	2.6	0.5	3.1	100
Passenger transport supporting industry	85.4	13.1	98.6	1.2	0.2	1.4	100
Travel agencies and other reservation service	52.0	42.6	94.6	4.0	1.4	5.4	100
Culture, entertainment, sport							
Total	**41.7**	**36.5**	**78.2**	**11.6**	**10.2**	**21.8**	**100**
Culture industry	39.3	38.9	78.2	11.0	10.9	21.8	100
Sport and recreational industry	46.0	32.2	78.2	12.8	9.0	21.8	100
Total	**44.5**	**40.6**	**85.0**	**100**	**6.7**	**15.0**	**100**

1) Preliminary results.

Source: Statistics Austria, Tourism Satellite Accounts for Austria; WIFO (Austrian Instituite of Economic Research). Compiled in February 2013.

Further, 58% of all FTEs jobs are in "Hotel and restaurant industry" (of which 34.9% in "Restaurants and similar establishments", and 23.1% in "Hotels and similar establishments"); the remaining share of FTEs jobs is attributed to "Passenger transport" (33.5%) and "Sports and recreational industry" (8.5%), of which 5.5% can be attributed to "Culture" and 3.1% to "Sports" (see table 5.3).

The *indirect employment effects* are estimated as an *extension* to the basic TSA ET by the WIFO. The indirect effects are calculated with the help of the Input-output analysis. For 2011, the *direct and indirect employment effects* in tourism industries accounted for 333,400 jobs in FTEs. According to this result, the contribution of tourism to the overall employment amounted to 9.4%.

Another *extension* to the basic TSA ET (calculated also with the help of the -Output Analysis by the WIFO) takes into account the effects due to *leisure activities of residents within their usual environment.*

Table 5.3 **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	
	(× 1,000)	Share (%)	(× 1,000)	Share (%)	(× 1,000)	Share (%)	(× 1,000)	Share (%)
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 service	35.5	11.3	29.1	13.5	1.7	4.5	30.7	12.1
Culture, entertainment, sport								
Total	**28.7**	**8.3**	**17.0**	**7.9**	**4.7**	**12.3**	**21.7**	**8.5**
Culture industry	18.3	5.8	10.8	5.0	3.0	7.9	13.9	5.5
Sport and recreational industry	10.4	3.3	6.2	2.9	1.7	4.5	7.9	3.1
Total	**315.1**	**100**	**216.3**	**100**	**38.1**	**100**	**254.5**	**100**

1) Preliminary results.

Source: Statistics Austria, Tourism Satellite Accounts for Austria; WIFO (Austrian Instituite of Economic Research). Compiled in February 2013.

In 2011, considering the leisure activities of residents within their usual environment, the tourism employment effects accounted for 291,500 FTEs. The contribution of leisure activities to the overall employment amounted to 8.3%.

Taking into account that every sixth full-time equivalent job is directly or indirectly generated by the tourism and leisure industry, the overall impact of *leisure consumption* in usual environment and *tourism consumption* in non-usual environment (tourism and leisure industry) on job creation becomes evident.

5.3 Brazil: measuring tourism related employment

5.3.1 Employment data sources of Brazil

In Brazil, a number of organisations are responsible for collecting labour market statistics. These organisations all use different methodologies and scope. The information below presents a methodological summary of data collection procedures on income and employment produced by the Institute of Geography and Statistics of Brazil (IBGE) and by the Ministry of Labour and Employment (MTE). These data sources are used for labour market analysis, as a reference for public policy development and trade union negotiations on wage bargaining and collective agreements.

Demographic Census

The Demographic Census of Brazil is conducted once every ten years.[9] It counts the country's population, identifies their demographic and economic attributes and provides information on general living standards.

Two types of questionnaires are used: a simplified or basic questionnaire and an extended one (a sample module questionnaire). The sample module includes all questions included on the basic questionnaire and additional questions addressing issues such as religion, physical handicaps, migration, fertility, employment and income. The sampling fraction depends on the size of a municipality's population[10]. Importantly, sampling fractions are sufficiently robust to carry out analysis at the level of municipalities or even smaller areas.

The 2010, census collected information on following the categories of employment and income:[11]

- Paid work for at least one hour during the reference week;
- Temporary absences from paid work;
- Contributing family workers;
- Existence of non-paid job with agricultural activities;

9 Since 1890, the Demographic Census has taken place every 10 years in Brazil, with the exceptions of 1910, 1930 and 1990 (delayed to 1991).

10 In the 2000 Demographic Census, this fraction was 20% for cities with the population of 15,000 people or less as of 1 August 2000. For larger cities, the fraction was 10%.

11 Reference is made to the classification of statistics on economic activities according to the National Classification of Economic Activities (CNAE).

CNAE is structured by four hierarchical levels: the first two levels – sections and divisions – follow the structure of International Standard Industrial Classification of All Economic Activities' (ISIC). The following levels of CNAE – groups and classes – are more detailed and reflect the country's economic structure.

The Demographic Census and all the IBGE household-based data cannot be disaggregated to the level of detail necessary to determine the tourism industries within the CNAE classes. To cope with the situation, a special alternative classification was developed for the household-based surveys, which regroups and details the CNAE classes to the tourism characteristic industries levels. This structure – that corresponds to the first two levels of the CNAE – is called Household CNAE (CNAE Domiciliar).

In Brazil, the administrative records on occupations are classified according to the Brazilian Classification of Occupations (CBO Domiciliar) and fall under responsibility of the Ministry of Labour and Employment. This classification is based on the International Standard Classification of Occupations (ISCO). In the beginning, the CNAE Domiciliar was neither fully compatible with the CBO nor with ISCO. The 2000 Demographic Census used the CBO Domiciliar for the first time.

- Collection of wood (forestry);
- Husbandry;
- Hunting, fishing or mining;
- Number of jobs/occupation; and
- Type of activity (formal, informal, own-account etc.) in the main job.

National Household-based Sample Survey (PNAD)

Since launching the first National Household Sample Survey (PNAD) in 1967, Brazil has progressively implemented a system of household surveys. The PNAD has multiple objectives and measures including many socio-economic and demographic characteristics. Characteristics on population, educational levels, employment, income and dwelling are surveyed annually. Other attributes, such as migration, fertility, health and food safety are surveyed at changing intervals. Additional topics may also be included according to particular demands of users, such as the Ministry of Health or the Council of National Justice (CNJ).

Since 1992, the definition of employment used in the PNAD has been broadened and currently counts as employed both persons producing goods for their own consumption or engaged in construction for their own use. The survey also uses CBO Domiciliar and CNAE Domiciliar classifications for occupations and industry, respectively.

Data are available at country, regional and state levels, as well as for nine metropolitan areas (Belém, Fortaleza, Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo, Curitiba e Porto Alegre).

In addition, the PNAD also measures the level of educational attainment, which can be combined with employment and income data for analysis.

The PNAD's methodology has been revised considerably with the objective of becoming part of the Integrated Household Surveys System (SIPD). The revised version, known as a 'Continuous PNAD', will be conducted throughout a year on a continued basis.

Monthly Employment Survey (PME)

The Monthly Employment Survey (PME) is a household-based sample survey conducted by IBGE with the objective of measuring the economically active population and its relationship with the labour market. The survey, which started in 1980, covers six metropolitan areas: Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo and Porto Alegre.

The PME is an interview based survey of persons aged 10 years old or more who live in the surveyed households. The survey collects data on persons with formal job attachments (working in public and private sector), employees in informal jobs, employers, own-account workers, unpaid contributing family workers and domestic workers (with or without formal contracts). It also collects data on wages and salaries of employees, as well as mixed income of self-employed.

In addition, the PME provides information on usual monthly compensation (wages and salaries); actually received monthly compensation; usual weekly hours of work; actual weekly hours of work, etc. Those employed are classified by:

- Industry;[12]
- Occupation;[13]
- Status in employment (employer, own-account worker, etc.);
- Category (formal/informal worker, public sector official/military);
- Sector (public or private);
- Area in the public sector (federal, state and municipal); and
- Type of work contract (fixed-term or without limit of time).

Consumer Expenditure Survey (POF)

The objective of the Consumer Expenditure Survey of Brazil (POF) is to measure the structure of household income, expenditure and consumption and facilitate the study of living conditions in Brazil. The survey provides information classified by level of household income, region, urban and rural areas and by level of educational attainment. It also generates data for the market and production groups analyses. To smooth seasonal fluctuations of income and expenditure estimates, the POF data collection covers the period of full 12 months[14].

To meet new demands of the 21st century, the POF has been extended to cover data on non-monetary acquisitions. Importantly, in response to the growing demand for tourism statistics, the 2008–2009 round of the POF included a new item in the *Individual Expenditure Questionnaire* (section 41) on non-routine trips[15] made during the 90 days preceding the reference period. As a result, section 41 includes not only expenditure incurred on travel agencies, transportation, hotels, hostels, housing rentals, cars, restaurants and bars but also purchases on tickets for cultural (movies, museums, theaters etc.) and sporting events. Moreover, the section has questions on travel destinations (foreign or domestic) and quality of service provided (in case of domestic travel).

To enhance internal consistency and comparability, IBGE is planning to cover all household-based surveys carried out in the country by the Integrated Household Surveys System (SIPD).

Similarly with the Demographic Census and the PNAD, the last two POF rounds used the CNAE Domiciliar and the CBO Domiciliar for industry and occupation classification. This allowed for a better comparison of employment and income estimates with data collected from other sources. However, it should be recalled that these observations have different objectives, sampling designs, concepts and reference periods.

12 The PME uses the CNAE Domiciliar which has the following eight groups of industry: 1 – Mining, manufacturing, production and distribution of electricity, gas and water; 2 – Construction; 3 – Commerce and repairs of automobiles, personal and household goods; 4 – Services provided to enterprises, financial services, rental and real estate services; 5 – Education, health, social services, public administration, defense and social security; 6 – Household services; 7 – Other services (accommodation and food service activities, transport and storage, urban cleaning, communications, arts, entertainment, recreation and personal services); and 8 – Other (industries not included in the previous categories).

13 According to the CBO Domiciliar.

14 Thus, the 2002–2003 round of the POF was conducted throughout July 2002 to June 2003; and its 2008–2009 round – during May 2008 to May, 2009.

15 *Non-routine trips* include only those paid by the surveyed family. Data on business trips (paid by an enterprise) are not covered in this survey.

Enterprise (establishment)-based surveys

The *Annual Service Survey* (PAS) is a two-stage stratified sample survey and is the main source of data on the structural characteristics of non-financial activities of the service sector in Brazil. The statistical series commenced in 1998. The PAS is one in the suite of annual structural surveys adopted by the IBGE to replace the Economic Census.

The primary survey unit is an enterprise, defined as a legally registered unit (a firm or an enterprise) that encompasses economic activities carried out by one or more local units. The enterprise is responsible for all production-related decisions, as well as financial obligations and liabilities for transactions undertaken by its production units.

The survey provides quarterly data on the number of paid employees, as well as non-salaried persons, such as owners and partners working at the enterprise, members of producers' cooperatives and unpaid contributing family workers), as of 31 March; 30 June; 30 September; and 31 December.

The survey also collects annual regional data on the number of establishments; persons employed; wages and salaries and other types of payments (as of 31 December).

The PAS data are classified according to CNAE 2.0 (compatible with ISIC Rev. 4) whose industries and codes are listed in table 5.7.[16]

Administrative records: CAGED and RAIS

General Registry of Employed and Unemployed (CAGED)

The General Registry of Employed and Unemployed was created with the objective of monitoring admissions and dismissals of workers under private sector employment legislation (Consolidação das Leis do Trabalho – CLT). In accordance with the legislation, enterprises must submit via Internet[17] monthly reports to the Ministry of Labour and Employment detailing individual admissions and dismissals registered during the preceding month.

Each new employee in the current month, is counted as one admission and each person who retired, was dismissed, died or terminated their work relation with the employer, irrespective of the reason (e.g. by own initiative or not) during the current month is counted as a single dismissal.

The CAGED does not register public sector employees, temporary workers or own account workers providing services through unions. Thereby, the CAGED only partially covers the RAIS universe.[18]

16 Prior to 2007, the PAS used the 1.0 version of CNAE, compatible with ISIC (Rev. 3). For 2007, the data are available according to both classifications.

17 Data are to be transmitted until the 7th day of the month.

18 The CAGED also excludes data on household (domestic) workers, even if they are registered as formal workers.

It does provide monthly data on private sector employment. These data are available at the same level of disaggregation as RAIS i.e. broken down by geographical area, industry and occupation. It also has the same national coverage and significant data available by municipality. According to the Ministry of Labour and Employment, the CAGED covers about 85% of all private sector workers; some regions and industries have higher coverage than others.

The CAGED data are mainly used for the calculation of unemployment benefits; for professional training programmes and as supplementary information for public policy formulation and analyses.

Annual List of Social Information (RAIS)

The Annual Register of Social Information was established in December 1975. The RAIS is a comprehensive administrative record maintained by the Ministry of Labour and Employment. Its completion is compulsory for all registered establishments (even for those without employees in which case they must complete a "Negative RAIS").[19] Operationally, information provided by the RAIS is mainly used for the calculation of salary bonuses.

The following data are available on registered employees:

- Worker's personal data (name, sex, nationality, educational level, etc.);
- Admission/transfer information;
- Contractual salary/basic payment;
- Number of weekly hours of work (excluding extra working time);
- Occupation (according to the Brazilian classification of occupations – CBO);
- Monthly payment;
- Extra time worked, if any;
- Separation grant (one-time payment to a worker upon dismissal);
- 13th salary value; and
- Termination/end of work contract payments.

Data on enterprises/establishments and employment are broken down by municipality, industry and occupation. Information on stocks (number of jobs) and flows (admissions and dismissals), classified by sex, age group, educational level, average income and income group (grouped by number of minimum wages received) are published. Currently, the RAIS covers about 90% of formal sector employment and has become a key source on the formal labour market.

Classification used

By matching tourism-characteristic activities, classified to ISIC Rev. 4, with CNAE industries, IBGE could identify the corresponding industries in the SNA of Brazil.[20]

However, in the 2008 publication on *Tourism Economy,* the National Accounts industries were classified according to the CNAE specific codes and did not perfectly match with ISIC

19 Annually, declarations must be filled out and send to RAIS during January and February with information on the preceding year.

20 It is not a simple task to define the boundaries of the tourism characteristic industries from the supply perspective, especially when considering the range of industries related to tourism.

(Rev. 4) industries. Therefore, data contained in that publication reflected a mixture of tourism-characteristic and non-tourism characteristic industries.

It was, therefore, necessary to adopt a method that could separate non-characteristic industries from the tourism-characteristic activities. With this in mind, variables included in the 2009 publication *(Tourism Economy 2003–2006)* were compiled using tourism ratios produced on the basis of relevant SNA tables. This involved an implicit assumption that the employment generated by tourism in each industry is the same as the value added generated by tourism.

The 2010 publication *(Tourism Economy 2003–2007)* had the same format, scope and methodology as the one produced in 2009.

Beginning in 2008, IBGE enterprise surveys began using the revised version of the National Classification of Economic Activities (CNAE 2.0). However, the classification of economic activities used in the National Accounts of Brazil remained unchanged. Indeed, such a change would require updating the full National Accounts, as well as production of revised/adjusted time series. Therefore, and in order to preserve comparability of historical time series, enterprise survey data were converted back to CNAE 1.0 for the purpose of measuring various dimensions of tourism economy.

The correspondence between the codes of CNAE 2.0 and 1.0 is not perfect. Consequently it is not always possible to convert certain variables back to CANE 1.0. This discrepancy has been addressed by aggregating “Boat transport services” and “Auxiliary transport services”, making it possible to obtain relatively consistent results (see table 5.4).

Table 5.4 **Correspondence between the classes of the characteristics of tourism activities and CNAE version 1.0 and 2.0**

Description	CNAE 1.0 classes	CNAE 2.0 classes
Accommodation services	55.13 + 55.19	55.10 + 55.90
Food and beverage services	55.21 + 55.22 + 55.29	56.11 + 56.12
Subway and train transport	60.29	49.50
Road transport	60.24 + 60.25	49.22 + 49.29
Airplane transport	(1) 62.10 + (1) 62.20	51.11 + 51.12
Boat transport and auxiliary transport services	(1) 61.11 + (1) 61.12 + 61.21 + 63.21 + 63.23	(1) 50.11 + (1) 50.12 + 50.99 + 50.22 + 52.22 + 52.40
Travel agencies and tour operators	63.30	79.11 + 79.12 + 79.90
Vehicles rental	71.10	77.11
Entertainment, cultural and sports activities	92.13 + 92.31 + 92.32 + 92.39 + 92.51 + 92.52 + 92.53 + 92.61 + 92.62	59.14 + 90.01 + 90.02 + 90.03 + 91.01 + 91.02 + 91.03 + 92.00 + 93.11 + 93.12 + 93.19 + 93.21 + 93.29

1) Partially related to tourism typical industries (passenger transport).

Source: IBGE, Survey Directory, National Accounts Coordination.

5.3.2 The IBGE Approach measuring employment in the tourism activities/industries

Between 2007 and 2010, IBGE released four publications on *Tourism Economy.* These publications were produced as a result of a cooperation agreement between the IBGE and the Ministry of Tourism.

The 2008 publication provides information on the number of formal and informal jobs in tourism industries, including separate data on employees and self-employed in informal jobs. The information is limited to the total number of formal and informal jobs in the tourism industries. For the moment, there is insufficient information to distinguish between jobs and employment.

IBGE also collects data on wages and salaries (compensation of employees) in tourism characteristic industries and publishes information on total consumption of tourism characteristic products by tourists and residents and by tourism characteristic activities.

It is difficult to make direct estimates of employment in the tourism industries due to the difficulties encountered in compiling the output estimates for relevant SNA tables.[21]

The main data sources for the compilation of National Accounts tables on jobs and compensation of employees are the IBGE enterprise surveys, the Central Register of Enterprises (CEMPRE), the PNAD and the Internal Revenue Service of Brazil (fiscal data). Most of the SNA statistics on self-employed, informal jobs and their income come from the PNAD.

In the case of tourism characteristic activities, data on jobs and compensation come from the Annual Survey of Services (PAS), CEMPRE, RAIS and the PNAD. The estimation procedure on the number of jobs in the tourism industries is as follows:

To estimate the total number of formal jobs in each SNA industry, the data on formal jobs, extracted from the PAS, are classified according to the CNAE Domiciliar codes. Thereafter, these data are further disaggregated according to the CNAE Domiciliar tourism industries. Further, the total number of formal jobs in the tourism industries is divided by the total number of formal jobs in SNA, classified within the CNAE Domiciliar. The resulting ratio is multiplied by the number of jobs in the corresponding industry within the SNA of Brazil.

In the case of boat and airplane transport, an additional procedure is used to separate jobs in cargo and passenger transport. The share of passenger transport revenue to total revenue is considered as a proxy for the distribution of jobs among passenger and cargo transport industries.

In the case of accommodation services, travel agencies and tour operators, as well as entertainment, cultural and sports activities, the number of jobs (formal and informal) corresponds to the National Accounts total number of jobs, since they are all considered to be tourism characteristic activities (industries).

The SNA data on self-employed, informal employees and unpaid contributing family workers come mainly from the PNAD. Therefore, the corresponding estimates of jobs in the tourism industries are

21 As noted above, currently Brazil does not produce a TSA.

also based on data collected from the PNAD. The procedure is similar to that described above: the number of informal jobs in the tourism characteristic industries coded to CNAE Domiciliar (PNAD data) is divided by the number of informal jobs in the National Accounts aggregate classified to the CNAE Domiciliar industries (also PNAD data). The ratio obtained is multiplied by the number of informal jobs in the corresponding industry of the National Accounts.

Since CNAE Domiciliar does not distinguish passenger transport from cargo transport, a ratio of tourism characteristic jobs in boat and airplane transport, compiled on the basis of revenues in cargo and passenger transport (PAS auxiliary data), is used to estimate the tourism characteristic jobs in passengers transport.

The methodology adopted covers only *direct employment in tourism characteristic industries.* Therefore this approach does not take into account indirect employment or tourism induced employment. The estimates refer only to jobs and their full-time equivalents.

It is worth repeating that estimates of the number of employed persons cannot be currently produced. This is because enterprise/establishment surveys only provide information on the total number of jobs. In contrast the PNAD provides estimates on number of persons in their main and secondary jobs. Hence, the total number of jobs and persons employed will differ.

In enterprise/establishment surveys, economic units are classified on the basis of their main activity (revenue or value of shipments is used to determine an establishment's primary business activity). This impacts on the measurement of jobs in the tourism industries. Tourism characteristic industries are classified according to establishments whose main activity is tourism-characteristic activity. Consequently establishments producing tourism services as a secondary activity are not included. Thus, for example, if a gas station also offers food services, this secondary production will not be part of the tourism industry production/activity. On the other hand, an establishment, whose main activity is tourism but who is also engaged in secondary production of other goods or services, will be included but not all jobs will be counted as those in the tourism industries.

It should be noted that the measurement of jobs in the tourism industries differs from the measurement of jobs generated by tourism consumption. Not only does this involve measuring the volume of production of goods and services of both main and secondary production, but furthermore it is necessary to distinguish jobs related to visitors' consumption from those related to residents' consumption of similar goods and services. Table 5.5 below summarizes the sources used to estimate jobs in the tourism industries.

Table 5.5 **Survey sources: data collected and coverage**

Source	Data collected	Coverage	Publication
RAIS	Formal jobs	TCA, month, state	Annual
CAGED	Admissions and dismissals	TCA, month, state	Monthly
PNAD	Ratio of informal to formal jobs	TCA, September, region	Annual
IPEA	Share of "tourist services" (%)	TCA, month, region	~ 5 years

Monthly estimates of formal jobs per TCA, by month and state, are obtained by multiplying the RAIS data by the coefficient of tourist services. Estimates for informal jobs are obtained by multiplying the ratio of informal to formal jobs for TCA in each region (PNAD data) by estimates of formal jobs for TCA, by month and region.

Taking into consideration that policy makers need information on the employment in the tourism industries at more frequent intervals, preliminary estimates on tourism employment are produced on the basis of the CAGED records, which are released approximately 30 days after the reporting month.

These estimates are obtained by adding the difference between monthly admissions and dismissals (CAGED data) to the number of formal jobs (RAIS data) and applying the result to the coefficient of "tourism services". Preliminary estimates of informal jobs are derived by multiplying the ratio of informal to formal jobs taken from the PNAD by the preliminary estimates of formal jobs.

Preliminary estimates of informal jobs are built by multiplying the ratio of informal to formal jobs taken from the PNAD to the preliminary estimates of formal jobs.

After the release of the RAIS data, the estimates are recalculated and the preliminary estimates are replaced by final ones.

5.3.3 The IPEA approach

Tourism employment in the tourism industries: Tourism Labour Market Information System (SIMT)[22]

During the past ten years, the Institute for Applied Economic Research (IPEA) has been developing, in partnership with the Ministry of Tourism (MoT), an integrated *Tourism Labour Market Information System* (SIMT).

The main objective of the SIMT is to provide inputs for the design and evaluation of public policies in tourism. To this effect, the most relevant employment-related issues[23] faced by entrepreneurs in this sector were identified within the Ministry of Tourism. The main issues were:

- Size of the workforce in the tourist activities;
- Annual and monthly evolution of the labour force supply to the tourism sector;
- Composition of labour force from the perspective of the formalization of employment relations (case of informal employment);
- Profile and transformations that occur in the tourism labour force (schooling, occupation, age, gender, etc.);
- Profile of the establishments that employ this labour force (activity, size, etc.);

22 For detailed description see: Rodriguez, A. and Zamboni, R. (2006), *Integrated Information System on the Labour Market in the Brazilian Tourism Sector: IPEA's Experience* (online), available at: www.ipea.gov.br/agencia/images/stories/05_Artigo__Brasil_may2006.pdf (13-05-2014).

23 It should be noted that particular aspects of labour force profile such as schooling, sex and race, for example, are useful not only to provide inputs for tourism policies and associated social programs, in the same way that aspects related to the profile of companies, such as activity, size, and location can subsidize regional policies or help in the establishment of strategies of institutions that promote development.

- Contribution of the tourism workforce to the national income; and
- Annual List of Social Information – RAIS: administrative registry of the Ministry of Labor and Employment (MTE).

This set of questions, on one hand, and their interrelations on the other, provided the basis for the definition of the priority issues tackled by the SIMT study. Another objective of the IPEA study was to obtain data in order to provide policy makers and stakeholders with comprehensive information that would contain:

- Greater detail on activities to help define the main TCAs;
- Greatest possible geographic disaggregation;
- Detailed specification of tourism establishment characteristics; and
- Detailed profile of the workforce by age, sex, educational attainment and occupation.

In addition, the following information requirements were identified:

- Data reliability;
- National coverage of the sources used; and
- Coherence with the National Statistical System and in particular with the TSA.

Once the information needs had been identified, the potential and limitations of the main labour force data sources available in Brazil were analyzed vis-à-vis the requirements specified above.

Confronting the information needs of the Ministry of Tourism against the available data sources highlighted a gap that could not be bridged by existing sources. This gap concerned the absence of reliable data for the tourism ratios in TCAs. This absence compromised the viability of minimal precision of estimates on the workforce in the tourism sector.

Overcoming this limitation became a strategic objective. The priority attributed to establishing SIMT was associated with the decision to treat administrative registers from the Ministry of Labour and Employment – CAGED and RAIS – as the most appropriate sources for assessing the size, evolution and profile of the workforce in the tourism sector, as they best address information gaps regarding the formal labour force. Cross-reference between the data from these administrative registers and the tourism ratios constituted the basis of the SIMT.

This option was also based on the understanding that detailed knowledge about formal employment, based on RAIS data, would ensure a better approach to measuring informal employment, based on the PNAD data, in the next phase of the SIMT's implementation.

Due to the lack of information on tourism consumption in Brazil, all statistical measures referred to employment in tourism industries, as opposed to tourism employment.

Consequently, in 2004, IPEA conducted a Telemarketing Survey (a telephone sample survey) to estimate the proportion of services provided by businesses to tourists and residents in order to produce a better estimate of tourism employment. The coverage of the survey was limited to establishments operating in the tourism industries. Thus, the IPEA estimates refer to tourism employment in the tourism industries as well.

The assumption underlying the above approach is that the percentage share of tourist services equals the percentage of jobs attributed to tourists' consumption. For example, if the coefficient

of "tourist services" provided in Food and beverage industry in a given state and month was 20%, the tourism employment in that state and month would account for 20% of employment in that TCA. The seven TCAs covered by the telephone survey were:

- Accommodation services;
- Food and beverage services;
- Transport;
- Auxiliary transport services;
- Transport equipment rental;
- Travel agencies and other reservation services; and
- Cultural, sports and recreational activities.

Telemarketing Survey

Sources of data

The population of establishments used for selection of the sample was extracted from the Registry of Companies and Establishments (CEE), which is updated on a monthly basis by the MTE. It is a comprehensive and up-to-date registry with data on identity, location, economic activity and size of legal and individual entities that maintain employment bonds ruled by the Consolidation of Labour Laws (CLT) or by the Statute of Civil Public Servants of the State (Public servant protected under specific legislation).

The CEE is structured through four sources:

1. Annual data of the most recent RAIS;
2. Monthly declarations of admissions and employment terminations (voluntary and involuntary dismissals) of employees under the CLT regime from the General Registry of Employed and Unemployed (CAGED);
3. The most recent monthly version of the National Registry of Legal Entities (CNPJ) of the Ministry of Finance; and
4. Data of the INSS Specific Registry (CEI)[24] of the Ministry of Social Welfare.

Sample design[25]

The statistical unit of the Telemarketing Survey (TS) was an establishment. The TS used the following multi-stage stratified probability sample design:

- Each State generated an explicit selection stratum (h = 1 ... 27). These strata could be aggregated up to 5 administrative regions (H = 1 ... 5);
- The strata corresponded to the seven TCAs groups (I = 1 ... 7); and
- The third stratification criterion used in the sample selection corresponded to the five size brackets of establishments:
  - 1–4 employees;
  - 5–9 employees;

24 Register at CEI is mandatory for: professionals with ensured employees; companies and similar without obligation of CNPJ register or that haven't do it yet; similar ones to exempt company from register at CNPJ.

25 For detailed description of the survey methodology see: Rodriguez, A. and Zamboni, R. (2006), pp.13–30.

- 10–19 employees;
- 20–49 employees; and
- ≥ 50 employees (j = 1 ... 5).

It should be pointed out that in the CEE, the size stratum of 50 and more employees allow a greater detailing: 50–99; 100–249; 250–499; 500–999 and 1,000 and more employees. However, as described in the following section, these brackets had the same sampling fraction (nhij / nhij = 1).

The combination of categories corresponding to these three criteria defined a maximum of hij = 945 selection cells which, hereafter referred to as selection domains.

Sample size

Initially, the proposed sample was 12,000 establishments to be surveyed over a period of four months. However, taking into consideration the volume of work and compilation procedures, the decision was made to increase the sample size to 15,903 establishments and extend the survey timeframe to six months.

Data collection procedure

Due to the high cost of telemarketing surveys and the lack of specialized staff in IPEA to carry out this type of work, the survey was outsourced to Teltec, a private company located in Brasilia that had already successfully conducted telemarketing work on behalf of IPEA. IPEA provided the list of establishments selected with corresponding addresses, telephone numbers and email address, whenever the data were available on the CEE register. The information had to be verified with local telephone operators and complemented by Teltec data in order to cover any omissions, replace outdated information or remove errors contained in the register. The sample of 15,903 establishments provided by the IPEA included 782 units without a telephone number; half of which had between 1 and 4 employees. The survey would be preceded by a pilot exercise, where the telephone questionnaire was tested, on 800 establishments. As a result, it was agreed that the maximum number of calls to each establishment would be limited to 10, and that the deadline for the data delivery to the IPEA would be six months after the signature of the contract with Teltec.

During the survey reference period, over 8,000 establishments spread over the entire country, were effectively interviewed about the percentage of tourists among their clients. These data were used to estimate *coefficients of tourist services* per TCA.

Contents of the survey questionnaire

As it was a telephone survey, the IPEA decided to prepare a questionnaire with simple questions which basically served the main purposes of the IPEA study. All of these questions were necessary for the calculation of tourism ratios. The topics and variables included in the Telemarketing Survey Questionnaire are shown in table 5.10.

Summary of results obtained through the Telemarketing Survey

The results of the survey (see table 5.6) reveal that 55.3% of the selected establishments provided some sort of reply and 87.6% of them were effectively interviewed. Even though this percentage of successful answers seems low, it is not significantly different from those obtained in similar telemarketing surveys conducted by the IPEA in the past, which also used CEE sources, covered the entire country and interviewed large, medium and small units.

Consequently, it was not possible to produce robust coefficients for each TCA and each state. Nevertheless, it was possible to produce coefficients for 13 of the 27 states of Brazil. The remaining 14 states were divided in 6 homogeneous groups. This did not compromise the estimates, since these 14 states represent only 18% of jobs in the tourism industries.

The telephone survey was repeated in 2010 in order to update the coefficients. After the second survey, the range of tourism-characteristic activities was expanded to align with those recommended by the IRTS 2008 and data collected in 2003 were re-estimated, based on results from the second round the telephone survey.

It should be noted that while data on employment in the tourism industries are available from the local (municipality) level and above, data on tourism employment in the tourism industries are available at the state level only.

Table 5.6 **Survey results**

Total of establishments selected in the 38 TCAs	**15,903**
Respondent sample units	
Interviews carried out	7,701
Inactive units	22
Deactivated units	465
Refusals	605
Sub-total	**8,793**
Non-responding sample units	
Wrong telephone number	2,011
Not contacted afterwards 10 calls	4,929
Other reasons	170
Sub-total	**7,110**

Many more methodological particularities are not discussed in this section as they need more space and time.[26]

26 For detailed description of the survey methodology see: Rodriguez, A. and Zamboni, R. (2006).

Table 5.7 **CNAE 2.0 – Services: Annual Services Survey (PAS)**

Divisions	
37	Sewerage and related industries
39	Remediation activities and other waste management services
50	Water transport
52	Warehousing and support activities for transportation
53	Postal and courier activities
55	Accommodation
56	Food and beverage service activities
58	Publishing activities
59	Motion picture, video and television program production, sound recording and music publishing activities
60	Programming and broadcasting activities
61	Telecommunications
62	Computer programming, consultancy and related activities
63	Information service activities
66	Activities auxiliary to financial service and insurance activities
68	Real estate activities
71	Architectural and engineering activities; technical testing and analysis
73	Advertising and market research
74	Other professional, scientific and technical activities
77	Rental and leasing activities
78	Employment activities
79	Travel agency, tour operator, reservation service and related activities
80	Security and investigation activities
82	Office administrative, office support and other business support activities
90	Creative, arts and entertainment activities
92	Gambling and betting activities
93	Sports activities and amusement and recreation activities
95	Repair of computers and personal and household goods
96	Other personal service activities
Groups	
01.6	Support activities to agriculture and post-harvest crop activities
02.3	Gathering of non-wood forest products
38.2	Waste treatment and disposal
38.3	Materials recovery
45.2	Maintenance and repair of motor vehicles

Groups	
46.1	Wholesale on a fee or contract basis
49.1	Transport via railways
49.2	Road transport for passengers
49.3	Road transport for cargo
49.4	Transport via pipeline
49.5	Tourists trains, ferry cable and similar transports
51.1	Passenger air transport
51.2	Cargo air transport
69.2	Accounting, bookkeeping and auditing activities; tax consultancy
70.2	Management consultancy activities
81.2	Cleaning activities
81.3	Landscape care and maintenance service activities
85.5	Educational support activities
85.9	Other educational activities
Classes	
45.43-9	Maintenance and repair of motorcycles
69.11-7	Legal activities except for register offices
80.11-7	Private security and investigation activities

Table 5.8 **Formal tourism employment in eight Tourism Chacteristic Activities (TCA) by States and Regions, December 2010 (number of jobs)**

	Accommodation	Food and beverage serving	Road transport	Water transport	Air transport	Travel agencies and other reservation services	Transport equipment rental	Cultural, sports and recreational activities	Total
North	**8,898**	**12,419**	**6,552**	**1,905**	**2,339**	**1,554**	**1,794**	**225**	**35,686**
Rondônia	1,161	1,522	770	99	180	213	238	20	4,203
Acre	409	560	174	11	155	16	141	8	1,474
Amazonas	1,889	3,765	2,158	868	716	373	519	41	10,329
Roraima	258	425	102		156	27	72	6	1,046
Pará	3,848	4,552	2,795	756	874	790	584	134	14,333
Amapá	498	558	240	68	105	59	75	5	1,608
Tocantins	835	1,037	313	103	153	76	165	11	2,693

	Accommodation	Food and beverage serving	Road transport	Water transport	Air transport	Travel agencies and other reservation services	Transport equipment rental	Cultural, sports and recreational activities	Total
North-East	**53,868**	**50,339**	**16,947**	**606**	**4,532**	**7,416**	**8,633**	**1,746**	**144,087**
Maranhão	3,014	2,600	1,191	154	349	405	530	68	8,311
Piauí	1,755	1,702	792	8	212	188	220	57	4,934
Ceará	6,055	8,184	2,107	14	791	2,253	1,142	367	20,913
Rio Grande do Norte	5,870	3,942	944	50	306	1,198	534	129	12,973
Paraíba	2,296	2,658	896	11	145	134	334	98	6,572
Pernambuco	9,650	10,719	3,502	40	1,019	1,441	1,952	357	28,680
Alagoas	3,444	2,763	901	14	223	279	573	80	8,277
Sergipe	2,089	2,347	814	18	135	289	485	85	6,262
Bahia	19,695	15,424	5,800	297	1,352	1,229	2,863	505	47,165
South-East	**99,418**	**212,196**	**126,657**	**247**	**42,274**	**8,449**	**28,472**	**4,050**	**521,763**
Minas Gerais	21,847	33,624	26,179	2	3,398	2,294	3,343	747	91,434
Espirito Santo	4,013	7,470	5,858	4	391	500	685	88	19,009
Rio de Janeiro	25,588	48,934	36,503	215	6,155	1,996	5,795	1,071	126,257
São Paulo	47,970	122,168	58,117	26	32,330	3,659	18,649	2,144	285,063
South	**37,170**	**47,422**	**28,016**	**405**	**3,358**	**2,121**	**8,080**	**2,228**	**128,800**
Paraná	13,002	17,203	10,549	83	1,436	1,060	3,043	852	47,228
Santa Catarina	12,062	13,041	5,011	114	706	413	2,135	532	34,014
Rio Grande do Sul	12,106	17,178	12,456	208	1,216	648	2,902	844	47,558
Central-West	**14,939**	**23,889**	**11,500**	**57**	**2,929**	**1,325**	**4,671**	**679**	**59,989**
Mato Grosso do Sul	2,410	2,835	1,508	35	269	121	695	70	7,943
Mato Grosso	2,934	3,493	1,766	11	406	205	703	57	9,575
Goiás	6,780	7,510	4,000	11	595	480	1,063	238	20,677
Distrito Federal	2,815	10,051	4,226		1,659	519	2,210	314	21,794
Total	**214,293**	**346,265**	**189,672**	**3,220**	**55,432**	**20,865**	**51,650**	**8,928**	**890,325**

Source: SIMT Integrated Information System, IPEA estimates.

Table 5.9 **Formal and informal tourism employment in eight Tourism Chacteristic Activities (TCA) by regions, December 2010 (number of jobs)**

	Accommodation	Food and beverage serving	Road transport	Water transport	Air transport	Travel agencies and other reservation services	Transport equipment rental	Cultural, sports and recreational activities	Total
Formal									
North	8,898	12,419	6,552	1,905	2,339	1,554	1,794	225	35,686
North-East	53,868	50,339	16,947	606	4,532	7,416	8,633	1,746	144,087
South-East	99,418	212,196	126,657	247	42,274	8,449	28,472	4,050	521,763
South	37,170	47,422	28,016	405	3,358	2,121	8,080	2,228	128,800
Central-West	14,939	23,889	11,500	57	2,929	1,325	4,671	679	59,989
Total	**214,293**	**346,265**	**189,672**	**3,220**	**55,432**	**20,865**	**51,650**	**8,928**	**890,325**
Informal									
North	6,854	76,218	13,535	2,596	795	8,924	1,582	951	111,455
North-East	23,601	232,849	45,234	251	361	6,681	8,311	9,405	326,693
South-East	29,286	375,113	106,119	25	2,178	5,906	17,657	8,214	544,498
South	12,668	72,431	18,036	152	500	1,288	12,400	5,914	123,389
Central-West	7,036	63,533	9,685	48	798	880	4,489	1,798	88,267
Total	**79,445**	**820,144**	**192,609**	**3,072**	**4,632**	**23,679**	**44,439**	**26,282**	**1,194,302**
Total formal and informal									
North	15,752	88,637	20,087	4,501	3,134	10,478	3,376	1,176	147,141
North-East	77,469	283,188	62,181	857	4,893	14,097	16,944	11,151	470,780
South-East	128,704	587,309	232,776	272	44,452	14,355	46,129	12,264	1,066,261
South	49,838	119,853	46,052	557	3,858	3,409	20,480	8,142	252,189
Central-West	21,975	87,422	21,185	105	3,727	2,205	9,160	2,477	148,256
Total	**293,738**	**1,166,409**	**382,281**	**6,292**	**60,064**	**44,544**	**96,089**	**35,210**	**2,084,627**

Source: SIMT Integrated Information System, IPEA estimates.

Table 5.10 **Telemarketing questionnaire**

1. Identification of the establishment	– Name or company name; – Complete address; – Telephone number; and – Fax number.
2. Identification of the responding person	– Full name; – Position or function; – Telephone number; and – E-mail.
3. On the activity of the establishment (based on invoicing)	– Main activity (11 reply categories, 7 of which correspond to the 7 TCA groups previously defined); – Secondary activity, with same degree of detailing; and – Year the establishment was created.
4. Clientele and temporality	– Months of operation, month by month in the last 12 months; – Months of high, mid and low season; – Type of clientele (national tourist, foreign tourist and non-tourists) preferentially served by the establishment; and – Percentage of service per type of clientele in each season.
5. Labour force	– Total of employees under formal contract currently working in the establishment; – Total of people working in permanent and temporary regime in the establishment with details according to season; and – Cost of creation (in BRL/month) of a job post, as per the floor of the category and social security charges of the most frequent administrative and productive occupations.
6. Main courses/modalities of training offered to workers	– Name of the two main courses; – Total of trained employees; – Hours of work; – Institution that offers training; and – Place of training (in/out).

5.4 Canada: measuring employment in the tourism industries – beyond the Tourism Satellite Account[27]

5.4.1 Canadian Tourism Satellite Account

The methodologies and data generated in the Canadian experience apply the main concepts, measures and definitions relating to the characterization of the employment dimension of tourism identified in the most recent version of the established international standards for tourism statistics, the *International Recommendations for Tourism Statistics 2008,* including: tourism employment and *employment in the tourism industries,* persons employed, jobs, hours worked, full-time equivalent employment, labour income, salaries and wages.

The above has become possible as a result of Canada's pioneering work in developing a Tourism Human Resource Module (HRM) of the Canadian Tourism Satellite Account (CTSA) according to the OECD Manual on Tourism Satellite Accounts and Employment (2000).

The CTSA-HRM forms a database of tourism-related employment statistics. It uses concepts/definitions of the SNA and TSA and integrates and reconciles data from several sources. The CTSA is carried out by Statistics Canada with funding from Canadian Tourism Human Resource Council (CTHRC).

From CTHRC's perspective, tourism labour markets are central to the tourism economy and the socio-economic benefits derived from tourism.

The current version of the Canadian Tourism Satellite Account follows the international guidelines for tourism satellite accounts adopted by the United Nations Statistical Commission[28] and is rooted in the Canadian System of National Accounts (CSNA). As such, it uses the same basic concepts and defines and measures tourism activity and tourism industries, tourism commodities, tourism expenditures, gross domestic product and employment in ways that are comparable with similar measures from the CSNA, as well as the international System of Tourism Statistics.[29] As a result, the CTSA provides general measures of the economic importance of tourism in terms of these economic variables that are directly comparable with similar measures from the CSNA for the overall economy, as well as other countries that follow the same international standards. It also permits comparisons with other industries in terms of output, employment and other relevant variables.

27 Adapted from Meis, S. (2014), *Measuring Employment in the Tourism Industries Beyond the Tourism Satellite Account – A Case Study of Canada,* Working paper (online), available at: www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_243294.pdf (19-05-2014).

See also: Statistics Canada (2013), *Human Resource Module of the Tourism Satellite Account, 2012, Income and Expenditure Accounts Technical Series,* Catalogue 13-604-M, number 72 (online), available at: www.statcan.gc.ca/pub/13-604-m/13-604-m2013072-eng.htm (14-05-2014), as well as International Labour Organization and World Tourism Organization (2008), pp. 81–84.

28 TSA:RMF 2008.

29 Kotsovos, D. (2007), 'Canadian Tourism Satellite Account Handbook', *Income and Expenditure Accounts Technical Series,* Catalogue 13-604, number 52, Statistics Canada, p. 5 (online), available at: www.statcan.gc.ca/pub/13-604-m/13-604-m2007052-eng.htm (14-05-2014).

In supply-side statistics, establishments are classified according to their main activity which is determined by the activity that generates the most value added. Similarly, a tourism characteristic activity is defined as those that typically produce tourism characteristic products.[30] Furthermore tourism characteristic products are in turn defined as (i) internationally comparable tourism characteristic products, which represent the core products for international comparisons of tourism expenditure; and (ii) country-specific tourism characteristic products (to be determined by each country by applying the criteria mentioned in IRTS 2008, para. 5.10, in their own context). For both of these mentioned product categories, the activities producing them are considered as tourism characteristic, and the industries in which in which the principal activity is tourism characteristic are called tourism industries.

The CTSA applies these general concepts and definitions in the Canadian context by operationally defining a tourism industry as an industry "that serves visitors directly and would cease to exist or continue to exist only at a significantly reduced level of activity, as a direct result of the absence of tourism". The Canadian TSA identifies 29 such *characteristic tourism industries/activities* at the 4-digit level within the North American Industry Classification System (NAICS) and aggregates them into five major component industry groups as noted earlier (see table 5.11). Collectively all five major component groups and all 29 specific industry categories comprise the Canadian tourism sector.

Table 5.11 **North American Industry Classification System (NAICS) industries identified as Canadian tourism industries**

Accommodation	
NAICS 7211	Traveller accommodation.
NAICS 7212	Recreational Vehicle (RV) Parks and recreational camps.
Food and Beverage Services	
NAICS 7221	Full-service restaurants.
NAICS 7222	Limited-service eating places.
NAICS 7224	Drinking places (alcoholic beverages).
Recreation and Entertainment	
NAICS 5121	Motion picture and video industries.
NAICS 7111	Performing arts companies.
NAICS 7112	Spectator sports.
NAICS 7115	Independent artists, writers and performers.
NAICS 7121	Heritage institutions.
NAICS 7131	Amusement parks and arcades.
NAICS 7132	Gambling industries.
NAICS 7139	Other amusement and recreation industries.

30 IRTS 2008, paragraph 5.16. and TSA: RMF 2008, paragraph 3.8.

Transportation	
NAICS 4811	Scheduled air transportation.
NAICS 4812	Non-scheduled air transportation.
NAICS 4821	Rail transportation.
NAICS 4831	Deep sea, coastal and great lakes water transport.
NAICS 4832	Inland water transportation.
NAICS 4851	Urban transit systems.
NAICS 4852	Interurban and rural bus transportation.
NAICS 4853	Taxi and limousine service.
NAICS 4854	School and employee bus transportation.
NAICS 4855	Charter bus industry.
NAICS 4859	Other transit and ground passenger transportation.
NAICS 4871	Scenic and sightseeing transportation, land.
NAICS 4872	Scenic and sightseeing transportation, water.
NAICS 4879	Scenic and sightseeing transportation, other.
NAICS 5321	Automotive equip. rental and leasing.
Travel Services	
NAICS 5615	Travel arrangement and reservation services.

Source: Kotsovos, D. (2007).

Importantly, the CTSA, provides a coherent framework within which to integrate, reconcile and organize a variety of related economic and social statistics, as well as other information relevant to tourism, both on the supply side (i.e. industry) and on the demand side (i.e. tourism visitor). This is important because tourism is not an explicitly identified industry within the official statistical system, nor is it an identified comprehensive category of social statistics. Instead, rather than being a production concept, it is a demand concept that cross-cuts multiple industry categories. The CTSA amalgamates information on tourism's various industry components together and identifies, defines and describes a new analytical construct – the synthetic tourism sector – an amalgam of identified tourism industries within the Canadian statistical system.

5.4.2 Tourism employment

The employment dimension of tourism, as the measurement concept adopted and applied by the Canadian Tourism Satellite Account (CTSA) and its Human Resource Module, focuses mainly on monetary aggregates associated with tourism demand and supply and the measurement of GDP. Thus, within the CTSA framework, *tourism employment* is a measure of the number of jobs directly attributable to tourism demand in tourism and non-tourism industries, held by the self-employed, employees and unpaid family workers. For example, in the food and beverage services industry, only those jobs that are directly associated with tourism (17.2%) are counted in the CTSA as jobs generated by, or attributable to tourism. On the other hand, jobs generated in agriculture to support production in the food and beverage services industry (i.e. indirect employment) are not included.

Both the Canadian Tourism Satellite Account (CTSA) and the National Tourism Indicators (NTI) already carry some information on the number of jobs generated by tourism at the national level. The HRM complements and enhances the analytical capacity provided by the CTSA and the NTI, allowing for a broader insight into tourism's role in the economy by providing more detailed human resource information.

Consequently, the total number of jobs in tourism industries is a major focus of the HRM and is much broader than the CTSA and the NTI, which portray only the jobs directly attributable to visitor spending. In addition, it should be emphasized that the HRM uses the number of jobs as its key measure of employment and not the number of people employed.

The HRM, produced annually and quarterly (since March 2013), serves as a useful planning and forecasting tool for policy makers in the tourism, employment and training areas. Various tourism-affiliated agencies, academics, and decision-makers in tourism will also be able to use it for research and analysis, planning and development. Extension to the provincial level is intended to make the HRM more relevant to these audiences and purposes.

Within the CTSA-HRM framework ***tourism employment is a measure of the number of jobs in tourism and non-tourism industries,*** held by the self-employed, employees and unpaid family workers. Hence, this concept is different from direct employment in the tourism industries.

Furthermore, it should be noted that instead of direct observation this concept is measured by indirect techniques to estimate employment attributable to tourism.

Within the CTSA, tourism employment is calculated by industry after compiling demand and supply for tourism commodities. First, tourism spending is assigned to each industry using an assumption that tourism spending on a given commodity is proportional to its supply across all industries, since this information is not directly available from tourism demand surveys or any other source. Then, employment attributable to tourism demand within each industry is calculated using the same ratios (tourism commodity ratio, tourism industry ratio, and tourism GDP ratio) used to calculate GDP attributable to tourism. Thus, if the ratio of tourism demand for the outputs of an industry to its total gross output (at basic prices) is 50%, half of this industry's employment is allocated to tourism. A similar calculation is done for all industries and then the results are summed to arrive at total tourism employment within Canada.

However, since employment data are only available at an industry level, to aggregate for the CTSA, wages and salaries data, for which more detailed data are available, are used to allocate employment within the sub-industries before doing the calculations to estimate employment attributable to tourism demand at the sub-industry level.

The benchmark tourism employment estimates in the TSA form the basis of estimates of quarterly employment directly attributable to visitor spending in tourism and non-tourism industries in the National Tourism Indicators (NTI), Quarterly Estimates. The NTI employment estimates are carried forward on annual patterns of growth observed in the Productivity Accounts and quarterly job series from the Survey of Employment, Payrolls and Hours (SEPH) by industry.

Finally, even more detailed information is available in the Tourism Human Resource Module (HRM) of the TSA – this study provides over 1,000 tables. Such detailed information is useful for tourism analysts and employment and training planers.

The HRM is based on and rooted in the accounting framework of the Canadian TSA, which follows the international guidelines in *Recommended Methodological Framework: Tourism Satellite Account* (TSA:RMF). It carries information on the number of employee and self-employment jobs, full-time equivalent employment, total hours worked and labour income, gross wages and salaries and supplementary labour income, by industry. For employee jobs, this information is available by occupation, sex, age group and immigrant status.

Owing to the large amount of occupation and demographic detail, the industry dimension of the HRM is collapsed from the detail in the TSA itself. Tourism industries in the Human Resource Module include five industry groups which are defined as follows: transportation, accommodation, food and beverage services, recreation and entertainment and travel services.

In the HRM, total employment in an industry is the number of all employee and self-employment jobs in that industry. The HRM estimates the number of jobs in an industry that can be directly attributed to tourism demand. These estimates provide the link between the HRM and the TSA/NTI. The difference between tourism employment and total employment in an industry is just the number of jobs attributable to non-tourism (i.e. not directly attributable to tourism demand).

The same percentage share of tourism employment in an industry (discussed above) is applied to full-time equivalent employment, total hours worked and labour income.

Derived variables for jobs in an industry, such as annual average hours worked and annual average wage and salary per tourism job, as well as the average hourly earnings per hour worked per tourism job are assumed to be the same for jobs that are, and are not, directly attributable to tourism.

CTSA Human Resource Module

Tourism industries in the Human Resource Module (HRM) include five industry groups which are defined as follows: transportation, accommodation, food and beverage services, recreation and entertainment and travel services. Generally speaking, an industry is considered a tourism industry if it would cease to exist, or continue to exist only at a significantly reduced level of activity, as a direct result of the absence of tourism. Together these industries make up the tourism sector.

The HRM estimates are produces as a combination of the following four major sources of data: the Canadian Productivity Accounts (CPA) data in the Canadian System of National Accounts (CSNA), the Population Census, the Labour Force Survey (LFS), and the Survey of Employment, Payrolls and Hours (SEPH).

Canadian System of National Accounts

The CPA database in the CSNA provides the tourism industry totals for employee jobs and hours worked, labour income, wages and salaries, supplementary labour income, for both full-time and part-time jobs, age distribution and gender. Comparable data are also available for self-employment jobs, but the income variable is the net income of unincorporated businesses. These totals are for all jobs, including those attributable to both tourism and non-tourism demand. The data are classified on a NAICS basis.

The CPA data for jobs are based, in turn, on the Labour Force Survey estimates for the number of persons employed. This is adjusted to jobs by adding the second jobs of multiple-job holders; additions are made for employment not covered by the LFS (e.g. regular military, employed persons in the territories, employed persons living on Indian reserves, and civil servants working in Canadian embassies abroad) to reflect the total economy. Deductions are made to exclude those absent from work without pay during the reference week. SEPH is primarily used to develop the industry allocation of the adjusted LFS benchmarks, although industry surveys and administrative sources are also used for selected industries.

In the CSNA, industry totals for wages and salaries come from a detailed reconciliation of wages and salaries from survey data and administrative data. Estimates for components of supplementary labour income come in part from administrative data (e.g. employer contributions to Employment Insurance and Canada and Quebec pension plans, administrative data on registered pension plans and from Workers Compensation Boards), as well as other survey sources (for benefits like life, accident and health insurance).

Adjustments for selected tips that go unreported are made to the benchmarks for several industries. The adjustments for tips are made on the basis of industry sales of alcoholic beverages, full service restaurant meals (no tips are assumed on fast food), and accommodation. There are additional, smaller imputations for tips in personal care services (barbershops and beauty salons, etc.) and railway transportation (for luggage porters) industries.

Average hourly earnings are calculated in the HRM as wages and salaries divided by total hours worked. Because tips and pay for absences (sick leave, vacations, etc.) are included in wages and salaries, the hourly earnings include an implicit premium on top of the straight wage for both.

Population Census

The Population Census provides comprehensive data on the demographic, social and economic characteristics of Canadians. Basic information is collected from a census of the population, while detailed information on labour market activity is collected from one in every five households. Given its large sample size, the Census serves as the most reliable source of information on occupational distributions.

Currently, data from the 2001 and 2006 Census are used primarily to distribute the CSNA totals on employee jobs, hours worked and wages and salaries across occupations and between immigrants and non-immigrants.

Labour Force Survey

The Labour Force Survey is conducted monthly and includes approximately 53,500 households, which translates roughly to a sample size of 100,000 people aged 15 years and over. The LFS collects basic labour force activity information including industry and occupation of employment for the survey reference week (normally the week including the 15th of the month), both for employees and self-employed persons. It does not cover the territories, military personnel or civil servants stationed abroad, or persons residing on Indian reserves.

The LFS is used to develop the time series on jobs, hours worked and wages and salaries by occupation, age and gender for each industry group in the HRM. The LFS is used in the CSNA to establish overall number of jobs totals.

Survey of Employment, Payrolls and Hours

The Survey of Employment, Payrolls and Hours (SEPH) is conducted monthly. It collects the number of employee jobs and payroll data from a sample of establishments in Canada. Establishments are coded by industry through the Business Register, thereby providing a reliable source of timely information on the industry distribution of employee jobs and payrolls. The administrative data are supplemented by the monthly Business Payroll Survey of 11,000 businesses. This survey collects data on employment, earnings and paid or usual hours according to whether workers are paid by the hour, salaried or remunerated some other way.

SEPH data are used to remove rooming and boarding houses from the CSNA totals for accommodation services and to develop the accommodation time series. SEPH is also used extensively in the CSNA to determine the industry distributions of employee jobs.

Basic methodology

The HRM basic methodology is based on the OECD EM integration procedure, which consists essentially of several steps: The basic methodology consists of six steps:

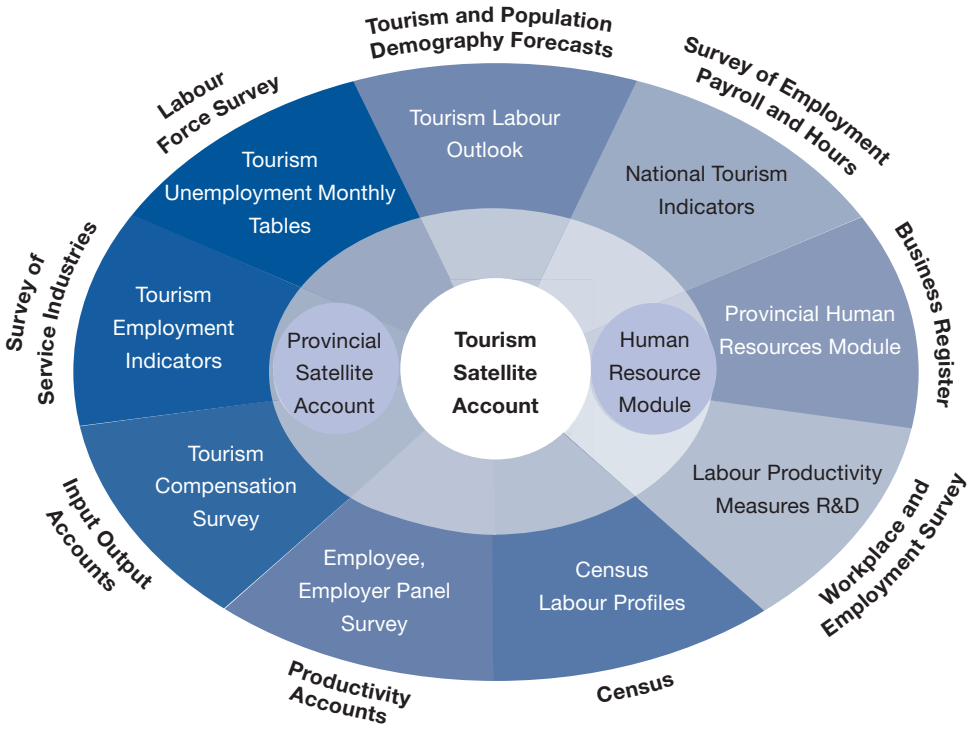
1. Taking totals developed in the Canadian SNA for jobs, hours worked, and compensation for the tourism industries;
2. Disaggregating these totals using data from the CSNA for full-time and part-time jobs;
3. Distributing the CSNA totals across occupations, sex, age groups, and immigrant status based on 2000 and 2005 Census data;
4. Interpolating and extrapolating these benchmarks based on movements in corresponding series from the Labour Force Survey annual averages, while keeping the overall industry totals;
5. Smoothing the time series for LFS occupations, while keeping the overall industry group totals; and
6. Making limited, final edits to data values. This step completes the estimates for total employment of the HRM.

5.4.3 Employment in the tourism industries

It should be noted that in addition to serving the framework for measuring tourism employment, the CTSA provides the initial central framework and point of leverage for the development of still further statistical applications and extensions that generate even more data and information about the employment and labour aspects of tourism in national and regional economies. These further measurement advances beyond the TSA are included within the complementary Canadian Tourism Labour Market Information System (TLMIS) shown in figure 5.1 below.

Tourism labour markets are the institutions where tourism workers and tourism industries' employers interact for the sale and purchase of tourism labour services. They determine wages and benefits and allocate labour among competing uses. The most productive users of labour seek to attract the workers they need. Along with other factors, this determines the tourism economy's overall production. The more efficiently that tourism labour markets function, the more the tourism economy is able to produce and the more productive and competitive it can be. Tourism labour markets are not only important for economic goals of productivity and competitiveness, but also for national and regional social welfare goals such as employment and income distribution.

Figure 5.1 **Canadian Tourism Labour Market Information System**



Specific core accounting components of the Canadian TLMIS, shown as the central blue and white circles seen in figure 5.1 include:

- The Tourism Satellite Account;[31]
- The Provincial-Territorial Tourism Satellite Accounts;[32] and
- The Tourism Human Resource Module.[33]

31 Kotsovos, D. (2007).

32 Barber-Dueck, C. and Kotsovos, D. (2002), 'The provincial and territorial tourism satellite accounts for Canada, 1996', *Income and Expenditure Accounts Technical Series,* Catalogue 13-604, number 38, Statistics Canada (online), available at: www5.statcan.gc.ca/olc-cel/olc.action?ObjId=13-604-M&ObjType=2&lang=en&limit=1 (14-05-2014).

33 Martin, T. (2013), *Human Resource Module of the Tourism Satellite Account, 2012* (online), available at: www.statcan.gc.ca/pub/13-604-m/13-604-m2013072-eng.pdf (08-05-2014).

Other derivative extensions and applications shown in the surrounding blue-grey-black band include:

- The Census Labour Profiles of tourism industries and occupations;[34]
- The National Tourism Indicators;[35]
- Tourism Labour Supply-Demand Outlook Models;[36]
- The Tourism Compensation Survey;[37]
- Tourism Unemployment estimated tables;[38]
- The Tourism Workplace Matters Employer/Employee Opinion Panel Survey;[39] and, most recently,
- HRM Quarterly Total Tourism Industry Employment Indicators.[40]

Other future analytical components of the TLMIS, still in the process of research and development, include:

- Provincial-Territorial Human Resource Module; and
- Tourism Labour Productivity Measures.

The surrounding outside area shown in figure 5.1 also displays the original primary and secondary statistical data sources of the TLMIS drawn from both basic statistics and derived analytical statistical components of the overall Canadian national statistics system including:

- Canadian Census of Population;
- Workplace and Employment Survey;
- Canadian Business Register;
- Survey of Employment Payroll and Hour;
- Forecasts of tourism demand and population demographic;
- Labour Force Survey;
- Survey of Service Industry;
- Canadian System of National Economic Accounts: National and Provincial-Territorial Input-Output Account; and
- Canadian System of National Economic Accounts: Productivity Accounts.

34 Canadian Tourism Human Resource Council (2009), *Who's Working for You? A Demographic Profile of Tourism Sector Employees* (online), available at: http://cthrc.ca/~/media/Files/CTHRC/Home/research_publications/labour_market_information/ttse/DemoPro_Full_Report_EN.ashx (08-05-2014).

35 Statistics Canada (2013b), *National Tourism Indicators, Quarterly Estimates, various issues,* Statistics Canada (online), available at: http://www5.statcan.gc.ca/olc-cel/olc.action?objId=13-009-X&objType=2&lang=en&limit=0 (14-05-2014).

36 Canadian Tourism Research Institute (2012), *The Future of Canada's Tourism Sector: Shortages to Resurface as Labour Markets Tighten,* Canadian Tourism Human Resource Council (online), available at: http://cthrc.ca/en/research_publications/~/media/Files/CTHRC/Home/research_publications/labour_market_information/Supply_Demand/SupplyDemand_Report_Current_EN.ashx (08-05-2014).

37 Malatest, R. A. and Associates (2013), *2012 Canadian Tourism Sector Compensation Study,* Canadian Tourism Human Resource Council (online), available at: http://cthrc.ca/~/media/Files/CTHRC/Home/research_publications/compensation/Compensation_Study_Report_EN.ashx (08-05-2014).

38 Canadian Tourism Human Resource Council (2013), *Canadian Labour Force Survey, 2012 Tourism Sector Highlights* (online), available at: http://cthrc.ca/en/research_publications/labour_market_information/~/media/Files/CTHRC/Home/research_publications/labour_market_information/Labour_Force_Survey/Labour_Force_Survey_Annual_Highlights_Current.ash (08-05-2014).

39 See CTHRC website http://cthrc.ca/en/labour_market_information.

40 Statistics Canada (2013c), *Quarterly Estimates of the Tourism Satellite Account Human Resource Module – First quarter of 1997 to Fourth quarter of 2012,* Statistics Canada, Ottawa.

The concept of employment in the tourism industries refers to all jobs and persons engaged in both tourism characteristic activities and non-tourism-characteristic activities in all establishments in tourism industries.

The CTHRC, in collaboration with Statistics Canada, have conducted many subject-specific surveys to measure multiple social and demographic aspects of the Canadian tourism workforce.

Special measures of employment in the tourism industries in Canada

This section illustrates examples of derived measures of some special aspects of employment in the tourism industries produced by Canada.

Demographics of persons working in Canadian tourism industries: the Canadian Tourism Labour Market Information System carries information that permits profiling persons employed in Canadian tourism industries by a number of demographic characteristics, such as school attendance, mother tongue, place of birth, equity groups (see table 5.12).

Unemployment levels of the tourism labour force: Canada publishes unemployment data. The same analytical approach is applied to monthly and annual LFS data to reveal the monthly and average annual unemployment levels and rates for the tourism industries compared with employed workers in the overall economy. To determine unemployment rates, industry classifications (NAICS) at the 4-digit level are based on the most recent job held within the past year, and are self-identified by the respondent (see figure 5.2 and table 5.13).

Union Membership and Coverage by Union Agreements in tourism industries: this is a pioneering work of the Canadian Tourism Human Resource Council based on the LFS as the primary source of information (see table 5.14).

Table 5.12 **Demographic characteristics of persons employed in tourism industries**

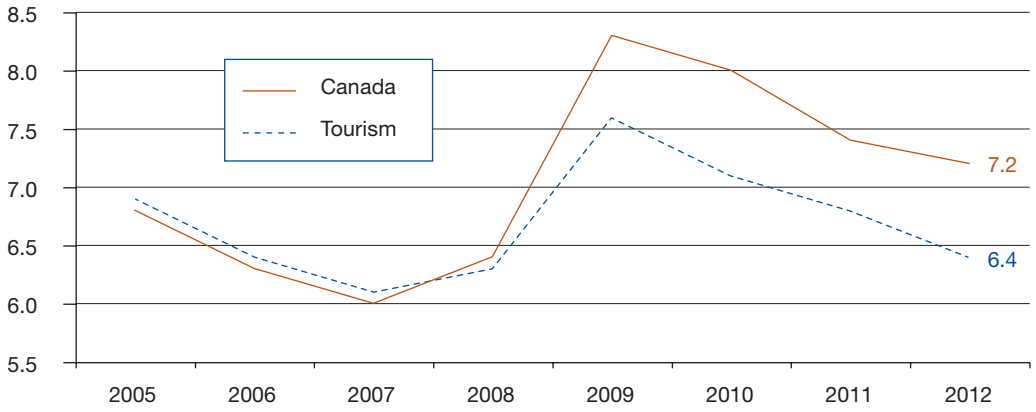
	Total	Tourism sector	Accommodation	Food and beverage services	Recreation and entertainment	Transportation	Travel services
Total employment	**16,021,180**	**1,656,940**	**184,835**	**793,380**	**358,980**	**271,500**	**48,245**
Sex (%)							
Female	47.4	52.3	61.4	59.6	47.2	28.1	70.5
Male	52.6	47.7	38.6	40.4	52.8	71.9	29.5
Age (%)							
15–24 years	15.0	32.8	22.8	48.1	27.3	5.4	11.8
25–34 years	19.9	18.5	19.9	17.8	20.7	15.5	24.6
35–44 years	24.6	18.6	20.2	14.8	19.8	25.5	25.1
≥ 45 years	40.5	30.2	37.1	19.2	32.2	53.6	38.5
Place of birth (%)							
Born in Canada	77.9	76.3	73.9	74.8	83.4	74.7	66.4
Born outside of Canada	22.1	23.7	26.1	25.2	16.6	25.3	33.6
Mother tongue (%)							
English	58.0	58.7	58.3	56.1	66.7	57.0	54.9
French	21.9	19.1	18.5	18.7	19.9	20.3	15.5
Other language	20.1	22.1	23.2	25.2	13.4	22.7	29.5
Equity groups (%)							
Visible minorities	15.1	18.8	19.0	22.7	10.9	17.4	22.9
Aboriginal peoples	2.8	3.2	4.7	3.1	3.3	2.8	1.4
Disabled persons	11.8	11.5	13.1	10.3	11.4	14.0	11.2
School attendance, in 2005–2006 (%)							
Attending school	16.7	28.4	20.3	38.6	27.1	8.6	13.8
Not attending school	83.3	71.6	79.7	61.4	72.9	91.4	86.2
Education levels (%)							
No certificate, diploma or degree	14.5	23.3	20.6	31.9	15.1	14.2	4.2
High school or equivalent	26.1	34.6	32.9	38.8	30.0	31.9	21.6
Apprenticeship/trades/							
College/CEGEP certificate/diploma	32.4	25.9	30.2	19.2	27.1	37.7	44.9
University below degree	4.8	3.9	4.5	2.8	5.0	4.4	7.5
University certificate or degree	22.3	12.3	11.8	7.2	22.7	11.9	21.8

Sources: Canadian Tourism Human Resource Council (2009), *Who's Working for You? A Demographic Profile of Tourism Sector Employees,* Ottawa.
Canadian Census (2006), Custom tabulation of employed work force.

Compensation of employees and gratuities earned: compensation of employees is a wage measure used in connection with the national accounts. The SNA 2008 details that "compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. In addition to a paycheque, non-cash elements of compensation such as training and development, career growth opportunities, organizational effectiveness, and a balanced and engaged lifestyle are important to the workforce. Gratuities can also represent a major source of income for most front line employees in the tourism industries (see figure 5.3 and figure 5.4)[41].

A very detailed and comprehensive description of the Canadian experience in measuring tourism related employment is described in the complementary publications written by Scott Meis, Canadian Tourism Human Resource Council. *Measuring Employment in the Tourism Industries: Beyond the Tourism Satellite Account: A Case Study of Canada.*[42]

Figure 5.2 **Annual average unemployment rates of the tourism sector and the Canadian economy (%)**



Note: Estimated annual average over 12 months of the reference year. As defined by the Canadian Tourism Satellite Account.

Source: Canadian Labour Force Survey (2012), Customized tabulation.

Table 5.13 **Unemployment levels and rates of tourism workers by industry group (annual average), 2012**[1]

	Total labour force (× 1,000)	Unemployed (× 1,000)	Unemployment rate (%)
Total	**18,876.1**	**1,368.4**	**7.2**
Tourism sector[2]	**1,979.2**	**127.5**	**6.4**
Accommodation	215.0	17.9	8.3
Food and beverage services	903.2	59.2	6.6
Recreation and entertainment	465.2	35.7	7.7
Transportation	349.1	12.6	3.6
Travel services	46.7	2.1	4.5

1) Estimated annual average over 12 months of the reference year.

2) As defined by the Canadian Tourism Satellite Account.

41 World Tourism Organization and United Nations (2014), chapter 7, sections D.2.3. and D.2.4.

42 Meis, S. (2014).

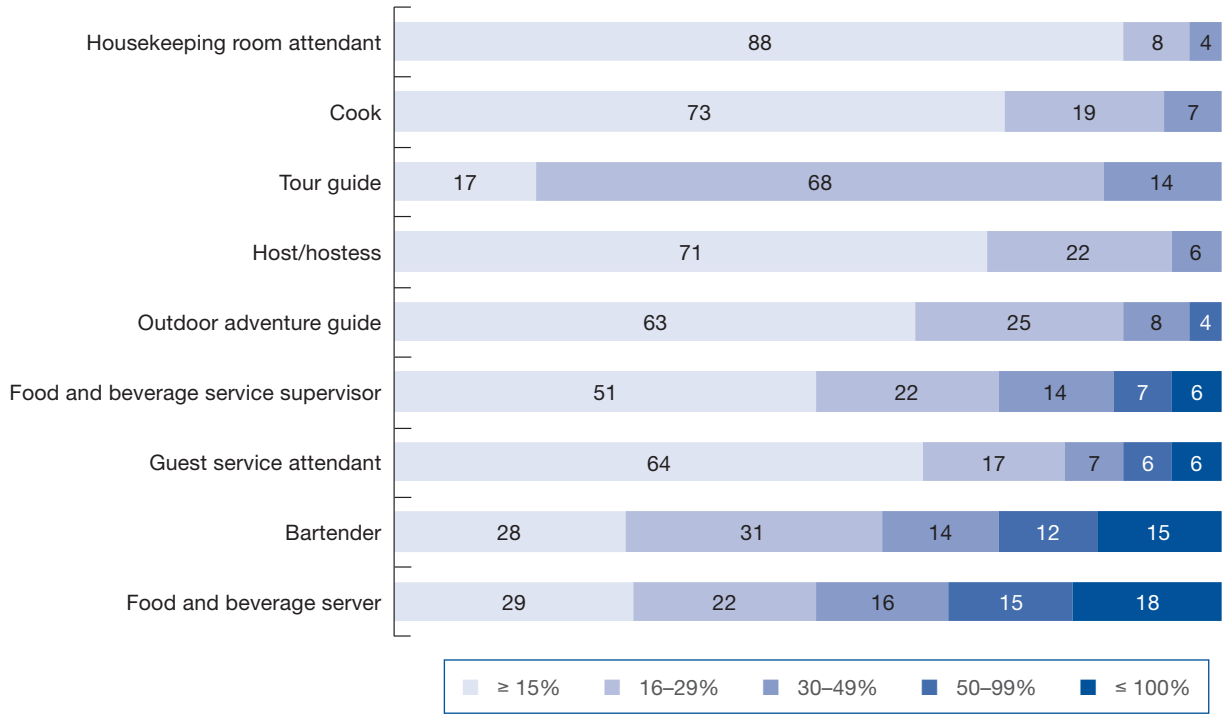
Table 5.14 **Other labour characteristics of workers in Canadian tourism industries, 2012 (%)**

Variables	Total economy	Tourism sector	Accommodation	Food and beverage services	Recreation and entertainment	Transportation	Travel services
Employees[1]	84.8	87.1	91.6	92.9	74.3	87.5	79.6
Self-employed	15.2	12.9	8.4	7.1	25.7	12.5	20.4
Full-time[1]	81.2	64.3	78.5	53.4	64.0	81.2	85.0
Part-time	18.8	35.6	21.5	46.6	36.0	18.8	15.0
Seasonal (part-year)[2]	38.4	51.7	52.8	53.4	58.1	38.4	39.9
Union membership[1]	24.9	13.7	16.5	2.5	13.4	46.7	5.0
Union coverage[1]	26.7	14.8	16.9	3.5	16.0	41.0	4.0

1) Estimated annual average over 12 months of the reference year.

2) As defined by the Canadian Tourism Satellite Account.

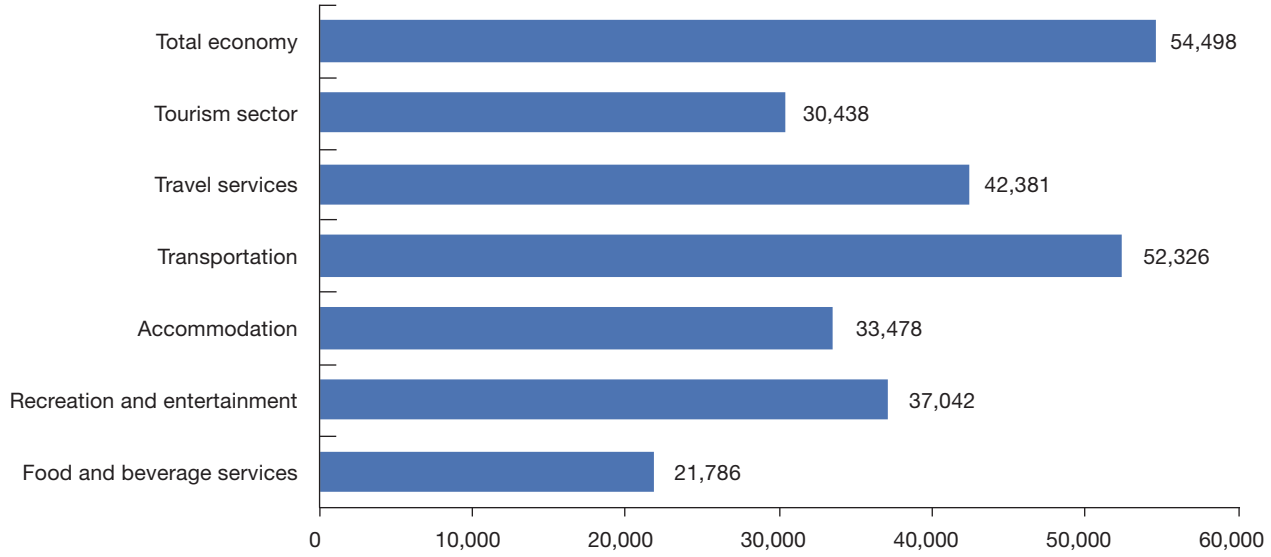
Figure 5.3 **Average gratuities earned by selected occupations (% of base salary)**



Note: Percentages may not total 100% due to rounding.

Source: Canadian Tourism Human Resource Council (2011), *2010 Canadian Tourism Sector Compensation Study* (online), available at : www.gtha.com/Portals/0/comp%20study%202010.pdf.

Figure 5.4 **Annual compensation in tourism industries, 2012 (CAD)**



Source: Martin, T. (2013), *Human Resource Module of the Tourism Satellite Account 2012,* Ottawa.

5.5 Ireland: employment in the Irish tourism industries – using administrative data to conduct a structural and regional analysis

Tourism activity is a complex, demand driven, phenomena. The tourism sector, as defined by the *International Recommendations for Tourism Statistics,* reflects this complexity by classifying a comprehensive but fragmented set of industries to tourism. This complexity poses challenges for many domains within official statistics as it requires a fine level of disaggregation of activity; the equivalent of NACE class level[43]. Traditional Labour Force Surveys, for example, may not be able to provide the level of detail required to estimate employment for tourism industries even at a national level. For this reason, traditional tourism statistics have tended to focus on demand side surveys, with relatively less focus on the supply side, apart from accommodation arrivals and bed-night statistics.

At the sub-national level, the challenges of compiling tourism statistics magnify. However, there are a range of data sources already in existence, although not typically associated with tourism statistics that may provide useful complementary information.

Administrative and similar large datasets have a number of advantages, namely; they are already well established and in many cases, may be sufficiently large to provide robust, sub-national data. However these administrative data sources are not typically designed to align with statistical concepts. Consequently, they usually require extensive work in order to derive usable statistical information. So there is a trade-off; administrative or other very large datasets are realistically the only source of high quality, sub-national data available but these data will, most likely, not align perfectly with tourism statistics concepts or the traditional metrics associated with tourism.

At the core of the analyses presented in this Irish practice are business demography statistics. These data are linked at the micro level to other administrative tax and social welfare data to provide broader regional analyses than have previously been possible in Ireland. By constructing a census database of the tourism industries some of the gaps in our understanding of tourism industries and employment at a regional level can be addressed; for example, how important is tourism to different regions or is the structure of tourism employment different to that of other industries. The gaps in Irish national and sub-national tourism statistics are clearly outlined in a number of recent papers and reports.[44] Typically these gaps can be summarised as lack of detail regarding expenditure and regional data and a paucity of information more generally on same-day visits. These reports also noted a lack of information on the performance of tourism businesses. Business performance has typically been outside the scope of traditional tourism statistics, reflecting a wider knowledge gap regarding small business and entrepreneurial activity across regional economies.[45]

43 NACE is the economic activity classification used by Eurostat. Class level corresponds with 4 digit level disaggregation.

44 Deegan J. et al. (2004), *First Steps; Tourism Satellite Accounts Project for the Republic of Ireland and Northern and Northern Ireland* (oral presentation), Department of Culture, Media and Sport (United Kingdom) Special DCMS Tourism Conference, Heritage Centre London.

MacFeely, S. (2006), *Identifying, Prioritising and Addressing Data Gaps in Tourism Statistics,* presented to the Tourism Research Advisory and Co-ordination Group (TRACG), April 2006.

Irish Tourist Industry Confederation (2011), *Tourism Statistics Review,* Dublin.

45 Mshenga, P. M. et al. (2010), 'The Contribution of tourism to micro and small enterprise growth', *Tourism Economics,* volume 16 (4), IP Publishing Ltd, London pp. 953–964.

In the current economic climate, where National Statistical Institutes (NSIs) and National Tourism Authorities (NTAs) have contracting budgets, and there is considerable pressure to reduce respondent burden, it is important that all available data sources are examined and utilised to the maximum extent possible. The Business Demography dataset has the advantage of already being compiled and consequently, the only cost of using these data is the marginal cost of conducting new analyses. When linked at a micro-data level to other administrative data sources, the power of these data grow significantly. Some examples of the type of complementary information and analyses that can be derived, such as, *Tourism Dependency Ratios* (TDRs) are presented.

5.5.1 What are tourism industries?

The tourism industries/activities are formally defined by the *International Recommendations for Tourism Statistics* as follows:[46]

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

The definition of tourism industries used for this study is closely aligned, although not exactly the same, as that specified by the UNWTO (see table 5.24 for the definition of tourism industries used in this study). The main differences between the two classifications arise because the business register in Ireland does not have sufficient granularity to identify the very specialist *Country specific* industries – retailing and other activities. This problem will not be unique to Ireland and will most likely be an issue for any country that only classifies activity to NACE class level i.e. a fine disaggregation of economic activity classification (5-digits) would be required.

Consequently, the number of tourism enterprises and employment presented in this study may be a slight underestimate of activity in the tourism industries, although this underestimation should not be significant as retailing of Irish-specific tourism related goods is unlikely to generate much employment in Ireland. A good example of an Irish-specific tourism activity might be horse riding. From the National Farm Survey this accounts for 2,000 farms/stables and approximately 2,400 persons employed on a FTE basis but this is outside the scope of this study (see section 5.5.2).

46 IRTS 2008, figure 5.1, p. 42.

5.5.2 Data Sources

This study uses three main data sources: the Central Statistical Office (CSO) Business Demography, the Revenue Commissioner Employer P35 Tax File and the Department of Social Protection Client Record File. These data files are summarised below.

Central Statistical Office: business register

The primary source data for this study are the Business Demography statistics, published by the Central Statistics Office in Ireland, in compliance with European Union legislation[47]. In turn, business demography statistics are sourced from the Business Register, which is a register of all enterprises that are active in the State, which is also compiled in adherence to European Union legislation[48]. These register data are assembled using information provided by the Revenue Commissioners (the Tax authorities) covering all companies, individuals and partnerships that register with the Revenue Commissioners for VAT, Corporation Tax or Income Tax or as employers.

The population of active enterprises, for a given year, contains all enterprises that were active at any stage during the reference year. Enterprises are counted as active if they satisfy at least one of the following conditions. The enterprise:

- Paid VAT during the reference year;
- Employed persons during the reference year;
- Filed a Corporation Tax return for the reference year; and
- Filed an Income Tax return for the reference year with turnover of more than EUR 50,000.

Although, in theory the Business Register should cover all economic activity in the State, in practice, coverage is not complete. The register, when classified to NACE Rev. 2, includes the following NACE sections B-R (see table 5.25). Thus, Agriculture and Non-market/Public services sections are excluded. The CSO are currently extending the coverage of the business register to include these sectors by the end of 2013.

The main variables available from the business register are location, legal status and size of enterprise, number of employees and persons engaged and total turnover (although, it should be noted that the quality of the turnover data is not sufficiently good to allow publication). Other information that will be available in the future will include nationality of ownership.

The geographical breakdown for each enterprise is an approximation because no comprehensive administrative source is currently available for business locations. Consequently, the county activity is based on the address where enterprises have registered for taxation purposes, rather than where businesses actually operate from. In the majority of cases, the registration or administrative address and the place of activity are the same. However, for some larger enterprises with several local units or branches, estimates of regional employment will be less exact, as all employment is attributed to the county where the head office is located. This gives an employment bias in favour

47 See: annex IX (A Detailed Module for Structural Statistics on Business Demography) of Regulation (EC) No. 295/2008 of the European Parliament and of the Council of 11 March 2008 concerning Structural Business Statistics (recast).

48 Regulation (EC) No. 177/2008 of the European Parliament and of the Council of 20 February 2008 establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No. 2186/93.

of Dublin, the capital city (see section 5.5.6). Enterprises with an *unknown* address are generally registered outside the Republic of Ireland for tax purposes. However, their employees are working in the Republic of Ireland, and allocating this employment to location may not always be exact.

The register also draws a distinction between total employment (persons engaged) and employees. For the purposes of business demography, employees are defined as 'persons who are paid a fixed wage or salary, including those temporarily absent because of illness, holidays or strikes'. Persons working on a labour-only, sub-contract, basis will usually not be included in the sector sourcing the activity but rather in the sector selling the service – NACE 78.20 (Temporary Employment Agency Activities). A better measure of total labour input is Persons Engaged, which includes proprietors, partners, directors and casual or temporary workers.

Revenue commissioners: employer file

Every employer in the State must file a return to the Revenue Commissioners each year, detailing their employer registration number (PREM number) and details of every employee on their payroll during the reference year. Employee details include their personal identifier (PPSN), number of weeks worked during the year, and employee's net pay. The total number of weeks worked by all employees for each employer is calculated and this figure divided by 52 is used as an annualised equivalent for the number of employees working a full year for the employer. This figure is used as the basis for the employment data published in the Business Demography release. The employer file also allows data on businesses from the Business Register to be linked to the individual employees working for that business.

Department of social protection: client record system

Allocation of PPSN numbers is the responsibility of the Department of Social Protection (DSP). These personal identifiers are allocated to two distinct groups: new born children; and immigrants. All births in Ireland are recorded by the General Registrations Office and details are forwarded to DSP so that a PPSN can be allocated. For Immigrants, applications for a PPSN must be supported by documentation such as birth certificate and passport from their country of origin. Nationality is taken as stated by the applicant, subject to their supporting documentation. Where a country name is in dispute (e.g. Burma and Myanmar, either is accepted), date of birth and sex are verified by DSP before the PPSN is allocated. Official records are updated with any subsequent errors detected.

A complete extract of the DSP Client Record System is provided to the CSO on a quarterly basis. Typically these data are made available at T+13 weeks. So for example, CSO has CRS data up to the end of September 2012.

Once the data are received in CSO the data are partially anonymised for added confidentiality. So all names are removed, dates of birth are perturbed by setting the days to the first of the respective month and PPS Numbers are removed and replaced with an artificial or protected CSO identifier that still facilitates micro-data matching.

5.5.3 Conceptual scope

The information in this paper is based on enterprise and employment demography in the tourism industries, irrespective of whether the products or services sold by these enterprises were consumed by tourists or not. In other words the analyses do not quantify enterprise activity or employment generated by tourism demand. In order to measure the latter a Tourism Satellite Account is required.

5.5.4 Enterprise demography

Although not the focus of this paper, it is useful to provide some broad context on enterprise demography. Table 5.15 shows the number of enterprises in the tourism sector compared with all enterprises for the years 2006 to 2010.

Table 5.15 **Enterprise demography, 2006–2010**

Year	Tourism industries (× 1,000)	All industries (× 1,000)	Tourism dependency ratio: enterprises (%)
2006	23.0	217.2	10.6
2007	23.3	221.9	10.5
2008	24.1	222.1	10.8
2009	24.0	212.9	11.3
2010	23.5	201.7	11.6

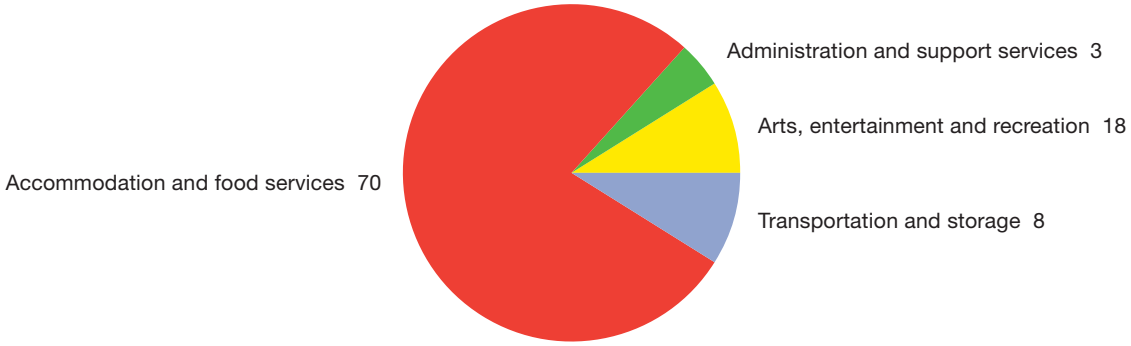
Source: Central Statistical Office of Ireland (n. d.), *Business Demography 2011,* see: www.cso.ie.

In 2010, enterprises operating in tourism industries accounted for 11.6% (approximately 23,500 enterprises) of all enterprises in the State. Since 2006 the *Tourism Dependency Ratio* (TDR) for enterprises has been steadily increasing, suggesting that enterprises in the tourism sector are faring better than enterprises generally. This is not particularly surprising as some sector, most notably construction, has experienced a significant loss of enterprises since 2008. The change in the number of enterprises in table 5.15 is the net change (e.g. a net gain of 500 enterprises between 2006 and 2010); the gross number of enterprise births and failures were considerably higher, reflecting what Schumpeter described as *creative destruction*[49].

Figure 5.5 shows that accommodation and food services account for 70% of all tourism industries. The next most important sector is arts, entertainment and recreation, accounting for 18% of all tourism enterprises.

49 *Creative destruction* refers to the incessant product and process innovation mechanism by which new production units replace outdated ones.

Figure 5.5 **Tourism enterprises by sector, 2006–2010 (%)**



Note: Totals may not sum due to rounding.

5.5.5 Employment demography

Table 5.16 shows the number of persons engaged in the tourism sector compared with overall economy for the years 2006 to 2010.

Table 5.16 **Employment demography, 2006–2010**

Year	Persons engaged: tourism (× 1,000)	Total employment (× 1,000)	Tourism share (%)
2006	212.3	2,048.3	10.4
2007	220.2	2,122.8	10.4
2008	225.0	2,099.7	10.7
2009	206.2	1,928.6	10.7
2010	198.8	1,847.9	10.8

Source: Central Statistical Office of Ireland (n. d.), *Business Demography 2011* and Country Incomes and Regional GDP (2012), see: www.cso.ie.

In 2010, persons engaged (i.e. total employment – both employees and owner/proprietors) in tourism industries accounted for 10.8% (approximately 199,000 persons) of all employment in the State.[50] Similar to the pattern seen with enterprises, the employment TDR has steadily increased since 2006. Again, it must be stressed, the change in employment is the net change. So the net loss of employment of 13,500 masks a larger job churn.

From table 5.17, it is evident that tourism industries are more labour intensive when compared with the economy overall. An average tourism enterprise employs between 2.2 and 2.4 more persons than an average enterprise in the wider economy.

50 The business register in Ireland does not currently include comprehensive information for non-market and agricultural sectors. Consequently, in order to avoid overstating the real contribution of employment in the tourism industries to total employment, total persons engaged in the tourism industries must be compared with total employment sourced from the Labour Force Survey (known in Ireland as the Quarterly National Household Survey).

Table 5.17 **Labour intensity, 2006–2010**

Year	Tourism			All sectors		
	Number of enterprises (× 1,000)	Total employment (× 1,000)	Average employment per enterprise (unit)	Number of enterprises (× 1,000)	Total employment (× 1,000)	Average employment per enterprise (unit)
2006	23.0	212.3	9.2	217.2	1,482.4	6.8
2007	23.3	220.2	9.4	221.9	1,563.0	7.0
2008	24.1	225.0	9.4	222.1	1,537.7	6.9
2009	24.0	206.2	8.6	212.9	1,343.3	6.3
2010	23.5	198.8	8.5	201.7	1,270.9	6.3

Source: Central Statistical Office of Ireland (n. d.), *Business Demography 2011*, see: www.cso.ie.

Caution must be exercised when comparing numbers of persons engaged or employed over time, as the structure of employment across economies or within economic sectors can change quite dramatically and rapidly. Both entering and departing recession, quite significant changes in the use of part-time and full-time labour can be experienced. For example, full-time employment accounted for 83% of total employment in Ireland during 2006 but by 2010 had fallen to 77%. For this reason, Full-Time Equivalent (FTE) labour provides a better measure of real labour utilisation over time.

When expressed in index form, the change in employment trend is clear (see figure 5.6). The widening gap between the two lines, illustrates the continued substitution from full-time to part-time labour. Thus in table 5.18 the FTE share has fallen from 81% in 2006 to 76% in 2010. Table 5.18 presents the number of persons engaged in the tourism industries in both simple head-count and full-time equivalent units.

Table 5.18 **Labour utilisation in the tourism sector, 2006–2010**

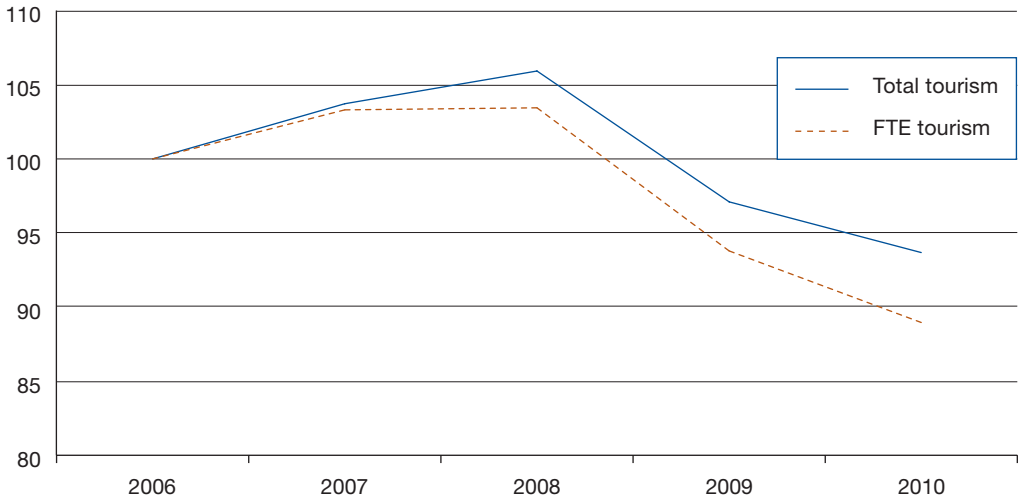
Year	Total number of persons engaged (× 1,000)	Year-on-year change (%)	FTE-numbers of persons engaged (× 1,000)	Year-on-year change (%)	FTE share (%)
2006	212.3		171.0		81
2007	220.2	3.7	176.5	3.2	80
2008	225.0	2.2	176.9	0.2	79
2009	206.2	-8.4	160.5	-9.3	78
2010	198.8	-3.6	152.1	-5.2	76

Source: Central Statistical Office of Ireland (n. d.), *Business Demography 2011*; *Country Incomes and Regional GDP (2012);* and Structural Business Statistics (unpublished), see: www.cso.ie.

Comparing the two measures of employment for the tourism industries in 2010, the FTE measure was 46,700 persons lower than the simple head-count figure, a reduction of 23%. The FTE

measure also shows that the real fall in labour utilisation between 2006 and 2010 has been greater than the reduction in the simple head-count implies; closer to a 11% reduction than the 6% fall suggested by the simple head-count numbers.

Figure 5.6 **Labour utilisation in the tourism industries, 2006–2010**



Note: Base: year 2006 = 100.

Figure 5.7 **Tourism employment by sector, 2010 (%)**

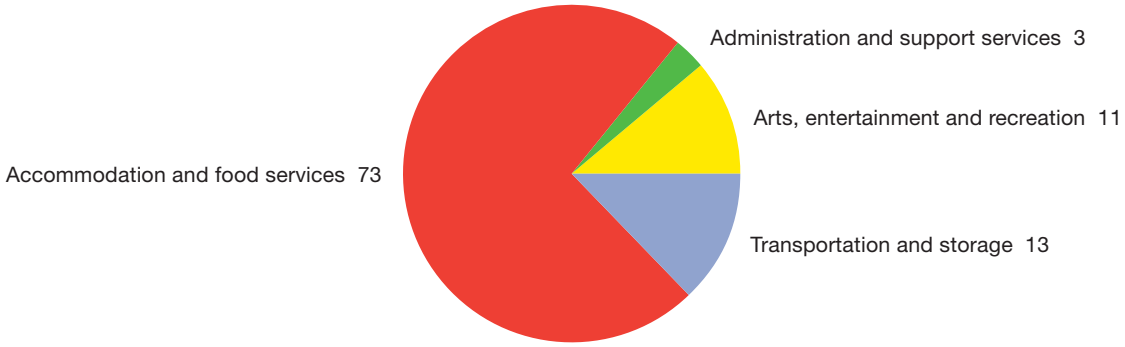


Figure 5.8 **Tourism FTE by sector, 2010 (%)**

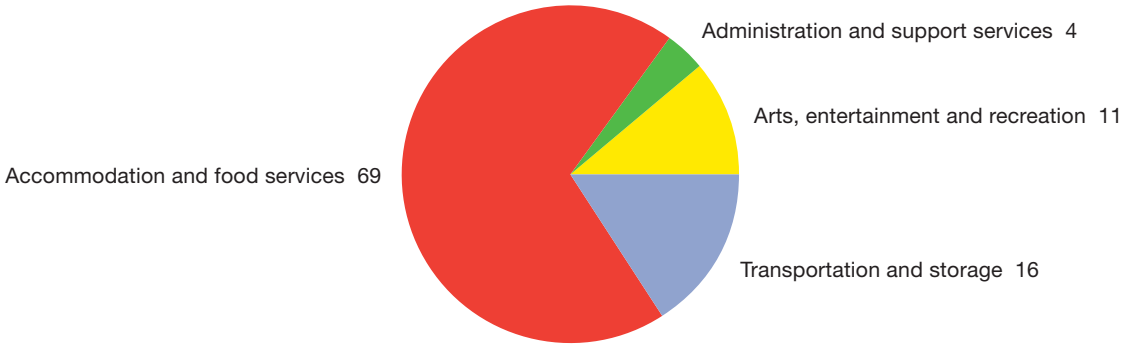


Figure 5.8 illustrates the contribution of employment in the main tourism industries to the overall sector on a FTE basis. The lower usage of part-time labour in the "Transportation and storage" (12%) and the "Administration and support services" (17%) shows their contribution from a labour utilisation perspective to be greater than perhaps realised (see table 5.19).

5.5.6 Regional demography

When the absolute data are mapped the dominance of the Dublin economy is immediately apparent but otherwise little useful information is illustrated. However if the data are standardised by region, the data are much more revealing, as the relative importance of the tourism industries to each region becomes apparent.

From a regional perspective, figure 5.9 below clearly illustrates that enterprise TDRs varied considerably across Irish counties (NUTS 4)[51] in 2010. Tourism enterprises are relatively more important to counties along the western seaboard, and considerably less important in relative terms to the Greater Dublin Area and Cork. This is intuitive as these regional economies contain the two main cities and have more diversified regional economies, with larger industrial bases and proportionately more foreign direct investment and universities. Thus the relative importance of tourism industries is diluted, even though in absolute terms tourism is an important sector. The Enterprise TDR for Dublin was 8.6% compared with Kerry, where the enterprise TDR was 18.7%.

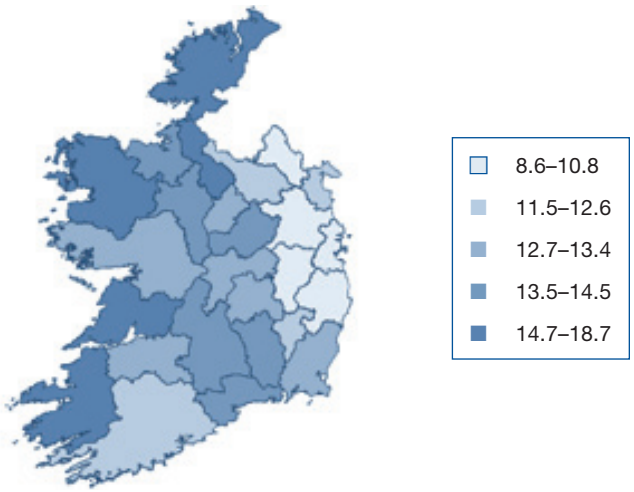
51 There are three levels of NUTS defined, with two levels of local administrative units (LAUs) below. These are called NUTS levels 4 and 5.

Table 5.19 **Labour utilisation in the tourism industries, 2010**

Sector	Total employed		Total FTE	
	(× 1,000)	(%)	(× 1,000)	(%)
All tourism	**198.8**		**152.1**	
Full-time	115.3	58.0	115.3	75.8
Part-time	83.5	42.0	36.8	24.2
Transportation and storage	**26.4**		**24.8**	
Full-time	23.1	87.7	23.1	93.4
Part-time	3.3	12.3	1.6	6.6
Accommodation and food services	**145.0**		**105.4**	
Full-time	74.9	51.6	74.9	71.1
Part-time	70.1	48.4	30.5	28.9
Administrative and support services	**5.9**		**5.4**	
Full-time	4.9	82.6	4.9	90.6
Part-time	1.0	17.4	0.5	9.4
Arts, entertainment and recreation	**21.5**		**16.5**	
Full-time	12.4	57.7	12.4	75.1
Part-time	9.1	42.3	4.1	24.9

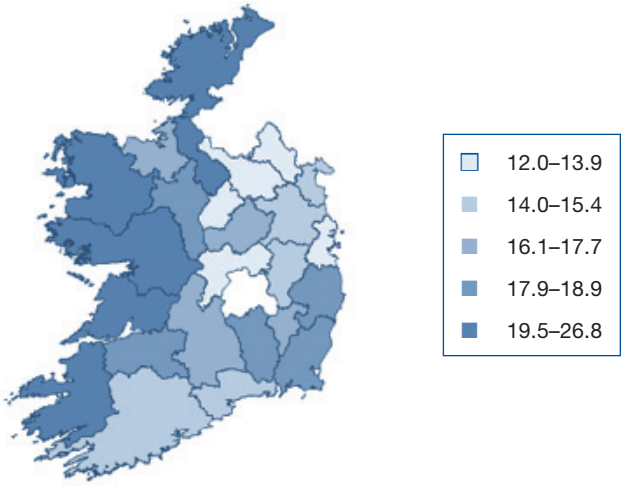
As already noted, these are enterprise data and not local units, and consequently, these estimates probably incorporate a bias in absolute terms towards Dublin (the Capital city), where more head offices are located. In turn, this may overstate the importance of the tourism industries to regions outside Dublin as some sectors, for example, Distributive Trades, may have a greater regional distribution in terms of local units than tourism industries (i.e. tourism industries are by and large single unit enterprises and so their regional distribution should be quite accurate, whereas some other industries may have more local units that may distort the true relative importance at county level). Notwithstanding this, the Enterprise – TDRs give a reasonably accurate regional distribution of enterprises and provide a robust and intuitive indicator of the importance of tourism enterprises in the different regions.

Figure 5.9 **County tourism dependency ratios: enterprises, 2010**



Drawing conclusions from the examination of persons engaged in enterprises must be done with care, as this excludes employment in non-market sectors and agriculture (which in 2010 accounted for more than 31% of total employment). As these sectors are not currently included in the business register held by CSO, employment for these sectors are not available at county level. Again this introduces a bias as the public sector tends to be located in the larger urban centres whereas agriculture is more important to the more rural midland and western counties. Despite this, the regional patterns of the Employment – TDRs are revealing and present a similar pattern to that shown in figure 5.9. In particular they illustrate the relative importance of tourism to the western regions (see figure 5.9).

Figure 5.10 **County tourism dependency ratios (persons engaged): employment, 2010**



Again it must the stressed the headquarter effect, where all employment may be incorrectly allocated to an enterprise headquarters rather than to the appropriate local units, must be taken into consideration when analysing these data. For both enterprises and employment, the absolute numbers attributed to county Dublin is likely to be overstated (because of the *enterprise – local unit* issue noted earlier). As a result the employment TDRs for the counties outside Dublin are likely to be overstated, as tourism industries are typically single unit enterprises. That said, the regional patterns are unlikely to change much, although the absolute values of the regional employment (and income) TDRs will reduce. A methodology to correct for this bias is currently being developed.

Notwithstanding the issues raised regarding the regional absolutes, the broad regional and spatial patterns are consistent. From a policy perspective these patterns are important as some the counties with the highest TDRs (particularly those along the western seaboard), are some of the most deprived counties in the State as measured by per capita Household Disposable Income. Of particular interest from an Irish perspective are the implications for industrial, regional and employment policy, as these are the counties where multinational enterprises will be least keen to invest in as they don't have large urban centres with ready supplies of workers, universities and research capacity.[52]

5.5.7 Employee characteristics

Persons employed in tourism industries are typically younger than those employed across the wider economy; on average 3 years younger and with a difference in median age of between 4 and 5 years. The proportions aged less than 35 years old in the tourism sector is significantly higher than that for the wider economy (see table 5.20).

Table 5.20 **Mean, median age and proportions of workforce aged < 35, 2006–2010**

Year	All sectors mean (age)	Tourism mean (age)	All sectors median (age)	Tourism median (age)	All sectors (%)	Tourism (%)
2006	34	30	31	26	55.4	63.7
2007	34	30	31	27	55.2	64.4
2008	34	31	32	27	53.9	62.8
2009	35	32	33	29	51.4	60.5
2010	36	33	33	29	49.3	59.1

Source: Central Statistical Office, Department of Social Protection.

Again, considerably different patterns are evident across the regions. Typically, Dublin has the smallest difference in age. In 2010, the difference in median and mean age between the tourism sector and wider economy was 3 and 2 years respectively. For Roscommon, the median and mean differences were 7 and 5 years respectively.

52 Clinch, P. et al. (2002), *After the Celtic Tiger – Challenges Ahead,* The O'Brien Press Ltd., Dublin.

Doring, T. and Schnellenbach, J. (2006), 'What do we know about Geographical Knowledge Spillovers and Regional Growth? – A survey of the Literature', *Regional Studies,* volume 40 (3), pp. 375–395.

Figure 5.11 below suggests there is no clear regional pattern in the differences in proportion of young people (i.e. less than 35 years old) employed by the tourism sector vis-à-vis the total economy in each region.

The tourism industries typically employ a greater proportion of women than the wider economy as a whole (see table 5.21). In particular, "Administrative and support services" employ a high proportion of women (59% in 2010). In contrast, the "Transportation and storage" industries involved in tourism, employ a significantly lower proportion (24% in 2010).

Figure 5.11 **Proportion aged < 35 in tourism industries, 2010**

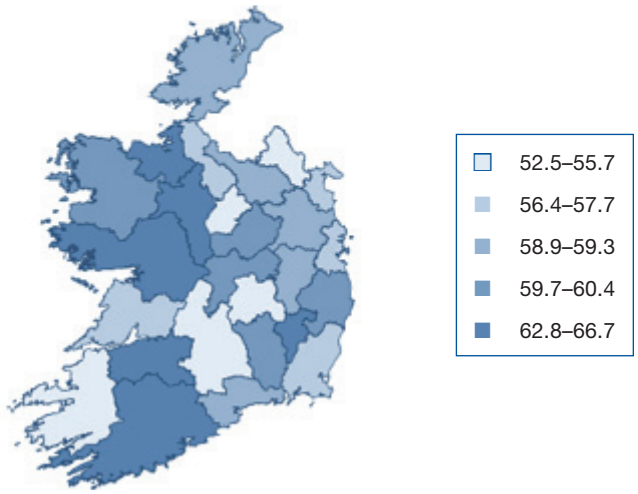


Table 5.21 **Proportion of female persons engaged in tourism and all sectors, 2006–2010 (%)**

NACE Rev. 2 – Sector	2006	2007	2008	2009	2010
Transportation and storage	23.4	25.6	29.4	24.3	24.3
Accommodation and food services	55.0	54.4	53.5	52.9	52.3
Administrative and support services	64.8	63.7	63.0	61.6	59.4
Arts, entertainment and recreation	46.4	46.3	45.9	46.1	46.3
Tourism sector	**50.4**	**50.6**	**49.2**	**48.4**	**47.8**
All sectors	38.1	38.5	39.4	41.0	41.5

Source: Central Statistical Office, Department of Social Protection.

In this case, figure 5.12 suggests tourism enterprises through the spine of the midlands, from the border down to the SE region, employ a greater proportion of females than enterprises in general. There is no obvious or intuitive reason for this.

The Tourism sector typically employs more non-nationals than does the wider economy. For example, in 2010, almost 35% of those employed in the tourism sector were non-national compared with only 22% for the economy as a whole (see table 5.22). Within the Tourism

sector, NACE section H (Accommodation and food services) employed the highest proportion of non-nationals (41% in 2010). Within NACE section G (Transportation and storage) the increase in non-nationals employed between 2006 and 2010 is striking, increasing from 13% in 2006 to 21% in 2010.

Figure 5.12 **Female employment in tourism industries, 2010 (%)**

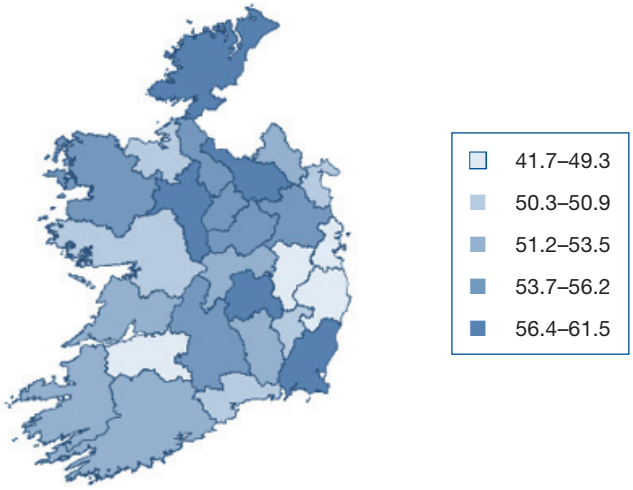


Table 5.22 **Proportion of non-nationals engaged in tourism and all sectors, 2006–2010 (%)**

NACE Rev. 2 – Sector	2006	2007	2008	2009	2010
Transportation and storage	13.2	18.6	20.9	20.3	21.1
Accommodation and food services	37.0	41.7	43.7	42.2	40.6
Administrative and support services	26.9	29.2	30.2	27.1	28.6
Arts, entertainment and recreation	16.1	18.4	19.1	18.0	17.2
Tourism sector	**31.4**	**36.1**	**37.6**	**36.0**	**34.9**
All sectors	19.5	22.8	23.7	22.5	21.9

Source: Central Statistical Office, Department of Social Protection.

The distribution of non-nationals working in the tourism sector is not homogeneous across the regions in Ireland. Figure 5.13 shows that the counties where tourism sectors employ the highest proportion of non-nationals are those with cities: Dublin, Galway and Limerick. This is perhaps not surprising, as cities will tend to be more multicultural. The obvious outlier to this pattern is Cork, where the proportion is quite low. This perhaps reflects the very large size of the county beyond the city or perhaps says something about the relative low level of multiculturalism within Cork generally.

5.5.8 Income

Studies have shown that age, gender, nationality along with other variables such as experience and educational attainment all have an impact on income. Consequently, the 'superficial' income gap of 35% in 2010 (see table 5.23) is probably overstated. The data presented earlier, shows that the tourism sector employs a greater proportion of women, younger people and non-nationals, and this probably explains or accounts for some of the gap. What is not clear at this stage is whether differences in educational standard and work experience would explain away any remaining gap. In order to conduct such an analysis, such data would be required so that standard OLS and Blinder-Ocaxa models can be applied.

Figure 5.13 **Non-Irish in tourism industries, 2010 (%)**

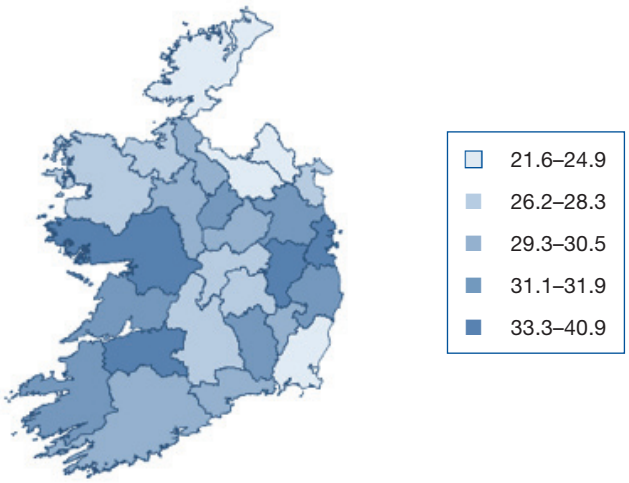


Table 5.23 **Comparison of income in the tourism and all sectors, 2006–2010 (EUR)**

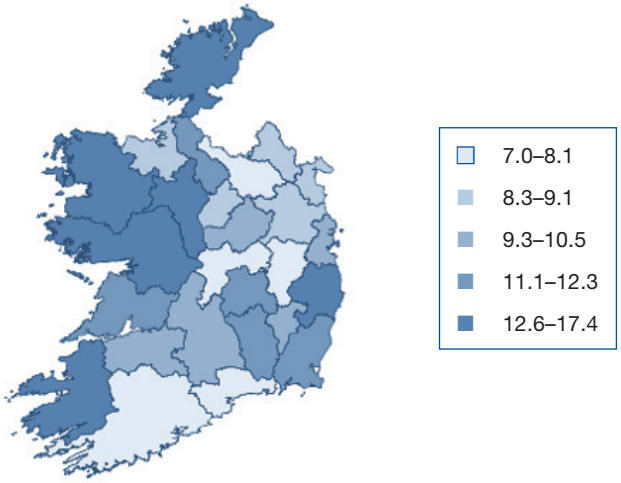
Year	Total income (billion)		Average income per employee (× 1,000)		Average income gap	
	Tourism industries	All industries	Tourism industries	All industries	(× 1,000)	(%)
2006	4.2	42.8	21.4	31.8	10.5	32.9
2007	4.5	47.4	22.1	33.3	11.2	33.7
2008	4.8	48.1	23.1	34.3	11.2	32.6
2009	4.3	40.8	22.6	33.4	10.8	32.3
2010	3.9	38.1	21.3	32.9	11.6	35.3

Source: P35 Revenue Commissioners.

Table 5.23 shows that since 2008 average incomes have fallen in both the tourism sector (-7.8%) and across the wider economy (-4.1%) but that the fall has been more significant in the tourism sector. This difference is reflected in the growing gap in average income. It should be noted that table 5.23 only outlines employee incomes and does not include income earned by proprietors and directors (employee account for approximately 92% of all persons engaged in the tourism sector and 91% of all those engaged in the economy as a whole).

As has been evident with enterprise and employment and TDRs, income TDRs are not homogeneous across the tourism industries or the regions (see figure 5.14). The importance of tourism incomes to the economies of the western regions is evident. This is a useful indicator as remuneration of employees is an important element of GVA.

Figure 5.14 **County tourism dependency ratios: income, 2010**



5.5.9 Future potential

By linking a number of datasets at a micro-data level a broad range of analyses are possible. A small sample of the possible national and regional analysis is presented in this paper. A considerably wider range of analysis is possible. Thus, by matching or linking micro-data, a wide range of complementary regional indicators can be developed, such as, metrics on size class of enterprises or survival rates of enterprises classified by nationality of ownership. Other composite indicators, such as, quality of work indicators or model indicators like concentration or competitiveness indicators can also be developed using the type of data sources outlined above. Potentially even more sophisticated analyses can also be developed, such as, tracking spatial migration of temporary workers, lifecycle working patterns or determining relative income costs.

5.5.10 Conclusion

The data show, the tourism accounted for 12% of all enterprises operating in Ireland in 2010 and accounted for 11% of all employment. This pattern was not uniform across the regions of Ireland; along the west coast of Ireland in particular, the data illustrate clearly that tourism is very important to those regional economies. The data also show that despite the economic downturn, tourism industries appeared to have weathered the recession and are performing well relative to the broader economy. Employment in the Tourism industries has clear structural patterns; the tourism sector employs more women, more young people and more non-national than does the economy as a whole. Employees in the tourism sector appear to be paid a sizeable negative income pay gap relative to employees in the rest of the economy (-35% in 2010). It is likely that this apparent pay gap is overstated owing to the nature and structure of tourism employment. With additional data on experience and education, a more comprehensive analysis could be done. What is clear however is that gross mean annual incomes have fallen in the tourism sector since 2008 by -7.8%.

More importantly, the approach adopted here was wider lessons and implications for tourism statistics which are traditionally difficult and costly to compile at a national level. At a regional level these difficulties and costs escalate and may be so prohibitive as to prevent their compilation altogether. Realistically the traditional methods of compiling tourism statistics (i.e. from survey data) cannot provide robust, detailed, small area or regional tourism information unless a sophisticated supply side data infrastructure is in place. Even in the event that such an infrastructure does exist, it will most likely be limited to collective accommodation and therefore will not provide a comprehensive view of regional tourism activity. Thus alternate approaches to compiling sub-national statistics and deriving indicators must be considered. In particular, administrative datasets which provide regional information or large commercial datasets arising from tourists' electronic finger prints should be explored and exploited.

The Irish study has illustrated just some of the data and analyses that can be undertaken using business registers and other administrative data sources. There are a number of advantages to utilising business registers and other administrative taxation and demography information; they provide large, robust data sources that are already compiled to support the wider body of business statistics or state administrative systems. Utilising these data should therefore be inexpensive and impose no additional response burden. This approach consequently offers a sustainable approach to compiling regional tourism indicators into the future. Although not perfectly aligned with concepts like tourism demand, this approach nevertheless offers high quality, policy relevant information. Furthermore, broadly comparable data should be available across the European Union, as every member state must compile business demography information in compliance with European Union Regulation No. 295/2008. This last point is important, as raw tax administration on their own may have biases arising from poor tax compliance. However, European Union Member States, in compiling their business demography data, should have adjusted for such bias. Consequently, the TDRs derivable from the business demography data (and many other administrative sources) offers a robust, inexpensive and internationally comparable approach to compiling indicators of tourism performance at the sub-national level.

Table 5.24 **Tourism industries identified in Ireland**

Tourism industries		NACE Rev. 2
1	**Accommodation services for visitors**	
	Hotels and similar accommodation	55.10
	Holiday and other collective accommodation	55.20
	Recreational vehicle parks, trailer parks and camping grounds	55.30
	Other accommodation	55.90
2	**Food and beverage serving services**	
	Restaurants and mobile food service activities	56.10
	Event catering activities	56.21
	Other food services	56.29
	Beverage serving activities	56.30
3 and 4	**Railway and road passenger transport services**	
	Passenger rail transport, interurban	49.10
	Urban and suburban passenger land transport	49.31
	Taxi operation	49.32
	Other passenger land transport n.e.c.	49.39
5	**Water passenger transport services**	
	Sea and Coastal passenger water transport	50.10
	Inland passenger land transport	50.30
6	**Air passenger transport services**	
	Passenger Air Transport	51.10
7	**Transport equipment rental services**	
	Renting and leasing of cars and light vehicles	77.11
8	**Travel agencies and other reservation services**	
	Travel agency activities	79.11
	Tour operator activities	79.12
	Other reservation service and related activity	79.90
9	**Cultural services**	
	Performing arts	90.01
	Support activities to performing arts	90.02
	Artistic creation	90.03
	Operation of arts facilities	90.04
	Library and archives activities	91.01
	Museums activities	91.02
	Operation of historic sites and buildings and similar visitor attractions	91.03
	Botanical and zoological gardens and nature reserves activities	91.04

Tourism industries		NACE Rev. 2
10	**Sports and recreational services**[1]	
	Operation of sports facilities	93.11
	Fitness facilities	93.13
	Other sports activities	93.19
	Activities of amusement parks and theme parks	93.21
	Other amusement and recreation activities	93.29
	Renting and leasing of personal and household goods	77.21

1) Activities of sports clubs (93.12) excluded.

Table 5.25 **Business register coverage: NACE Rev. 2 (sections)**

NACE	Description of activity
B	Mining and quarrying.
C	Manufacturing.
D	Electricity, gas, steam and air conditioning supply.
E	Water supply, sewerage, waste management and remediation activities.
G	Wholesale and retail trade, repair of motor vehicles and motorcycles.
H	Transportation and storage.
I	Accommodation and food service activities.
J	Information and communication.
K	Financial and insurance activities (excl. 64.20 Activities of holding companies).
L	Real estate activities.
M	Professional, scientific and technical activities.
N	Administrative and support service activities.
R	Arts, entertainment and recreation.

5.6 New Zealand: analyzing tourism employment in New Zealand

New Zealand's official measure of tourism employment (which includes both direct and indirect employment) comes from the Tourism Satellite Account. These employment estimates are derived from survey based estimates of industry level employment.

A large amount of administrative and survey data on businesses and individuals has been linked together in New Zealand over the last 10 years for statistical and research purposes and the Ministry of Business, Innovation and Employment of New Zealand is increasingly relying on administrative data for information on employment, in particular:

- The Business Frame (register) is now mainly based on administrative data from the tax system;
- Information on employment in businesses comes from information supplied to the tax department on the wages and salaries paid to each person employed in the business;
- Administrative data can tell us about employment, worker turnover, job creation and destruction in businesses in tourism industries; and
- There are also many other applications, such as identifying the benefits of workplace training, etc.

5.6.1 Data sources available to examine tourism employment in New Zealand

The data sources available in New Zealand to examine tourism employment and tourism businesses comprise the following:

- **Household Labour Force Survey:** a survey of households which provides information at high level industry only;
- **Quarterly Employment Survey:** an establishment survey which produces information on employment by sex by high level industry only;
- **Tourism Satellite Account (TSA):** uses information from the Quarterly Employment Surveys of business (QES), Household Labour Force Surveys (HLFS), International Visitors Survey, Domestic Travel Survey and National Accounts to produce standard outputs, including direct and indirect tourism employment by industry;
- **The Survey of Working Life:** a supplementary survey to the HLFS which is run every 4 years and collects information on employment conditions and job quality;
- **The Business Operations Survey:** a survey of businesses which collects information about various aspects of their operations including business and employment practices, innovation, use of ICT and various other topics. Respondents are asked to estimate the proportion of their businesses sales that are to tourists;
- **Linked Employer-Employee Data (LEED):** a unit record administratively sourced dataset on workers and firms. This dataset brings together unit record level tax data for individuals and businesses with the Business Register. Employers are required to report the wages and salaries paid (and tax deducted) for each person employed in the business in a given calendar month, and hence this dataset provides information on employment (by age, sex and region) by detailed industry, and can be used to examine income, tenure, worker turnover, job creation and destruction by detailed industry and region.
- **The Longitudinal Business Database (LBD):** brings together administrative data from the tax system, the business frame and business surveys and enables unit-record level analysis of firms over time (including those in tourism industries); and

– **Integrated Data Infrastructure (IDI):** links other administrative and survey data, (including information on individuals from the social welfare, education and training, workplace injury and justice systems, and information on businesses from the tax system and surveys) to LEED and the LBD.

5.6.2 Statistical infrastructure

In New Zealand the Business Frame (which is used to draw samples for business surveys) is primarily based on administrative data from the tax system:

– Business Activity Indicator comes from Goods and services tax (GST) registrations and payments; and
– Information about the earnings of individuals employed in the business comes from the Employer Monthly Schedule (EMS). This details the wages and salaries paid (and tax deducted) for each person employed in the business during the calendar month.

Information on business performance comes from company tax returns and financial accounts filed by businesses. Additional information is collected via surveys.

5.6.3 Tourism Satellite Account

New Zealand's official measure of tourism employment (which includes both direct and indirect employment) comes from the Tourism Satellite Account (figure 5.19 shows a summary of the TSA for 2012). These estimates are derived from survey based estimates of industry level employment and do not make use of administrative data sources.

Direct tourism employment adds another dimension to measuring the role of tourism in the New Zealand economy, focusing on tourism's impact on employment.

Table 5.26 (see below) shows the number of total full-time equivalents (FTEs) directly employed in tourism.

These are shown in terms of paid employees and working proprietors, and are broken down into full-time and part-time positions. In the absence of data on hours worked, a part-time employee is assumed to equate to 0.5 of a full-time equivalent. An FTE is an employee who works 30 or more hours a week, while a part-time employee is one who works fewer than 30 hours a week as per Statistics New Zealand's employment definition.[53]

Points to note from table 5.26: there were 110,800 FTEs directly employed in tourism in the year ended March 2013, an increase of 1.8% from the previous year.

53 All people in the working-age population who, during the reference week: worked for one hour or more for pay or profit in the context of an employee/employer relationship or self-employment worked without pay for one hour or more in work that contributed directly to a farm, business, or professional practice operation owned or operated by a relative had a job but were not at work due to: their own illness or injury, personal or family responsibilities, bad weather or mechanical breakdown, direct involvement in an industrial dispute, or leave or holiday.

Direct tourism employment increased 5.1% between 2010 and 2013. The total number of FTEs employed in New Zealand increased only 2.7% over the same period.

The number of FTEs employed in tourism does not necessarily correlate with movements in total tourism expenditure or direct value added. In 2013, for example, direct tourism value added increased 4.3%, while FTEs directly employed in tourism increased 1.8%. This difference may be the result of a number of factors. There may be a lag between growth in a given industry and decisions to employ new staff. Alternatively, there may be a shift in the number of hours worked, or in output for each FTE. Also, defining a part-time employee's hours as equivalent to 0.5 of an FTE's hours may not necessarily be a true representation of the differences in hours worked.

Table 5.26 **Direct tourism employment, 2010–2013 (year ended March)**[1]

	2010	2011	2012	2013	2011	2012	2013
	Number				Annual change (%)[2]		
Total employment							
Full-time employees	1,404,600	1,430,500	1,436,400	1,450,800	1.8	0.4	1.0
Part-time employees	409,500	401,600	415,200	407,800	-1.9	3.4	-1.8
FTE employees	1,609,400	1,631,300	1,644,000	1,654,700	1.4	0.8	0.7
Full-time working proprietors	251,100	255,600	262,100	253,500	1.8	2.5	-3.3
Part-time working proprietors	72,900	76,700	83,300	79,900	5.2	8.6	-4.1
FTE working proprietors	287,600	294,000	303,800	293,500	2.2	3.3	-3.4
Total FTEs employed	**1,896,900**	**1,925,300**	**1,947,800**	**1,948,200**	**1.5**	**1.2**	**0.0**
Tourism employment							
Tourism full-time employees	66,400 R	66,600 R	69,400 R	71,500	0.4 R	4.1 R	3.1
Tourism part-time employees	48,500 R	48,700 R	51,300 R	49,900	0.4 R	5.5 R	-2.7
Tourism FTE employees	90,600 R	91,000 R	95,000 R	96,500	0.4 R	4.5 R	1.5
Tourism full-time working proprietors	13,000 R	12,200 R	12,000 R	12,400	-6.1 R	-1.6 R	3.6
Tourism part-time working proprietors	3,500 R	3,500 R	3,600 R	3,800	-1.0 R	2.6 R	5.3
Tourism FTE working proprietors	14,700 R	13,900 R	13,800 R	14,300	-5.5 R	-1.1 R	3.8
Total FTEs directly employed in tourism	**105,400 R**	**104,900 R**	**108,800 R**	**110,800**	**-0.5 R**	**3.7 R**	**1.8**
FTEs directly employed in tourism from total FTEs employed (%)	**5.6 R**	**5.4 R**	**5.6 R**	**5.7**	**…**	**…**	**…**

1) Employment numbers are rounded to the nearest hundred. Individual figures may not sum to stated totals due to rounding.

Total employment numbers and tourism working proprietor numbers (excluding unpaid family workers and unspecified) are sourced from the Household Labour Force Survey and are averages for the year ended March.

Tourism employee numbers are sourced from the Quarterly Employment Survey and are averages for the year ended February.

2) Percentage changes are calculated from unrounded employment numbers.

Notes: R = revised; … = not applicable.

Sources: Statistics New Zealand, *Tourism Satellite Account: 2013* (online), available at: www.stats.govt.nz/browse_for_stats/industry_sectors/Tourism/tourism-satellite-account-2013/tourism-employ.aspx (13-05-2014).

Tourism industry ratios have been used to allocate tourism employment numbers by industry. This treatment assumes that, for each industry, a given dollar value of output will require a fixed quantity of labour input, regardless of whether the products are purchased by tourists or non-tourists.

The methods used to estimate *Direct Tourism Employment* are described in the Tourism Satellite Account published by Statistics New Zealand each year.[54]

5.6.4 Integrated Data Infrastructure (IDI)

Large amount of administrative and survey data on businesses and individuals are being linked together at unit record level for statistical and research purposes.

Statistics New Zealand's Integrated Data Infrastructure (IDI) brings together unit record level information on individuals and firms. It includes both administrative data sources and surveys.

The final datasets are anonymous and all outputs are checked to ensure confidentiality (i.e. to ensure that no individual information is published or disclosed).

Figure 5.15 illustrates the structure of the IDI. The green boxes represent administrative data sources and the blue boxes survey data sources. The diagram emphasizes the importance of the Linked Employer-Employee Dataset (LEED). It provides information on employment by detailed industry (and can be broken down further by age, sex and region). This data can be used to examine employment, income, tenure, worker turnover, job creation and destruction by detailed industry and region, by calendar month. LEED and has been available since 2004 and provides monthly information from April 1999 onwards.

Various administrative data and surveys of household and individuals have been matched to the Central Linking Concordance (referred to as *person links* in figure 5.15), while administrative data and surveys of businesses are linked to the business frame. Figure 5.16 and figure 5.17 below provide more detail on the individual and business data available in IDI. Further information on the IDI is available at: www.stats.govt.nz.

Figure 5.16 shows the individual data collections currently included in the IDI. Each collection comprises unit record level data on individuals. Each collection has been matched to the Central Linking Concordance (referred to as *person links* in the figure). Additional data source are being added each year.

54 Statistics New Zealand, *Tourism Satellite Account: 2013* (online), available at: www.stats.govt.nz/browse_for_stats/industry_sectors/Tourism/tourism-satellite-account-2013/tourism-employ.aspx (13-05-2014).

Figure 5.15 **Integrated Data Infrastructure**

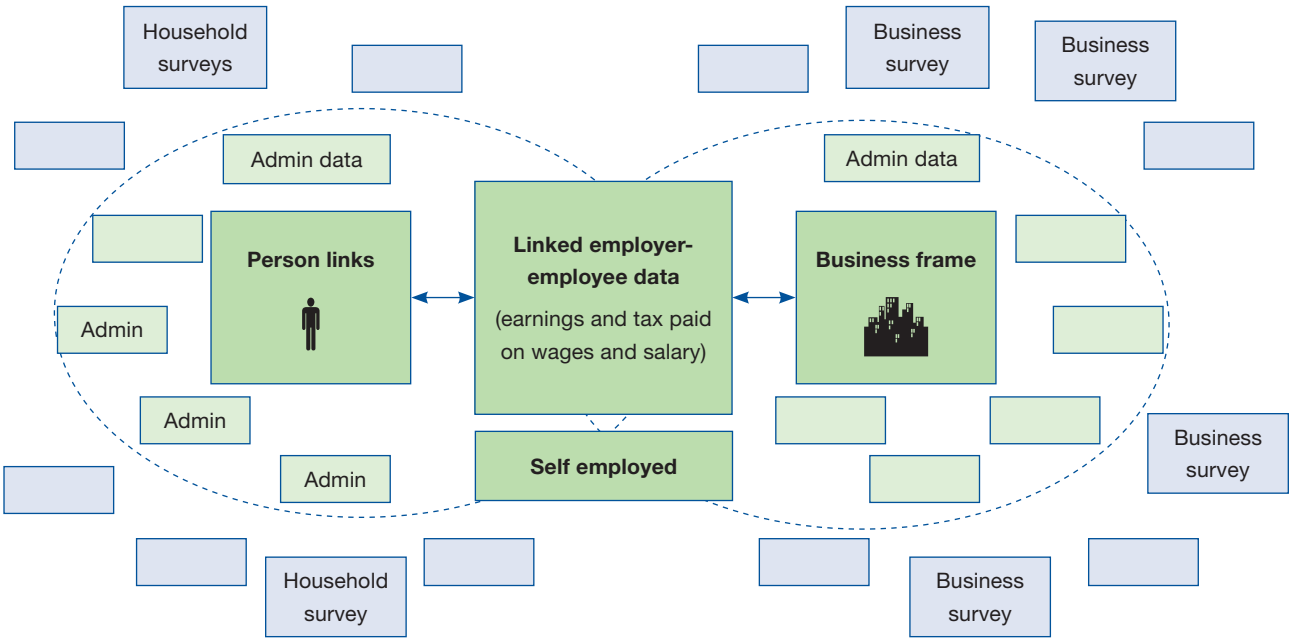


Figure 5.16 **Integrated Data Infrastructure: individuals**

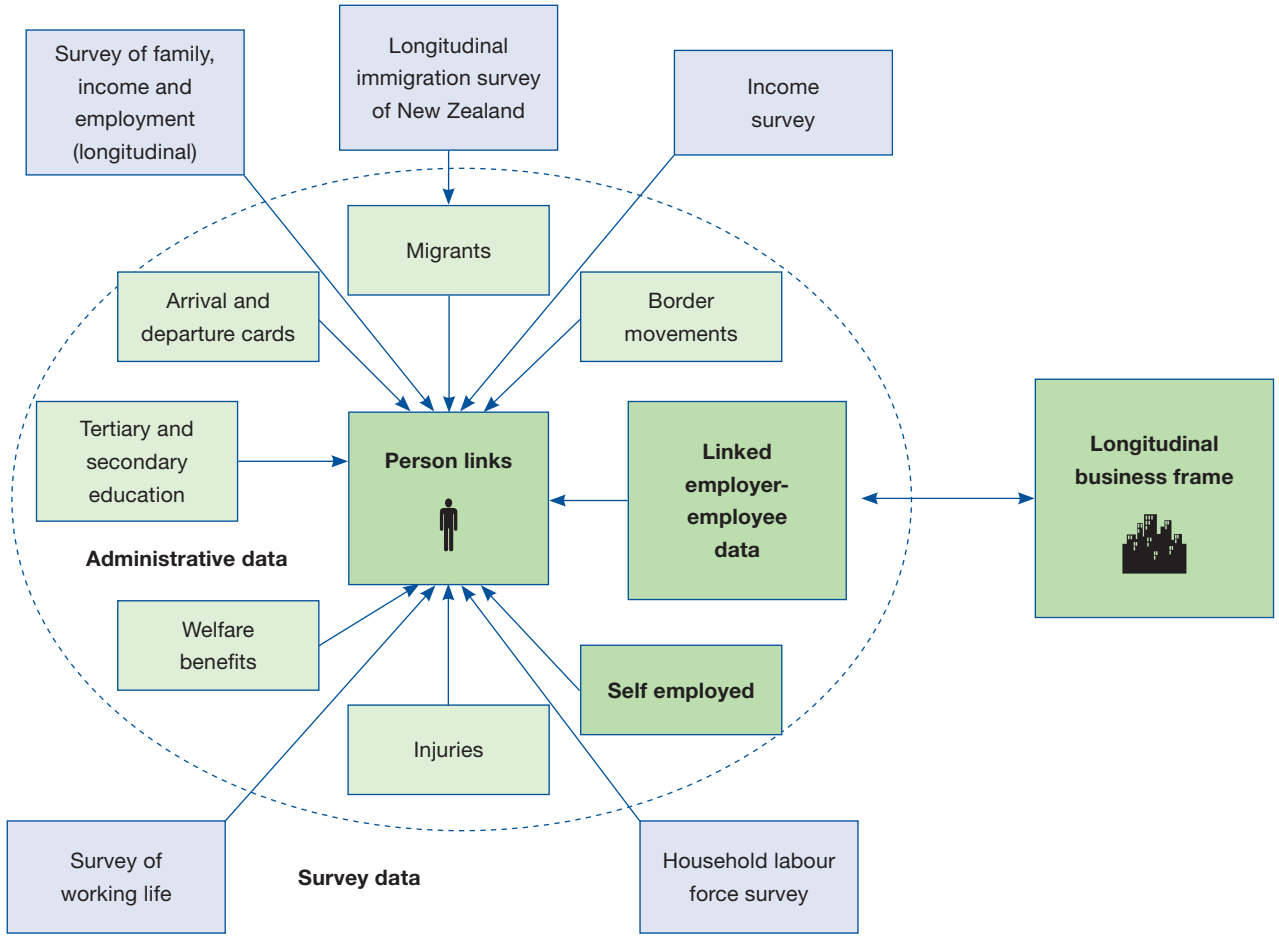


Figure 5.17 shows the individual data collections which comprise the Longitudinal Business Database. Reach collection comprises unit record level data on individual businesses. Business surveys undertaken by Statistics New Zealand link directly through to the Business Frame, while administrative collection are linked to the Business Frame via a tax registration number.

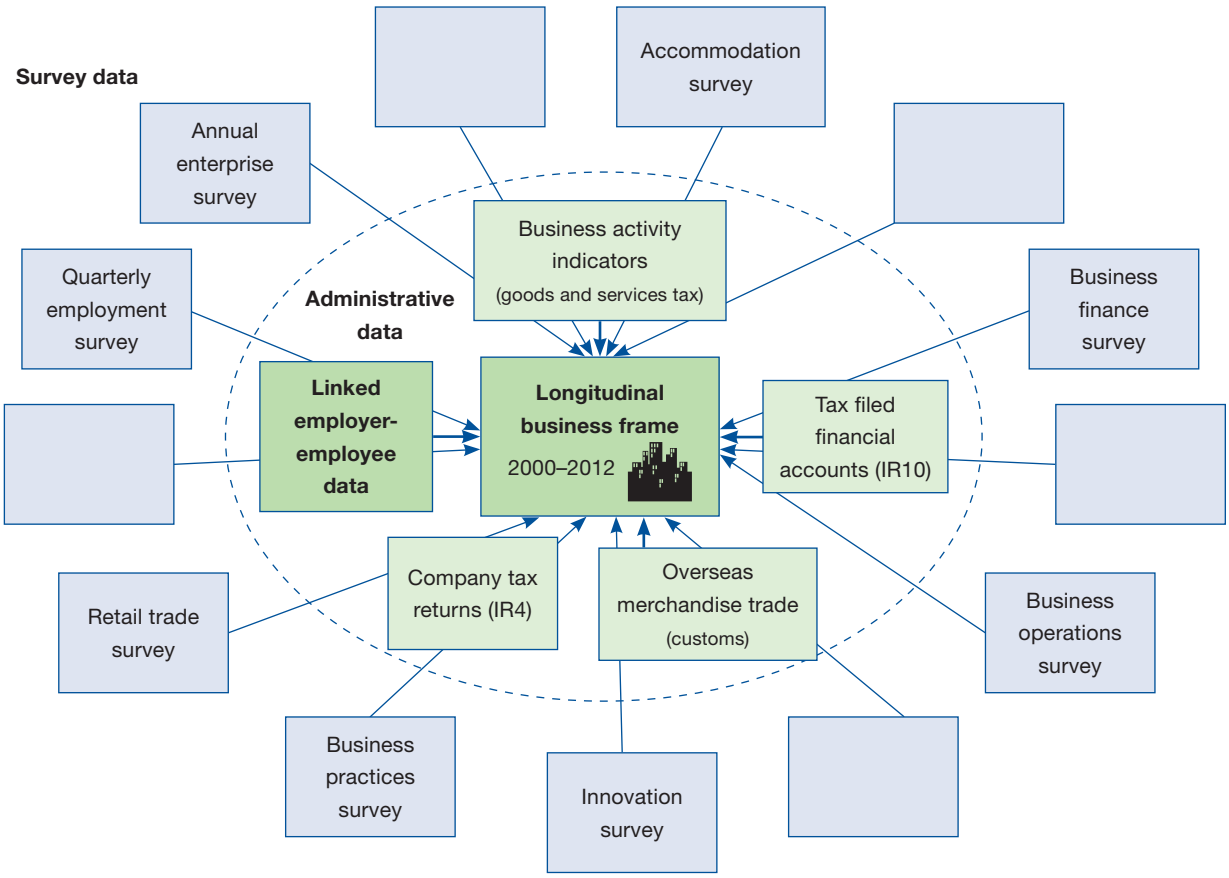
5.6.5 Example of how the linked administrative data has been used

Transitions from welfare to work

Linking information on individuals' monthly income from earnings and government transfers with information on welfare receipt can be used to investigate transitions from welfare to work – including the industry of employment, the sustainability of employment and wage growth over time.

Analysis of the linked administrative data showed that during the period 2000–2010 about 7% of new jobs were filled by those leaving welfare. There was also considerable variation by industry, with 10% of new jobs in the "Manufacturing" and "Health care and social assistance sector" filled by those leaving welfare. This compares to "Administrative and support services" (9%), "Retail trade" (7%), "Accommodation and food services" (6%), "Arts and recreation" (5%), "Professional and technical" (4%), "Finance and insurance" (3%).

Figure 5.17 **Longitudinal Business Database**



The proportion of new jobs filled by those leaving welfare declined in "Accommodation and food services" and "Arts and recreation", over 2000–2010. This coincided with a large increase in the number of temporary migrants holding working holiday and seasonal employment visas, many of whom were working in tourism industries and in the agricultural sector.

The impact of further education and training on future employment and earnings

Linking information on individuals' monthly income from earnings and government transfers with information on *tertiary education and work-based training* can tell us about the employment and earnings benefits of gaining new qualifications (e.g. qualifications in tourism, hospitality and retail).

The benefits of gaining further qualification varied depending on the field and level of study. Many qualifications at lower levels (i.e. the equivalent of school level qualifications) did not result in greater earnings three after completion.

Businesses that sell directly to tourists: recruitment difficulties and perceived labour quality

The Business Operations Survey collects information from businesses about various aspects of their operations including employment practices, skill shortages, innovation, and use of ICT. Respondents are asked to estimate what proportion of their sales was made directly to tourists. Businesses that said they sold directly to tourists were more likely to report recruitment difficulties hiring lower skilled workers and managers. They were also more likely to say that a lack of appropriate personnel, lack of management resources and lack of marketing expertise were barriers to innovation, compared to business that did not sell directly to tourists.

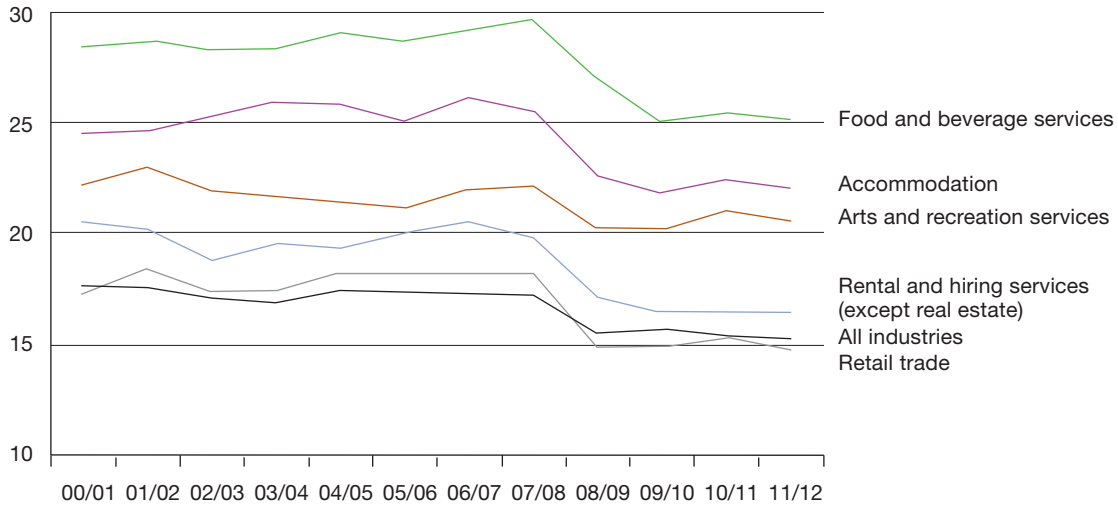
Workforce turnover

This Linked-Employer-Employee Dataset brings together unit record level tax data for individuals and businesses with the Business Register. Employers are required to report the wages and salaries paid (and tax deducted) for each person employed in the business in a given calendar month. The dataset provides information on employment (by age, sex and region) by detailed industry and can be used to examine income, tenure, worker turnover, job creation and destruction by detailed industry and region. Figure 5.18 below shows worker turnover rates for selected industries. Worker turnover rates are much higher in businesses in food and beverage services and accommodation than in other industries.

5.6.6 Increased use of administrative data in future

The need to reduce costs while maintaining or increasing statistical outputs means that use of administrative data sources will likely increase in future. For example, the following steps are planned to be taken already in the near future.

Figure 5.18 **Worker turnover rates in selected industries, 2000–2012 (%)**



The Domestic Travel Survey was run for the last time in 2013. The Ministry of Business, Innovation and Employment (the survey's funders) decided that the survey did not provide sufficient value to justify its cost. In particular it didn't meet the needs of those wanting regional data. Alternative data sources are currently being investigated. Electronic funds transfer at point of sale (EFTPOS) and credit card transaction data may provide a suitable indicator series in the short to medium terms at least.

The Quarterly Employment Survey of businesses may be ceased and tax data used instead (i.e. the information on the wages and salaries paid to each person employed in the business during the calendar month).

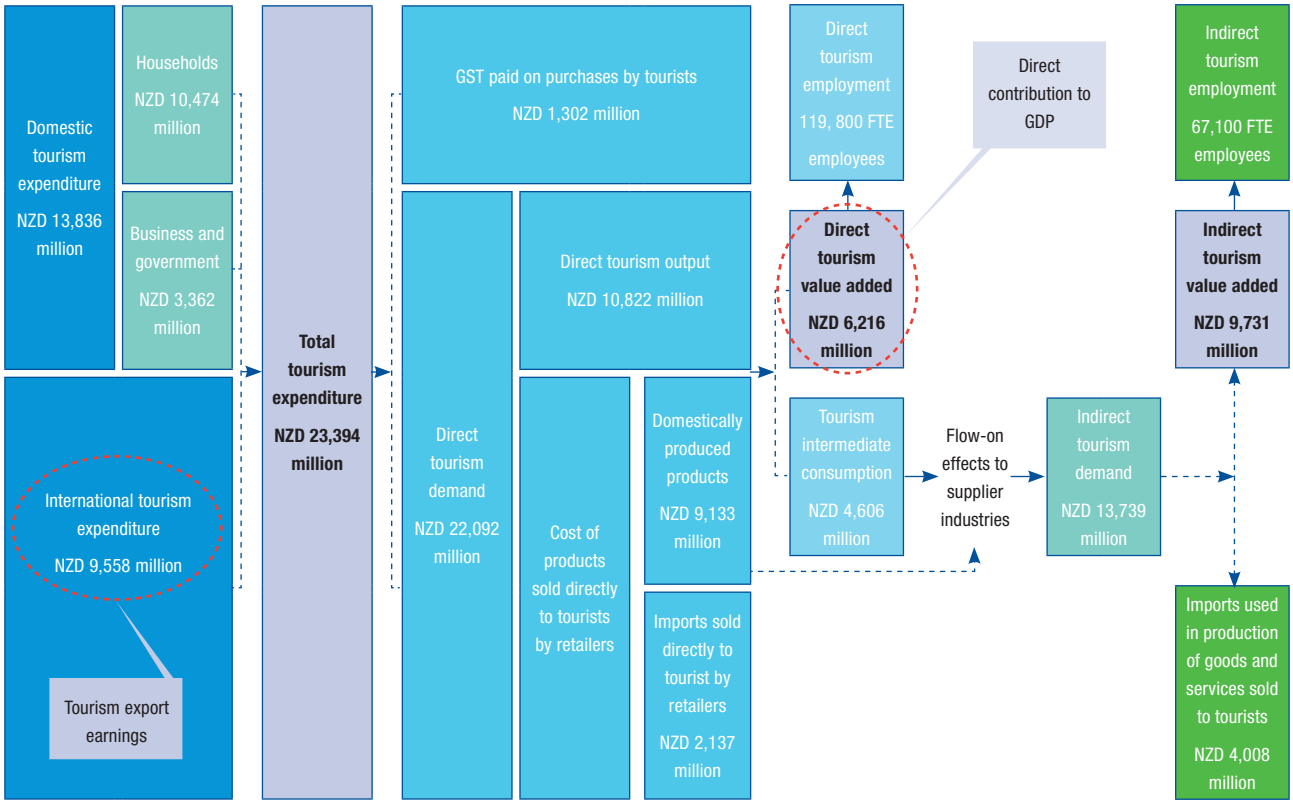
5.6.7 Conclusion

New Zealand's official measure of tourism employment (which includes both direct and indirect employment) comes from the Tourism Satellite Account (table 7 *Employment in the Tourism Industries).* This provides an estimate of the number of employees and self-employed; including the number employed part-time, full-time and full-time equivalents. These employment estimates are derived from survey based estimates of industry level employment.

While these measures are useful, stakeholders want much more comprehensive and detailed information on tourism employment. Over the last ten years Statistics New Zealand have linked together a large amount of administrative and survey data on businesses and individuals for

statistical and research purposes. The Ministry of Business, Innovation and Employment is increasingly relying on this data for information on employment. Administrative data can not only tell us about employment, by detailed industry and region, it can also provide insights on worker turnover, tenure, job creation and destruction. There are also many other applications, for example identifying the extent to which particular groups of individuals (former welfare recipients, students or migrants) are employed in particular industries, and the impacts of workplace training on participants future employment and earnings.

Figure 5.19 **Tourism Satellite Account 2012**



5.7 Spain: using of different data sources to measure and analyse employment in the tourism industries

The Institute of Tourism of Spain (Turespaña) under Royal Decree 425/2013 of 14 June 2013, is the statutory body in charge of the preparation, compilation and analysis of statistical data on Tourism.

The Institute of Tourism of Spain research work focuses on the economic and socio-demographic aspects of tourism, for which it relies on information produced by its three main statistical surveys:

1. Familitur (domestic and outbound tourism by Spanish residents);
2. Frontur (on inbound tourism); and
3. Egatur (on inbound tourism expenditure).

All three surveys are conducted on a monthly basis. The data collected are studied from a macroeconomic perspective specifically quantifying the economic impact of all tourism activities in the Spanish regions.

The Institute of Tourism of Spain uses and regularly disseminates statistics from auxiliary sources, such as data on international arrivals via low-cost carriers and employment in tourism related activities. Some of these sources are described below.

Data from the Spanish Labour Force Survey (LFS) conducted by the National Statistics Institute of Spain (INE), are used to identify, quantify and analyse the tourism labour force (employed and unemployed populations) in each of the tourism characteristic activities/industries and in the tourism sector as a whole. Attributes of the employed and unemployed persons in the tourism characteristic activities, disaggregated by sex, age group, educational level, nationality (Spanish/foreign), employment (employed/self-employed), type of employment contract (permanent/temporary), type working time arrangements and cross-classified by region are analysed.

Data collected from the Labour Cost Survey, also conducted by INE, and data generated from a Labour Situation Survey, and administrative records on persons registered as active in the tourism sector, are used to enhance additional attribute information on employment in the tourism sector.

The Institute of Tourism of Spain measures only tourism characteristic *activities/industries* as defined by the United Nations and UNWTO: *the International Recommendation for Tourism Statistics* (IRTS 2008) and the *Tourism Satellite Account: Recommended Methodological Framework* (TSA:RMF 2008), as well as a new National Classification of Economic Activities (CNAE 2009) aligned to SNA 2008 adopted by National Statistics Institute of Spain. The new classification is used for the compilation of Spanish TSA and tourism employment.

Tourism characteristics considered, according to CNAE 2009, are detailed in section 5.7.1. The analysis of employment in the tourism industries is done using a straightforward approach i.e. applying the CNAE 2009 classification of activities linked with tourism demand; the units of analysis are companies or establishments that carry out tourism-characteristic activities. It is important to note that this approximation results in an underestimation of employment generated by tourism, as it does not take into account other economic activities which may partially contribute to tourism activities. At the same time, these estimates may overestimate tourism employment as not everyone employed in these industries necessarily serves tourism demand.

Therefore TSA figures slightly differ from LFS-based results because they are derived from national accounts estimates (data integrated from different sources). The latest available figures on the tourism employment (direct and indirect persons and jobs) compiled by INE were produced in the TSA 2009.

The major source of data on employment in the tourism industries used by the Institute of Tourism of Spain for tourism labour market analysis is a Labour Force Survey (LFS).

The Institute of Tourism of Spain publishes monthly data on persons registered on Social Security as employed in the tourism industries,[55] to supplement and produce annual and quarterly reports on the tourism employment situation based on the LFS quarterly results.[56]

The *Annual report*[57] contains statistical tables and comprehensive analyses of employment in the tourism industries in Spain. The first section of the report provides basic data on the labour force in the tourism sector (employment and unemployment), broken down by tourism industries.

More detailed analysis of the tourism workforce is given in the second section, where they are classified by age, sex, educational level, etc.

Sections three, four and five are dedicated to the analysis of work quality, contractual arrangements, temporary employment rate and hours of work.

The situation of self-employed worker in the Spanish tourism labour market is studied separately in section six. Information on foreign workers employed in the tourism sector is analysed in section seven. Labour costs, compensation of employees and other non-wage costs in the tourism industries are detailed in section eight.

Finally, the report contains a section providing general methodological descriptions, as well as metadata like concepts and definitions of variables.

5.7.1 Methodology

Labour Force Survey (EPA)

The Labour Force Survey (LFS) is a quarterly household-based continuous sample survey conducted by the National Statistics Institute (INE) since 1964. The main objective of the LFS is to measure and study the economic activity characteristics of the labour force as a factor production. Persons aged 16 years and above are classified by labour force status as: employed, unemployed and outside the labour force.

55 Instituto de Estudios Turísticos (n. d.), *Afiliación a la Seguridad Social – Información Mensual* (online), available at: www.iet.tourspain.es/es-es/estadisticas/otrasestadisticas/empleoturistico/afiliacionss/paginas/mensuales.aspx (15-05-2014).

56 Instituto de Estudios Turísticos, *Encuesta de Población Activa (EPA) – Nota de coyuntura* (online), available at: www.iet.tourspain.es/es-es/estadisticas/otrasestadisticas/empleoturistico/encuestapoblacion/paginas/informespublicaciones.aspx (15-05-2014).

57 See: www.iet.tourspain.es/es-ES/estadisticas/otrasestadisticas/empleoturistico/encuestapoblacion/Informes/Informe%20anual%20de%20la%20EPA%20en%20el%20sector%20tur%C3%ADstico.%20A%C3%B1o%202011.pdf.

This is the primary data source used by the Institute of Tourism of Spain for the compilation and analysis of tourism labour force estimates of Spain.

The use of the LFS results ensures consistency over time series and since its concepts and definitions comply with relevant international recommendations those estimates of employment in the tourism industries can be used for cross-country comparison.

Tourism industries

The tourism characteristics activities/industries covered by the LFS are listed below:[58]

- 55 and 56: Hotels and restaurants;
- 491: Passenger rail transport, interurban;
- 493: Other passenger land transport;
- 501: Sea and coastal passenger water transport;
- 503: Inland passenger water transport;
- 511: Passenger air transport;
- 522: Support activities for transportation;
- 791: Travel agency and tour operator activities;
- 771: Renting and leasing of motor vehicles;
- 773: Renting and leasing of other machinery, equipment and tangible goods;
- 799: Other reservation services;
- 900: Creative, arts and entertainment activities;
- 910: Libraries, archives, museums and other cultural activities;
- 931: Sport activities; and
- 932: Amusement and recreation activities.

Dissemination of information

Results of this specific use of LFS are disseminated through the following means:

- **Quarterly reports:** this short-term information release is issued on a quarterly basis and comprises of data on employed and unemployed by tourism characteristic, nationality, status in employment, type of work contracts, working time arrangements and disaggregated by regions; and
- **Annual report:** "Employment in the tourism sector" is an annual report on employment in the tourism activities/industries disaggregated by age, sex, nationality and educational level, type of work contract, working time arrangements, etc. The report also draws on the information from the Labour Force Survey and Labour Cost Survey.

Quarterly Labour Cost Survey (ETCL)

The *Quarterly Labour Cost Survey* (ETCL), conducted by the National Statistics Institute (INE), is a continuous survey which collects data on labour cost and its components. It also collects data on working hours to produce such estimates as average (annual) hours actually worked and others.

58 As coded within the CNAE 2009/NACE (Rev. 2).

Since the first quarter of 2009, the ETCL generates labour cost estimates broken down by autonomous community, economic activity included in CNAE 2009, and unit size. The survey covers the whole country including Ceuta and Melilla whose information is provided together with that of Andalusia. The survey is designed to provide reliable information at the regional level.

The survey covers all employees registered with relevant contribution accounts at the General System of Social Security.

This survey is part of the Euroindicators programme that covers the Euro-zone member countries that provides Eurostat with data to measure the convergence of labour costs in the European Union Member States.

Labour Situation Survey (ECL)

The *Labour Situation Survey* (ECL) has been conducted by the Ministry of Employment and Social Security since 1990. It is a quarterly multipurpose sample survey of businesses. The ECL covers all Spain with the exception of Ceuta and Melilla. The survey's main objective is to provide the Ministry and major stakeholders with information on labour force developments and characteristics; hours actually worked; and to seek employers' views on the evolution of their workforce. In addition, the ECL is supplemented annually with a thematic modular questionnaire which collects additional information on different segments of the Spanish labour market.

The ECL sample size is 12,800 establishments per quarter. The ultimate survey unit is a so-called Social Security contribution account. This unit consists of a group of salaried employees with similar characteristics registered with the General Social Security System and Special Regime for Coal Mining, who may perform their work in one or more workplaces belonging to the same company and located in the same administrative regions.

The sectoral coverage of employment includes manufacturing, construction and services. Public administration, agriculture, defence and compulsory social security, extraterritorial and religious organizations are excluded.

Social Security Records (SSR)

This is an administrative source of data on worker registrations and employees on Social Security records classified by their individual employment number assigned by employers and according to the type of economic activity within the National Classification of Economic Activities (CNAE 2009).

The SSR covers the whole country and contains monthly information on the number of registrations as of the last day of the month, as well as annual averages. The Institute of Tourism of Spain uses the SSR as an additional data source on tourism characteristic activities within the CNAE 2009.

5.7.2 Practical examples of data presentation and analysis

Presented below are selected regular publications on various aspects of employment in the tourism industries used by the Institute of Tourism of Spain, as well as some practical examples of data presentations and analyses based on the sources described above:

- Review of the Labour Force Survey in Tourism, 3th quarter 2013;
- Internal Review of the Affiliation with Social Security in Tourism, March 2013;
- Internal Review of the Quarterly Labour Cost Survey, 4th quarter 2012; and
- Internal Review of the Labour Situation Survey, 4th quarter 2012.

Review of employment in tourism (extract)

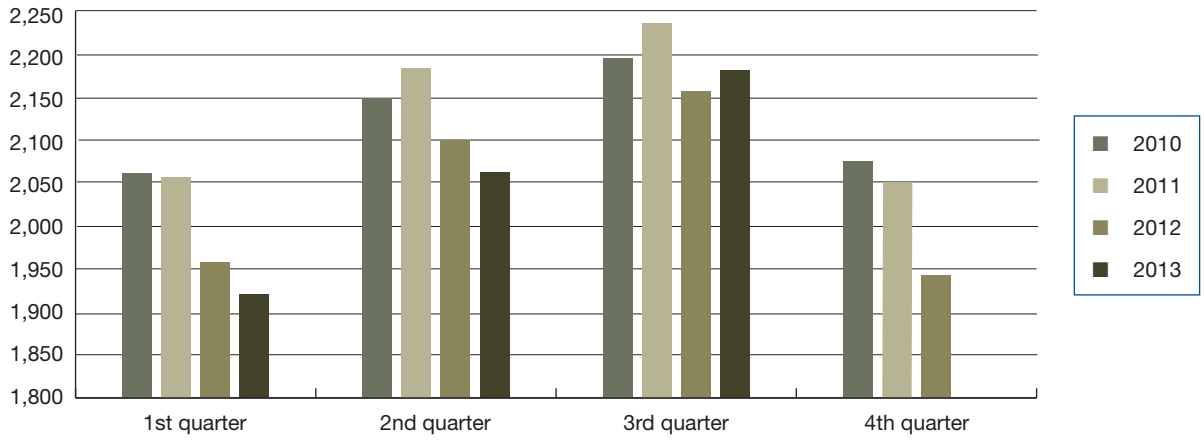
Employment in the tourism industries

According to the LFS, in 2012, the number of employed persons in the tourism industries declined in all quarters compared with the same period in the previous year. The number of total employed persons in the third quarter of 2013 showed a yearly increase of 1.2% growing to 2,182,050 workers. Figure 5.20 shows the quarterly distribution of persons employed in the tourism industries between 2010 and 2013. In the third quarter 2013, the total number of employed showed a yearly increase of 1.2%, rising to 2,182,050 employees.

Also a quarterly seasonal effect can be observed, showing the third and fourth second quarters as those with the highest number of employed compared with the first and second quarters.

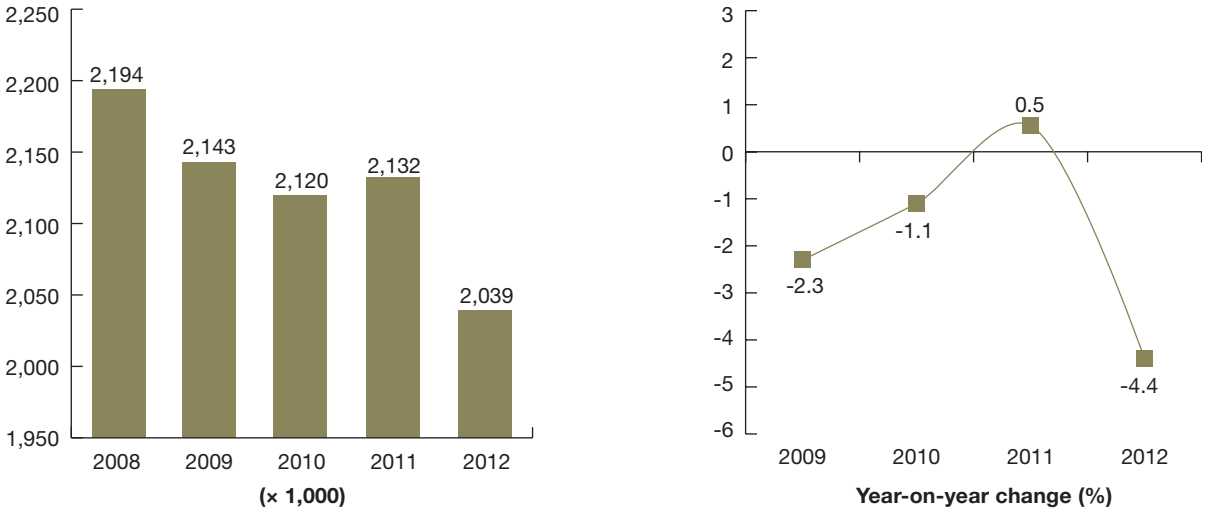
During the period 2008–2011 the cumulative decline in the number of employed persons in the tourism industries (-2.8%) remained well below that recorded for the total economy.

Figure 5.20 **Total employment in the tourism industries, 2010–2013 (× 1,000)**



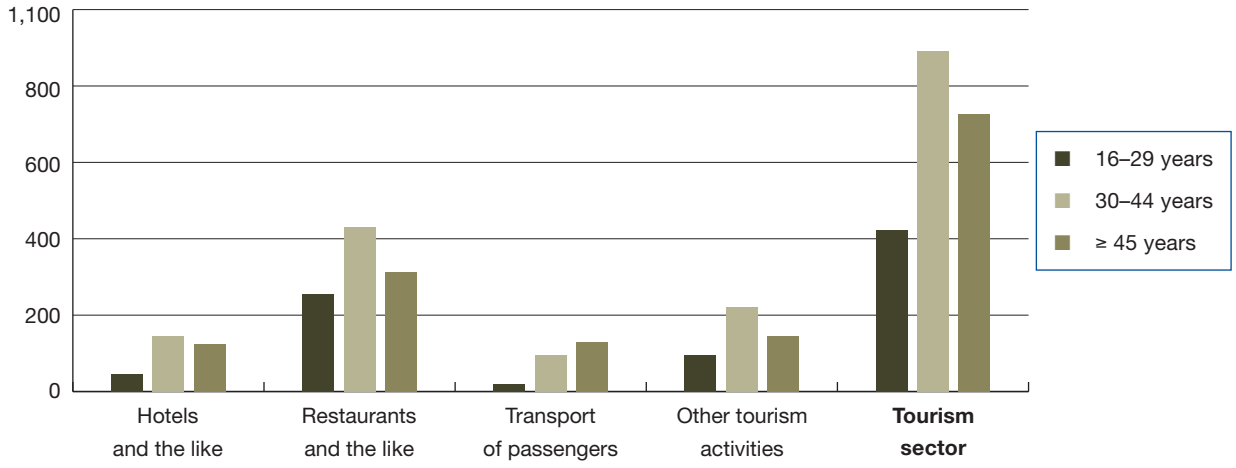
In 2012, the total falloff in employment in tourism was 4.4% which was higher than yearly decreases recorded for the preceding years and almost equalled the national decline of 4.5% (see figure 5.21).

Figure 5.21 **Employment in the tourism industries, 2008–2012**



In 2012, persons aged 30–44 years dominated other age groups active in the tourism industries. The only exception was Passenger transport, where employed persons over 45 years prevailed, accounting for 52.9% (see figure 5.22). Persons under 30 years of age were much less numerous in this industry.

Figure 5.22 **Employment in the tourism industries by age and industry, 2012 (× 1,000)**



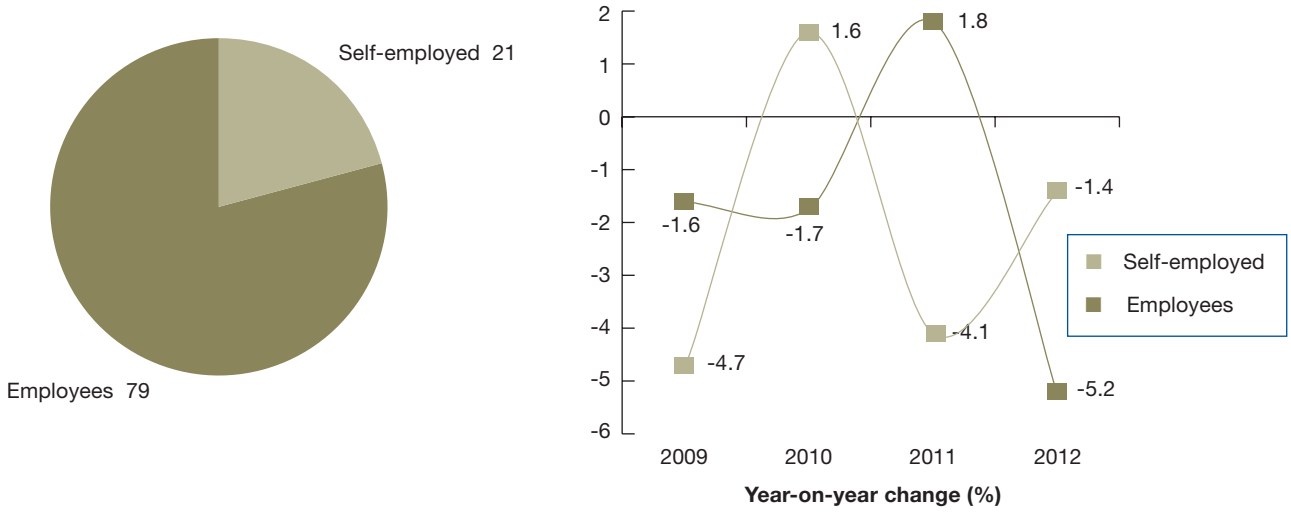
Employment in the tourism industries: employees vs. self-employed in 2012

Since 2008, the percentage of employees in the tourism industries has remained relatively stable, around 79%. In 2012, self-employed accounted for 21%.

In 2011, repercussions of the economic crisis were mainly observed among self-employed whose share of total employment dropped by 4.1%, whereas the share of employees grew by

1.8%. Notably, in 2012, the trend changed and employees registered the deepest fall of 5.2% as compared to the 1.4% experienced by the self-employed (see figure 5.23 below).

Figure 5.23 **Share of employees and self-employed in the tourism industries, 2012 (%)**

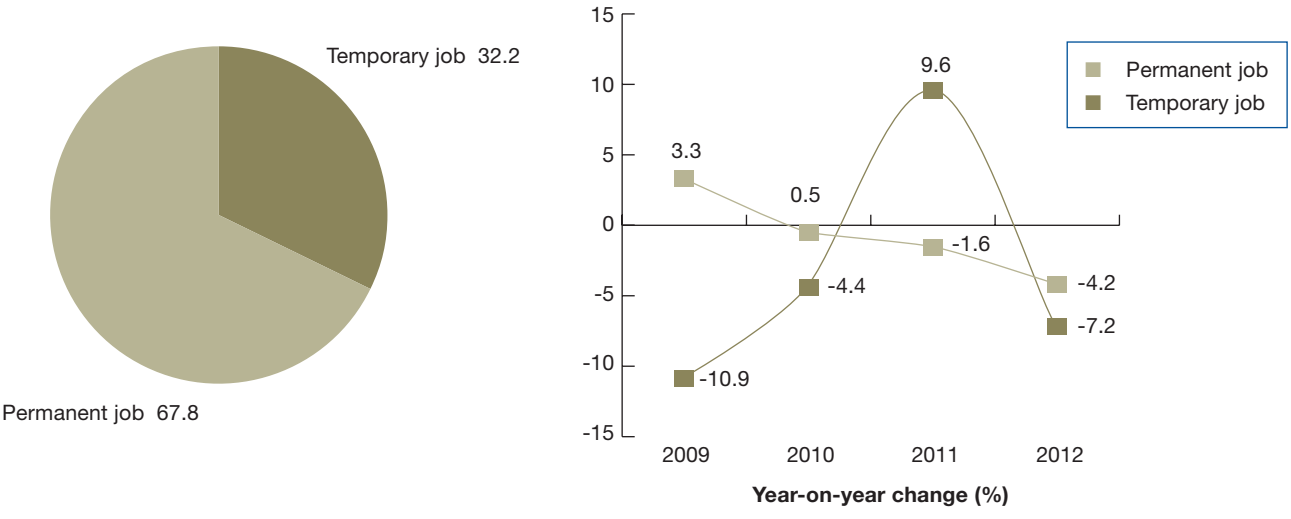


Employees in the tourism industries with permanent and temporary jobs

Since 2009, there has been a decrease in the proportion of employees with temporary contracts, only momentarily interrupted in 2011, which was the only year when the share of persons with temporary contracts registered a sharp increase (see figure 5.24).

The highest percentage of employees with temporary contracts was recorded in the Food and beverages services (37.3%). The decline in employees with permanent contracts has declined steadily and with a more stable trajectory than those persons with temporary contracts.

Figure 5.24 **Share of employees with permanent and temporary contracts in the tourism industries, 2012 (%)**



In 2012, employees aged from 30 to 40 years old with permanent jobs in the tourism industries were the only ones that showed growth, albeit timed, of 0.5%. Persons under 30 years of age suffered the steepest fall (15.4%), while those aged over 45 years dropped by 4.7%.

Analyses by gender showed a similar pattern: employees in youngest and eldest age groups experienced declines whereas the middle age cohort showed a slight increase (see figure 5.25).

Figure 5.25 **Change of employment amongst employees with permanent contracts in the tourism industries by sex and age, 2012**

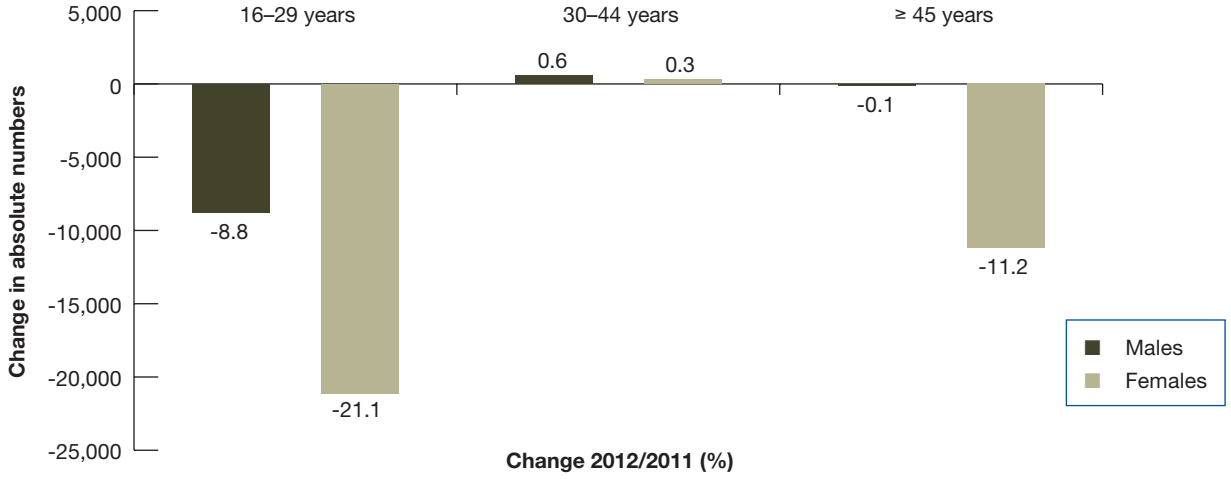


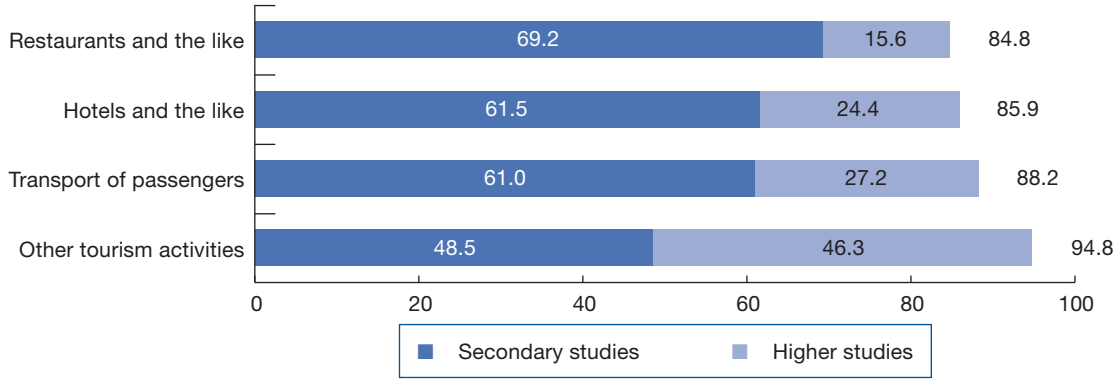
Figure 5.25 illustrates gender inequality exists with regard to employment in the Spanish tourism sector. The share of male workforce who lost permanent jobs in 2011–2012 was 2.4 times less than that of females in the age group 16–29 and 112 times less than those in the age group of 45 years and over.

At the same time, the percentage of male workforce who obtained permanent jobs doubled relative to that of female workers in the age group 30–44 years old.

Employment in the tourism sector by level of education and industry

In 2012, 87.7% of persons employed in the tourism sector had secondary or higher education (62.3% and 25.4% respectively). Persons with only primary and lower education accounted for 12.3% of the total tourism workforce (see figure 5.26).

Figure 5.26 **Employed persons with secondary and higher education by tourism industries, 2012 (share, %)**

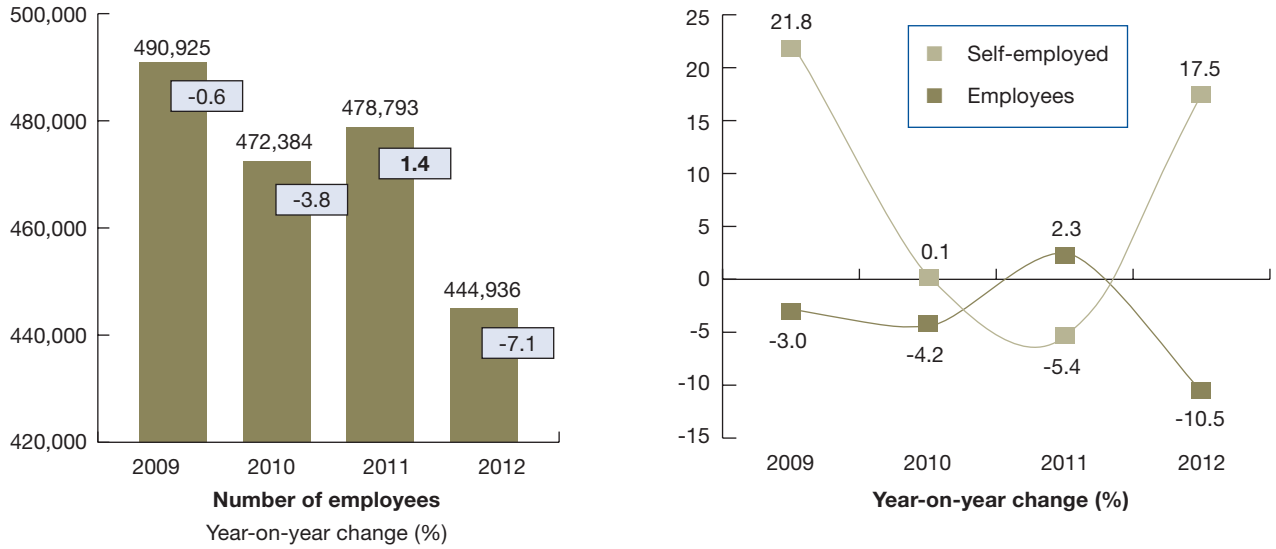


While the highest percentage of persons with higher education employed in the tourism sector is found in Other tourism activities, the lowest share is found in Restaurants and the like (15.6%).

Foreigners employed in the tourism industries

Beginning 2009, there was a reduction in the number of foreign workers in the tourism sector. This trend was interrupted with a timid climb of 1.4% in 2011 before resuming a decline (-7.1% in 2012, see figure 5.27). This decline was more significant than the fall of 3.6% experienced by Spanish nationals.

Figure 5.27 **Foreigners employed in the tourism sector**

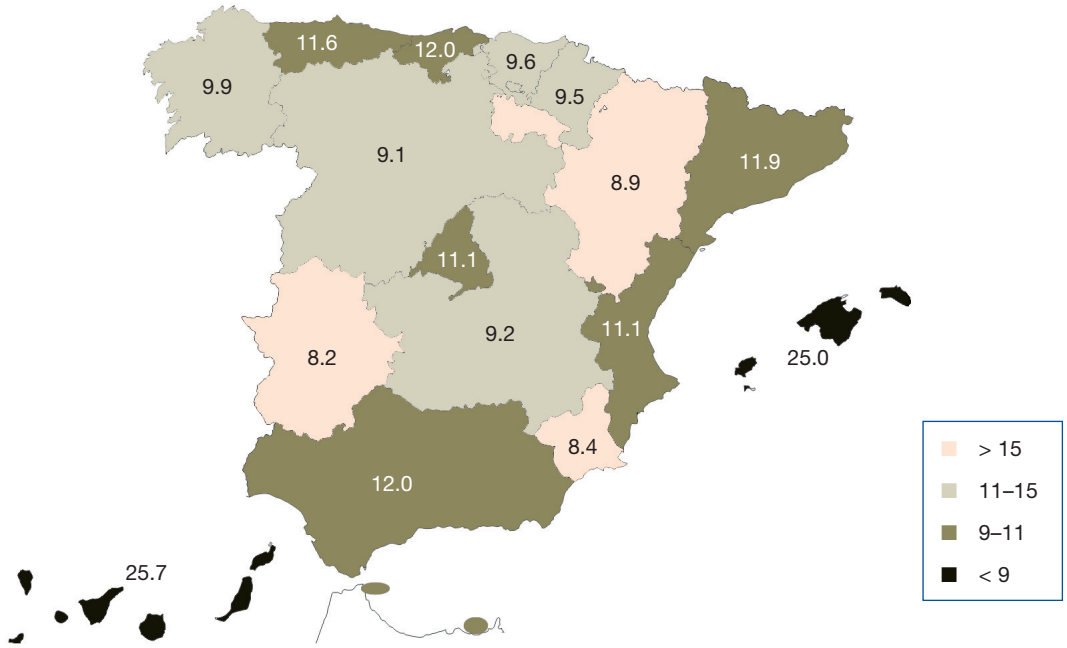


As for the status in employment of foreign workers, during the same period, the number of self-employed followed an upward track, whereas the number of employees, after a promising jump in 2011, continued its downturn path.

Share of tourism employment in total employment

In 2012, the ratio of employed persons in tourism industries relative to the total employment in the Balearic and Canary Islands was 25% and 25.7% respectively (see figure 5.28). Notably, Extremadura was the region with the lowest dependency ratio (8.2%).

Figure 5.28 **Tourism dependency ratios for employment by region (%)**



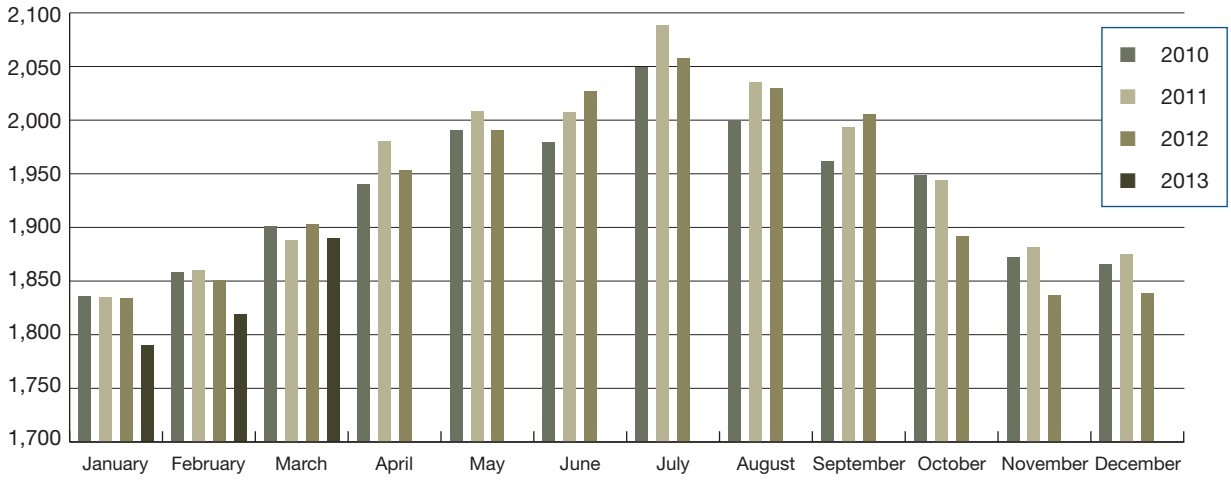
Internal review of the affiliation with social security in tourism (extract)

Employment in the tourism industries

According to the SSR records, there were 1,889,950 workers in tourism activities registered in Social Security Files as employed in March 2013, or 11.7% of all workers registered with the SSR (see figure 5.29 below). Notably employment has been falling for six consecutive months, showing a steady decline of 0.7% as compared with the same month of the preceding year, although the fall slowed somewhat during the last few months. Between January and March 2013, the average number of registrations in the tourism industries was 1,833,744, i.e. a fall of 1.5% (28,715 persons less).

In March 2013, the number of registrations in the tourism industries was 12,856 persons less than in March 2012 (see figure 5.30). The decline was evident across all tourism industries: in hospitality industries it fell by 5,328 persons (-2,922 in accommodation services and -2,406 in food and beverage services), 2,074 less in travel agencies and 5,454 less in other tourism industries. However, these declines were smaller than in previous months, which could be due to the fact that this year, the Holy Week fell in March; this might also be the result of positive post-crisis trends.

Figure 5.29 **Registered workers in the tourism industries by month, January 2010–March 2013 (× 1,000)**

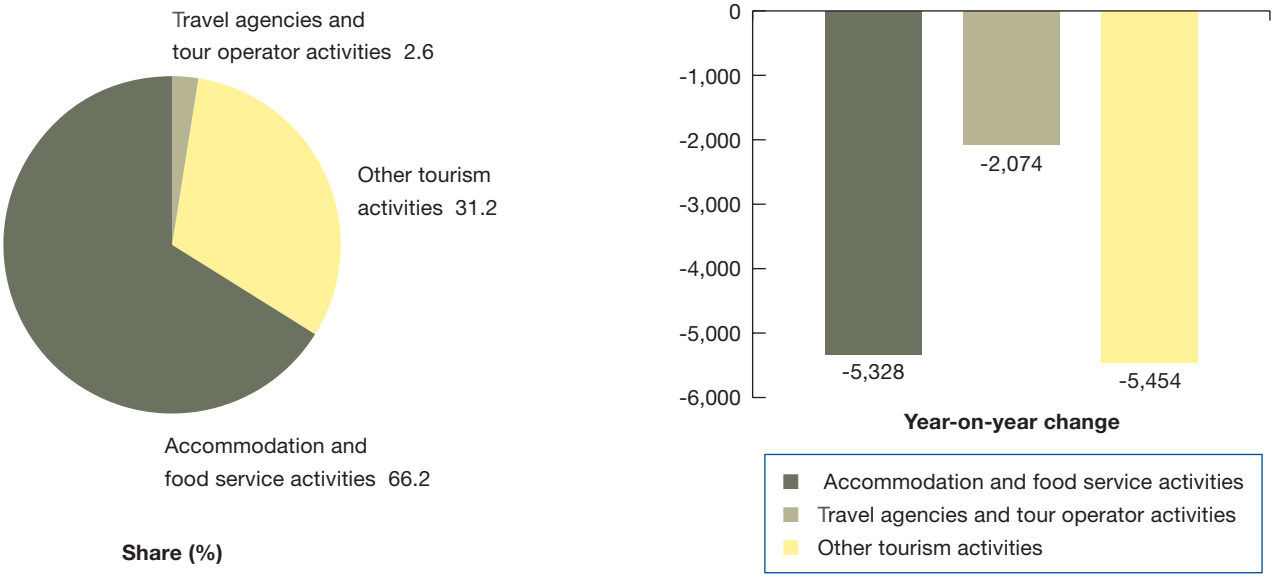


Note: Data refer to the last day of the month.

Source: Compilation based on data from social security files.

As compared with March 2012, because the overall decrease in the number of salaried employees in Spain, the registration of employees working in hospitality industries and travel agencies/tour operators, taken together, fell by 0.6% in March 2013. Over the same period, the number of self-employed increased by 0.4%.

Figure 5.30 **Registered workers in the tourism sector by type of activity, March 2013 (share)**



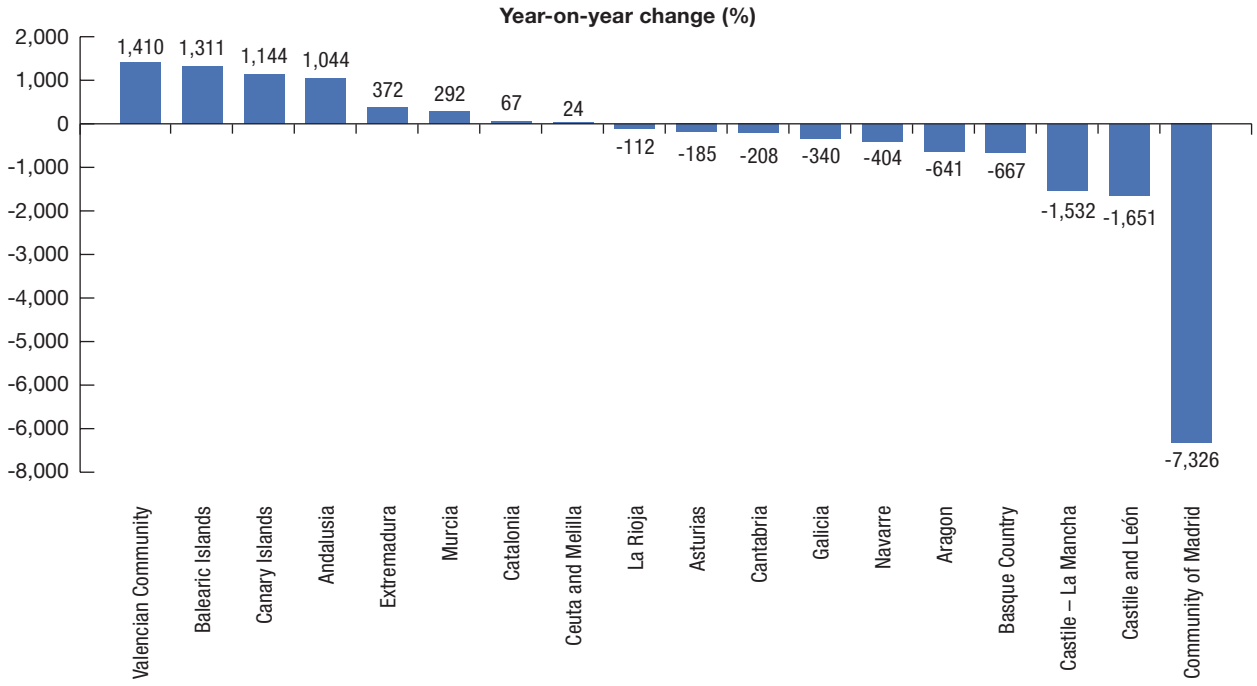
Note: Percentage distribution and year-on-year change in absolute numbers. Data refer to the last day of the month.

Source: Compiled based on data from social security files.

Registration of employees working in hospitality industries and travel agencies/tour operators by Regions of Spain

In eight out of the eighteen Regions, the number of registrations showed a yearly increase among workers in hospitality industries and travel agencies/tour operators (see figure 5.31 below). The most notable increases were registered in Valencian Community (1,410 persons), Balearic Islands (1,311 persons), Canary Islands (by 1,144 persons), and Andalusia (by 1,044 persons); positive growth was also noted in Extremadura, Murcia, Catalonia, and Ceuta and Melilla. On the other hand, the highest drop in employment in hospitality industries and travel agencies/tour operators was documented in the Region of Madrid and the two Castillas. Taken together, these three Regions accounted for 80.4% of the nationwide decline in absolute terms.

Figure 5.31 **Registered workers in hospitality and travel agencies by Provinces, March 2013**



Note: Year-on-year change in absolute numbers. Data relative to the last day of the month.

Source: Compiled based on data from social security files.

Internal Review of the Quarterly Labour Cost (extract)[59]

Total labour cost

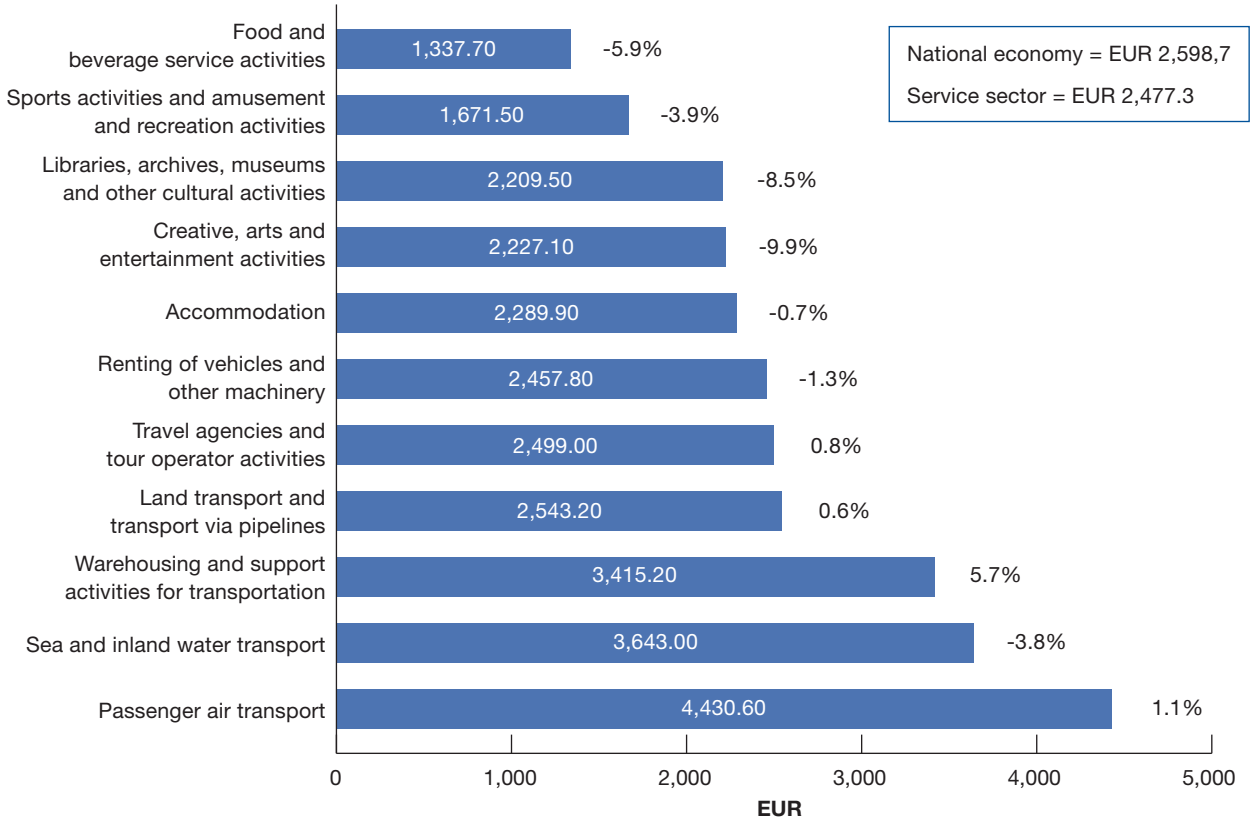
In the fourth quarter of 2012, the *average monthly labour cost per employee* in Spain was EUR 2,598.7 a yearly decline of 3.2%.

59 Fourth quarter of 2012. Compilations are based on data from the ETCL conducted by INE.

During the same period, in companies active in the service sectors, the average monthly labour cost per employee was EUR 2,477.3 a reduction of 4.2% compared to the same quarter of 2011. Analysis of the tourism characteristic activities in transport[60] revealed that labour costs in this group of industries were higher than for the service sector as a whole, and the national average labour costs. The highest labour costs were found in air transport (EUR 4,430.6), maritime and river transport (EUR 3,643.0), storage and other activities related to transport (EUR 3,415.2) and in land transport (EUR 2,543.2). It should be noted that this last figure (land transport) is higher than service sector averages, but lower than the national average labour costs (see figure 5.32).

Labour costs of the remaining tourism sector activities were below the national average and in some cases, such as hospitality, they were even below the average of the service sector. The lowest figures were registered in food and beverage services (EUR 1,337.7), recreational, entertainment and sports activities (EUR 1,671.5) and accommodation services (EUR 2,289.9).

Figure 5.32 **Labour cost per employee in the tourism industries, monthly average (EUR and %)**



Note: Absolute figures and yearly percentage change, fourth quarter of 2012.

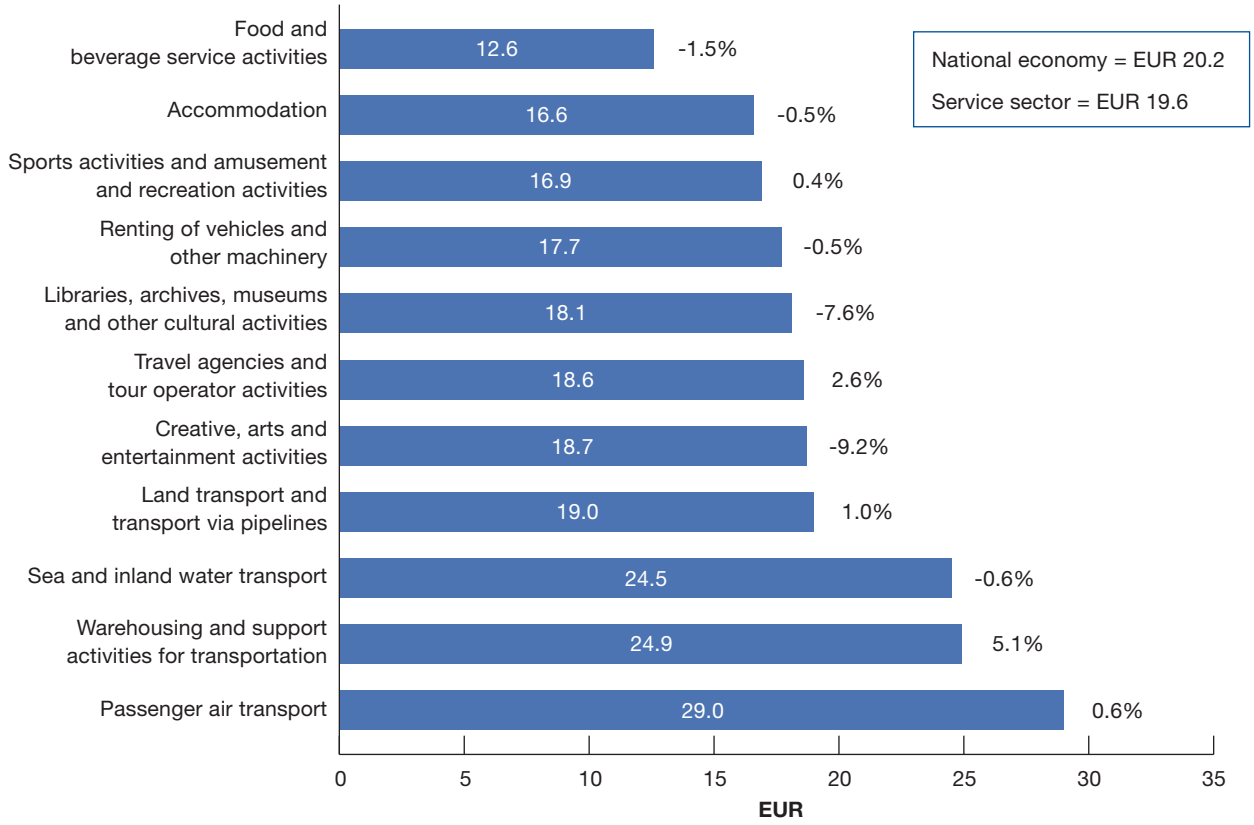
Source: Compilation based on data from the ETCL conducted by INE.

In 2013, compared with 2012, the national average annual labour costs per employee and per hour actually worked fell by 2.2% (EUR 20.2) (see figure 5.33). There was a decline of 3.4% in

60 Maritime and river transport, air transport, land transport and transport by pipeline and storage activities and other activities related to transport.

the service sector to EUR 19.6 per hour. As for the tourism industries, three of them were higher than the national average in general and the service industries in particular, namely air transport (EUR 29.0), storage activities connected with transport (EUR 24.9) and maritime and river transport (EUR 24.5). The lowest *average annual labour costs per employee and per hour actually worked* were found in hospitality, food and beverage service (EUR 12.6) and in accommodation services (EUR 16.6).

Figure 5.33 **Labour costs per employee and per hour actually worked, annual average (EUR and %)**



Note: Absolute figures and year-on-year change (%), fourth quarter of 2012.

Source: Compilation based on data from the ETCL conducted by INE.

Employee compensation cost (wages and salaries)

In the fourth quarter of 2012, the *monthly average employee compensation* cost in Spanish economy was EUR 1,946.9 indicating a year-on-year drop of 3.6%. Employee compensation costs in the service sector fell even more (-4.7%) to stand at EUR 1,865.8. Regarding the tourism characteristic activities, the highest compensation cost was registered in air transport (EUR 3,350.2) and the lowest was found again in food and beverage service (EUR 975.2). At the same time, maritime and river transport, and storage and activities related to transport were EUR 2,849.4 and EUR 2,584.5 respectively, outperforming the national average (see figure 5.34).

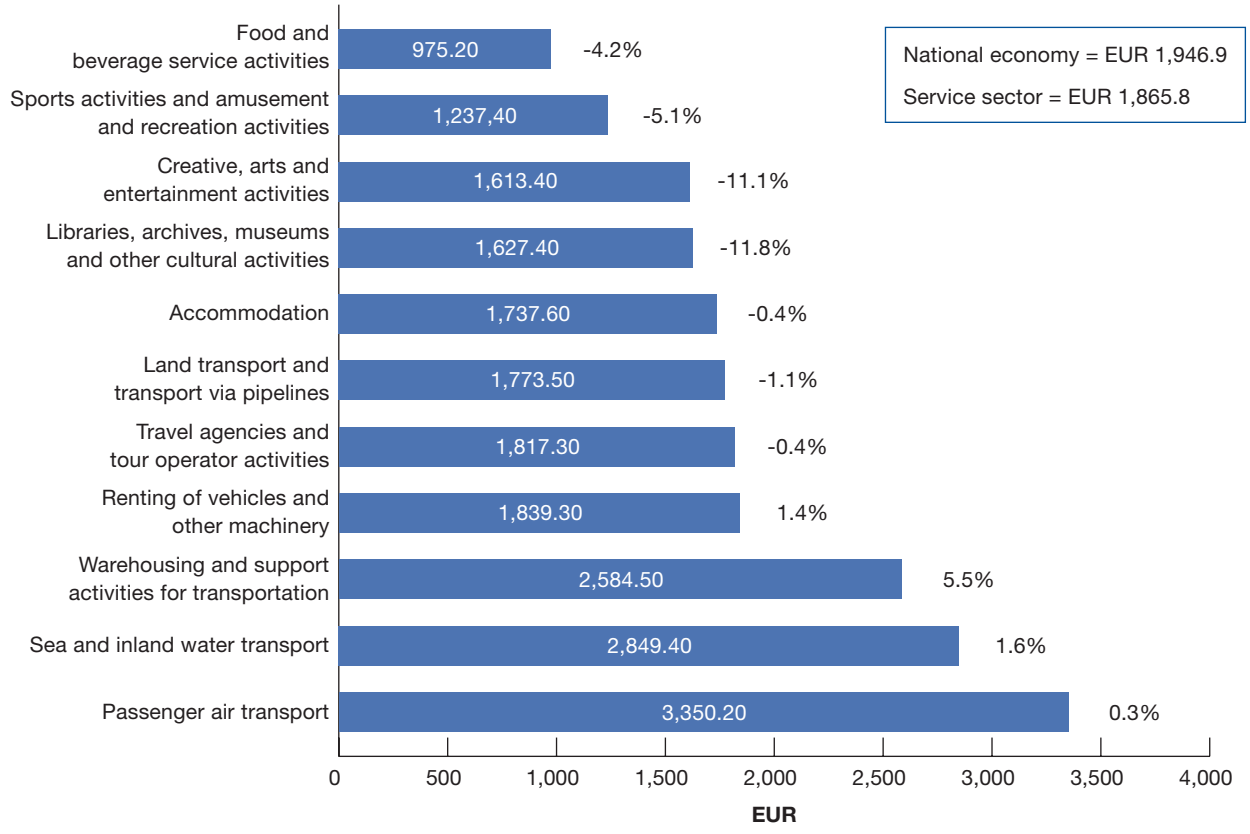
Other labour costs

Other labour costs are calculated by adding the mandatory contribution cost to the non-wage cost and subtracting subsidies and social security allowances.

Regarding other monthly labour costs, the national average was EUR 651.8 indicating a yearly decline of 1.8%. On the other hand, non-wage cost in the services sector totalled EUR 611.5 with an annual reduction of 2.7%.

Of the tourism characteristic activities, Air transport continued to have the highest share of other monthly costs (EUR 1,080.4), while Food and beverage services continued to show the lowest ones (EUR 362.5).

Figure 5.34 **Compensation cost per employee in the tourism industries, monthly average (EUR and %)**



Note: Absolute figures and year-on-year change (%), fourth quarter of 2012.

Source: Compilation based on data from the ETCL conducted by INE.

Analysis of year-on-year changes revealed that all tourism industries showed negative change, except for the following five:

1. Land transport (+4.8%);
2. Air transport (+3.4%);
3. Storage connected with transport (+6.1%);
4. Travel agencies (+2.5%); and
5. Libraries, archives and museums (+2.5%).

At the same time, dramatic cutbacks were registered in "Maritime and river transport" (-19.1%) and "Food and beverage services" (-10.2%).

In relative terms, the tourism activity where 'other non-wage' costs reached the greatest proportion of the total was land and pipe transport, where such costs exceeded 30.3% of the total. By contrast, maritime and river transport had the lowest level of such costs in percentage terms (21.8%).

In tourism activities, in the fourth quarter of 2012, the *mandatory contribution costs* of tourism industries were, as usual, much higher than the non-wage compensation costs. Compared to the fourth quarter of 2011, these costs increased for storage activities connected to transport (+4.5%), air transport (+0.7%), maritime and river transport (+5.8%), land transport (+1.2%), rental of cars and other machinery (+0.6%) and accommodation services (+0.6%).

Air transport and maritime and river transport had the highest mandatory contributions (EUR 832.1 and EUR 827.4, respectively), with the latter obtaining the largest subsidies and bonuses from Social Security (EUR 395.6).

5.7.3 Internal review of the Labour Situation Survey (extract)[61]

Working time

In the fourth quarter of 2012, *agreed normal monthly working hours* in the national economy of Spain stood at 150.4 hours, whereas *hours actually worked* recorded 128.6 hours. For the service sector, agreed monthly working hours stood at 147.0 hours and hours actually worked recorded were 126.2 hours.

The analysis of the agreed and actual working hours in the tourism industries revealed that similarly with previous quarters, the shortest agreed and actual working hours were found in Sports, recreation and entertainment activities (113.5 and 98.7 hours respectively) and Creative, artistic and entertainment activities (134.7 and 119.1 respectively). On the other hand, the activities with the longest agreed and actual working hours were in Maritime and river transport (186.6 and 148.7 hours respectively) and Air transport (166.2 hours and 153.1 hours).

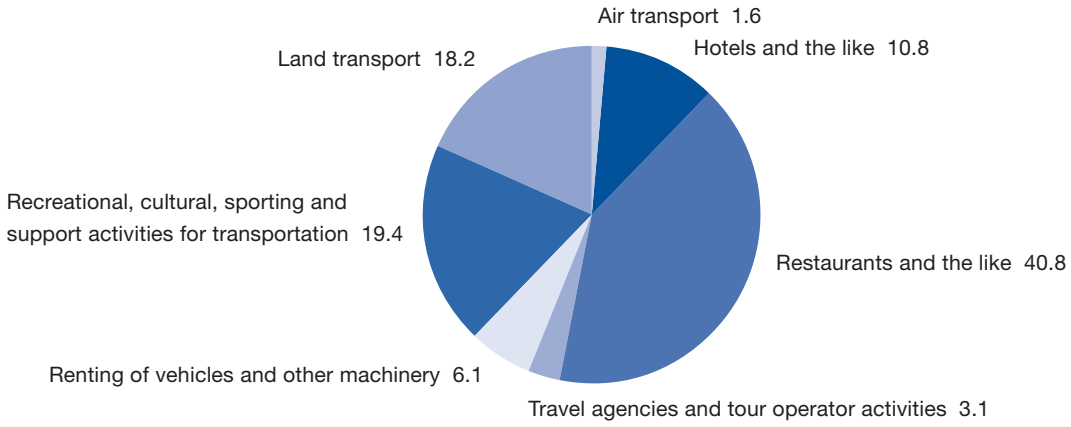
With regard to *unworked hours* (such as vacation, holidays, maternity leave, strikes, etc.), during the reference period, the national average was 22.4 hours and for the service sector it was 21.3 hours. Among tourism characteristic activities, Air transport recorded 13.5 hours, was the industry with shortest monthly unworked hours per employee, whereas the longest unworked hours were registered in Maritime and river transport (40.2 hours).

61 Ministry of Employment and Social Security of Spain, fourth quarter of 2012.

Employment by tourism industries[62]

In the last three months of 2012, 51.6% (900,434 persons) of the tourism workforce were employed in the hospitality industry, followed by land transport – 18.2% (346,153 persons), recreational, cultural and sports activities and related transport activities taken together – 19.4% (338,053 persons), car rentals and others – 6.1% (106,734 persons) and travel agencies and tour operators – of 3.1% (50,313 persons) (see figure 5.35).

Figure 5.35 **Employment distribution by tourism industries, fourth quarter 2012 (%)**



Source: ECL, Ministry of Employment and Social Security.

In the last three months of 2012, 51.6% (900,434 persons) of the tourism workforce were employed in the "Hospitality industry", followed by "Land transport" – 18.2% (346,153 persons), "Recreational, cultural and sports activities" and related transport activities taken together – 19.4% (338,053 persons), "Car rentals and others" – 6.1% (106,734 persons) and "Travel agencies and tour operators" – of 3.1% (50,313 persons).

Employees by sex, type of contract and full/part-time working time arrangements

In the fourth quarter of 2012, 56.4% of the tourism workforce (984,698) was male.

77.6% of persons employed in the tourism sector had fixed-term contracts (1,354,618 persons). During the same period in 2011, the share of workers with permanent contracts decreased by 0.4%, while the percentage of workers with temporary contracts fell by 9.3%.

Analysis of employment in the tourism sector classified by type of contract and gender revealed that permanent contracts continued to prevail among both male and female workers: 79.2% and 75.6% respectively.

62 These figures are approximations, since there are some industries where employment is overestimated by including activities that are not strictly tourism-characteristic (e.g. Transport, which includes not only that for travel, and car rentals, which includes not only cars), while the number of employed in other industries is underestimated by excluding certain tourism-characteristic activities carried out in non-tourism establishments in the tourism sector.

Full-time workers accounted for 67.2% of total employment in the tourism industries. Since 2010, the decline in full-time workers continued, falling by 4.6% compared with Q4 2012. Conversely, the number of part-time workers increased by 2%. Notably, part-time continues to have more weight among the female workforce and is 15% higher than that of men (45.1% and 23.3% respectively).

Employment by Spanish Provinces

In the fourth quarter of 2012, the Province of Madrid had the largest number of workers in the tourism sector (340,757 persons) or 19.5%, followed by Catalonia – with 18.1% (315,490 persons), Andalusia – with 13.7% (238,689 persons), the Region of Valencia – with 9.3% (161,638 persons), and the Canary Islands – with 8.2% (143,858 persons). The remaining Provinces employed less than 100,000 workers.

With regard to the *type of contract,* the highest prevalence of permanent contracts in tourism industries continues to be observed in Catalonia and the Province of Madrid (82.2% and 81.8% respectively), whereas in the Canary Islands, the proportion of temporary contracts stands at 30%. Analysis of working time arrangements by Province showed that in the Canary and Balearic Islands, 75.4% and 75.1% of the tourism workforce, respectively, were working full-time, while the regions of Valencia and Catalonia were the ones with the highest proportion of part-time tourism workers (38.4% and 35.1%, respectively).

Employment by size of economic unit

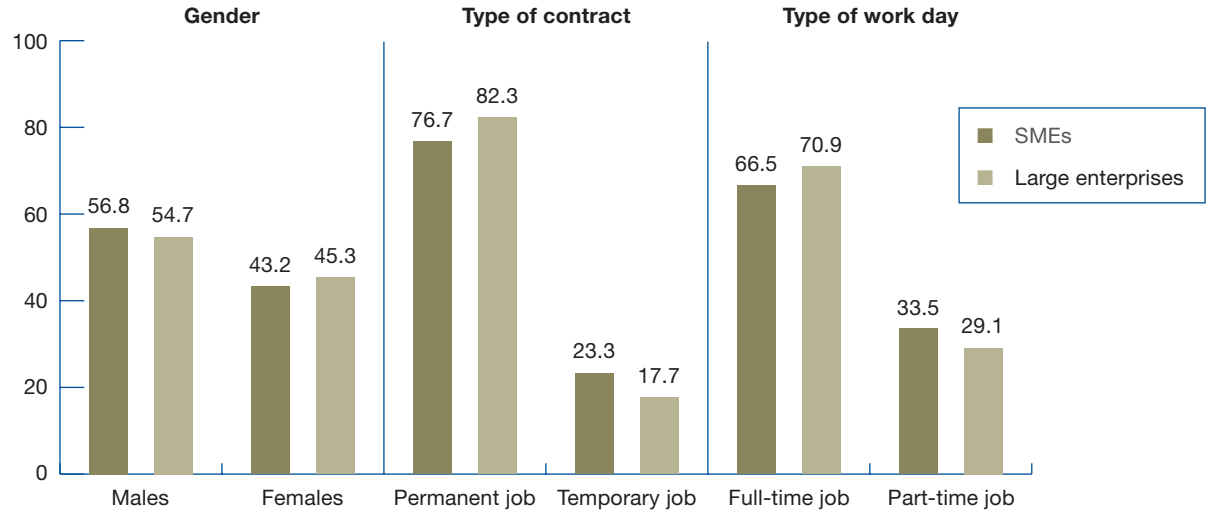
In the last quarter of 2012, nearly 1.5 million workers (84% of the tourism workforce) employed in the tourism sector worked in *small and medium-sized* enterprises[63], 2.5% less than in the same quarter of the previous year. There were 280,000 workers employed in *large tourism* enterprises or 3% less compared with the same period in the previous year.

Permanent contracts prevail among all workers regardless of the size of the company. However, in large companies the proportion of workers with permanent contracts is 6% higher than that recorded in small- and medium-sized enterprises (82.3% and 76.7% respectively). The proportion of permanent contracts remained unchanged in SMEs and fell in large companies by 2.5% (see figure 5.36).

Analysis of the relationship between working time arrangement and size of company revealed that there is a higher percentage of full-time workers in large companies (70.9%) than in SMEs (66.5%) in the tourism sector.

63 To SMEs belong those with less than 250 employees.

Figure 5.36 **Workers by size of company and by sex, type of contract and working time arrangements, 4th quater 2012 (%)**



Source: ECL, Ministry of Employment and Social Security.

For further information, please consult the IET website:
www.iet.tourspain.es/paginas/FrmEmpleo.aspx?idioma=es-ES&option=emp.

5.8 Switzerland: measuring employment in tourism industries

5.8.1 Overview

According to a recent publication of the Swiss Federal Statistical Office (FSO) and of the State Secretariat for Economic Affairs SECO, tourism is an important component of the Swiss economy.[64] In 2012 tourism contributed 2.7% to total gross value added and 4% to total employment (measured in full-time equivalents) of the Swiss economy. Tourism is also seen as providing a significant contribution to the economy of local regions within Switzerland and is an important contributor to Switzerland's export earnings.

Employment measurement in Switzerland is achieved using concurrent approaches, among which the main sources are the annual Swiss Labour Force Survey (SLFS is a sample survey with a sample size of 51,000 households in 2010), the quarterly Employment Statistics (ES; summary statistics), the Business Census (BC is an exhaustive survey of enterprises and establishments conducted every 3–4 years) and the quarterly Job Statistics Survey (JOBSTAT; 62,000 establishments in 2005). A comprehensive overview of the statistical sources used to describe the Swiss labour market can be found in the annual publication "Arbeitsmarktindikatoren / Indicateurs du marché du travail".[65]

5.8.2 The Tourism Satellite Account

To address the need for more detailed information in the field of employment in tourism industries and tourism employment, the FSO compiles a Tourism Satellite Account every 3–4 years.[66]

It was in 2003, when the Swiss Federal Statistical Office, together with the Swiss State Secretariat for Economic Affairs, published the first Tourism Satellite Account (TSA) for Switzerland, with 1998 as the year of references.[67]

The goal of the TSA is to provide answers on the status and development of tourism in Switzerland from an economic perspective. Three core variables are surveyed:

1. Tourism consumption (i.e. total tourism consumption);
2. Value added by tourism; and
3. Tourism employment.

Based on the latter two variables, the share of tourism in total value added in the economy and in total employment can be calculated.

64 Federal Statistical Office of Switzerland, Secretariat for Economic Affairs (2008), *Tourism Satellite Account for Switzerland, 2001 and 2005 / Compte Satellite du Tourisme de la Suisse, 2001 et 2005,* FSO (Bundesamt für Statistik), Neuchâtel.

65 Federal Statistical Office of Switzerland, Secretariat for Economic Affairs (2009), *Arbeitsmarktindikatoren 2009 / Indicateurs du marché du travail 2009,* FSO (Bundesamt für Statistik), Neuchâtel.

66 So far a TSA for Switzerland has been compiled for the years 1998, 2001 and 2005.

67 Federal Statistical Office of Switzerland, Secretariat for Economic Affairs (2003), *Satellitenkonto Tourismus der Schweiz, Grundlagen, Methodik und Ergebnisse,* FSO (Bundesamt für Statistik), Neuchâtel.

The TSA is based on the methodology used for the national accounts in general and the TSA Recommend Methodological Framework 2008 (TSA:RMF 2008) in particular. However, because tourism as such is not explicitly shown in the General Classification of Economic Activities (NOGA), the necessary information has to be extracted from the tourism-related components of various branches of the national accounts production account and combined in the Tourism Satellite Account.

The TSA seeks to relate employment in the tourism industries to employment within the economy in general.[68]

The tourism "sector" is defined according to the demand side. Consequently, it is crucial to determine tourist visitors' demand for goods and services. This touristic consumption ultimately results in tourism products being offered and in tourism-related employment being generated. That is why the table sequence of the tourism satellite account is structured in such a way that tourism consumption is calculated first. This is then shown in relation to total domestic production. The result is then used in the next step, which is to calculate value added and employment generated by tourism.

A central building block of the Tourism Satellite Account is the Input-output-tables (IOT). This was elaborated on behalf of the FSO by the Swiss Federal Institute of Technology Zurich (ETHZ)[69] for the reference years, based on the definite numbers of the Business Census.

Unlike the labour market statistics of the FSO, the TSA for Switzerland (STSA) is not structured according to industries or sectors of the economy, but according to tourism products.[70] In this respect the TSA for Switzerland does not follow exactly the *Tourism Satellite Account: Recommended Methodological Framework 2000* (TSA: RMF 2000), table 7. Due to data availability and in order to keep complications to a minimum, Switzerland decided to apply the same product structure to TSA table 7. It goes further than the TSA: RMF, however, in so far as not only employment in tourism industries is estimated, but also tourism employment, i.e. employment directly generated by tourism. On the other hand, the TSA only measures employment in full-time equivalents (FTE), other variables concerning employment are not included in the estimation.

As principal base for the calculation of the TSA 2008 the BC 2008 was chosen, as it is also the base for the calculation of the Input-output-tables (see above), which were used in the process of calculating the TSA.

During the BC 2008 enterprises and establishments drawn from the Swiss Business Register (BER) were classified according to their main economic activities (NOGA-2002 is Swiss national 5-digit nomenclature compatible with NACE Rev. 2 and ISIC Rev. 4)[71]. The numbers of employees

68 Federal Statistical Office of Switzerland, Secretariat for Economic Affairs (2008).

69 As part of the pilot project for the year 1998, Prof. G. Antille of the University of Geneva estimated an input/output table

70 The TSA: RMF somewhat misleadingly speaks of tourism industries. However, it is evident that e.g. the position railways passenger transport in table 7 of the TSA: RMF does not constitute an industry according to the ISIC. The corresponding industry in the ISIC is *6010 – Transport via railways* and includes passenger and freight transport. The TSA for Switzerland deviates, however, from the TSA: RMF as it also follows the tourism product structure for the positions *1 – Hotels and similar* and *3 – Restaurants and similar.* Hence employees working in food serving services in a hotel are attributed to position 3 in the TSA for Switzerland and not to position 1.

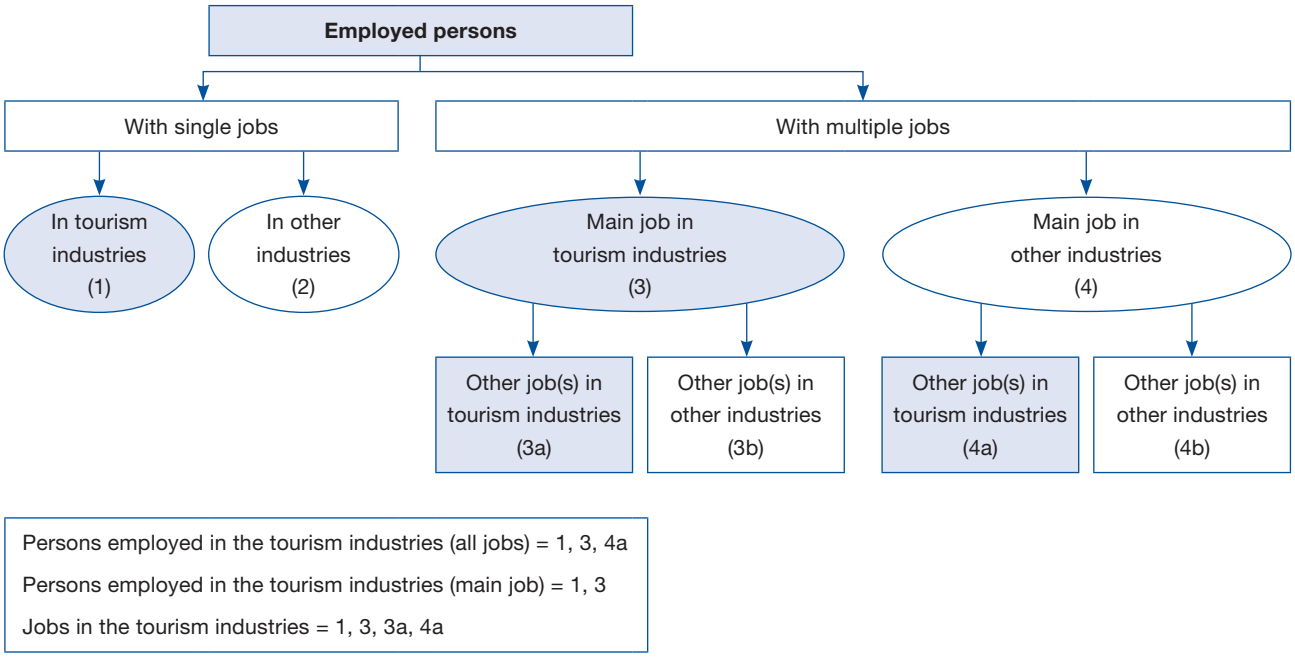
71 The NOGA 5-digit structure stems from the Business Census and is therefore updated every 3–4 years.

were classified according to the following 3 types of employment (full-time and 2 categories of part-time) and converted into full-time equivalent jobs (FTE) according to coefficients drawn from the SLSF:

- Full-time as a single job in tourism industries;
- Part-time as the main job in tourism industries – other job in tourism industries; and
- Part-time as the main job in other industries – other job in tourism industries.

The above corresponds to the measurement framework given in figure 7.1 of the IRTS 2008 chapter 7 (see figure 5.37 below).

Figure 5.37 **Measurement framework: single versus multiple job holders in the tourism industries**



Source: IRTS 2008, figure 7.1.

For the needs of the TSA, the individual records of the BC 2008 were attributed to tourism products and the corresponding numbers of employees in FTE were summed up over products (see second column of table 5.27 below).

Tourism employment[72]

As has already been mentioned above, the STSA goes further than the TSA:RMF in so far as not only employment in tourism industries is estimated, but also tourism employment. The latest available data on tourism employment are given in table 5.28 and figure 5.38 below.

72 Adapted from *Evolution de l'emploi et de la valeur ajoutée brute du tourisme de 2005 à 2008,* No. 10, Tourisme Neuchâtel, March 2012.

Tourism employment is calculated by applying the ratio of tourism consumption to total consumption of each tourism product on total employment for each tourism product. Generally the tourism employment ratio is equal to the tourism consumption ratio for all tourism products – with three exceptions: "Road transport", "Air transport" and "Recreation and other entertainment services". The reason for the deviation is that these products each comprise several industries (at the 5-digit level of the NOGA 2002), therefore, adding up didn't result in the same tourism ratio for consumption and employment.

Table 5.27 **Employment in tourism industries and tourism employment, 2005**

	Employment (FTE)	Tourism employment (FTE)	Share of tourism employment (%)
A. Specific products	**1,213,562**	**135,926**	**11.2**
A.1 Characteristics products	**548,320**	**103,146**	**18.8**
1. Accommodation	33,837	33,837	100
– Hotels	30,715	30,715	100
– Other lodging services	3,122	3,122	100
– Second homes services on own account or for free	0	0	–
2. Food and beverage serving services	129,919	35,799	27.6
3. Passenger transport services	41,254	15,051	36.5
– Interurban railway	12,382	2,862	23.1
– Cableways, funiculars, ski-tows	3,511	3,390	96.6
– Road	16,037	2,795	17.4
– Water	752	752	100
– Air	5,693	4,314	75.8
– Supporting services	1,836	610	33.2
– Transport equipment rental	1,043	329	31.5
4. Travel agency, tour operator and tourist guide services	12,524	12,524	100
5. Cultural services	8,197	1,750	21.3
– Performing arts	4,692	418	8.9
– Museum and other cultural services	3,505	1,332	38.0
6. Recreation and other entertainment services	22,442	2,991	13.3
7. Miscellaneous tourism services	300,147	1,195	0.4
– Financial and insurance services	159,091	660	0.4
– Other good rental services	–	–	–
– Other tourism services	141,056	535	0.4

	Employment (FTE)	Tourism employment (FTE)	Share of tourism employment (%)
A.2 Connected products	**665,242**	**32,779**	**4.9**
Retail trade	239,342	17,852	7.5
Service stations, repair of motor vehicles, car dealership	4,923	1,205	24.5
Health and social services	327,243	11,088	3.4
Communication services	63,607	1,423	2.2
Other tourism services	30,127	1,211	4.0
B. Non-specific products	**168,498**	**2,277**	**1.4**
Retail trade products and petrol	–	–	–
Wholesale trade	168,498	2,277	1.4
Total	**3,122,841**	**138,203**	**4.4**

Source: *Business Census 2005.*

Following from the data available in table 5.28, analysis of tourism employment revealed that after falling 4% from 2001 to 2005, the number of employed increased by 2.6% from 2005 to 2008 and reached 149,389 persons in full-time equivalents. Notably, employment rose in leisure and entertainment categories (24.5%) and accommodation (17.7%), but decreased significantly in those restoration (-11%) and other services (-3.4%). Taking together the growth rate of employment and the value added (figure 5.38), found that productivity increased everywhere except into two categories. The two major employers the tourism sector, accommodation and catering, concentrated more than half of the jobs and show an increase in the added value than that of employment, indicating an improvement in productivity.

Table 5.28 **Evolution of the key economic indicators of tourism, 2001–2010**

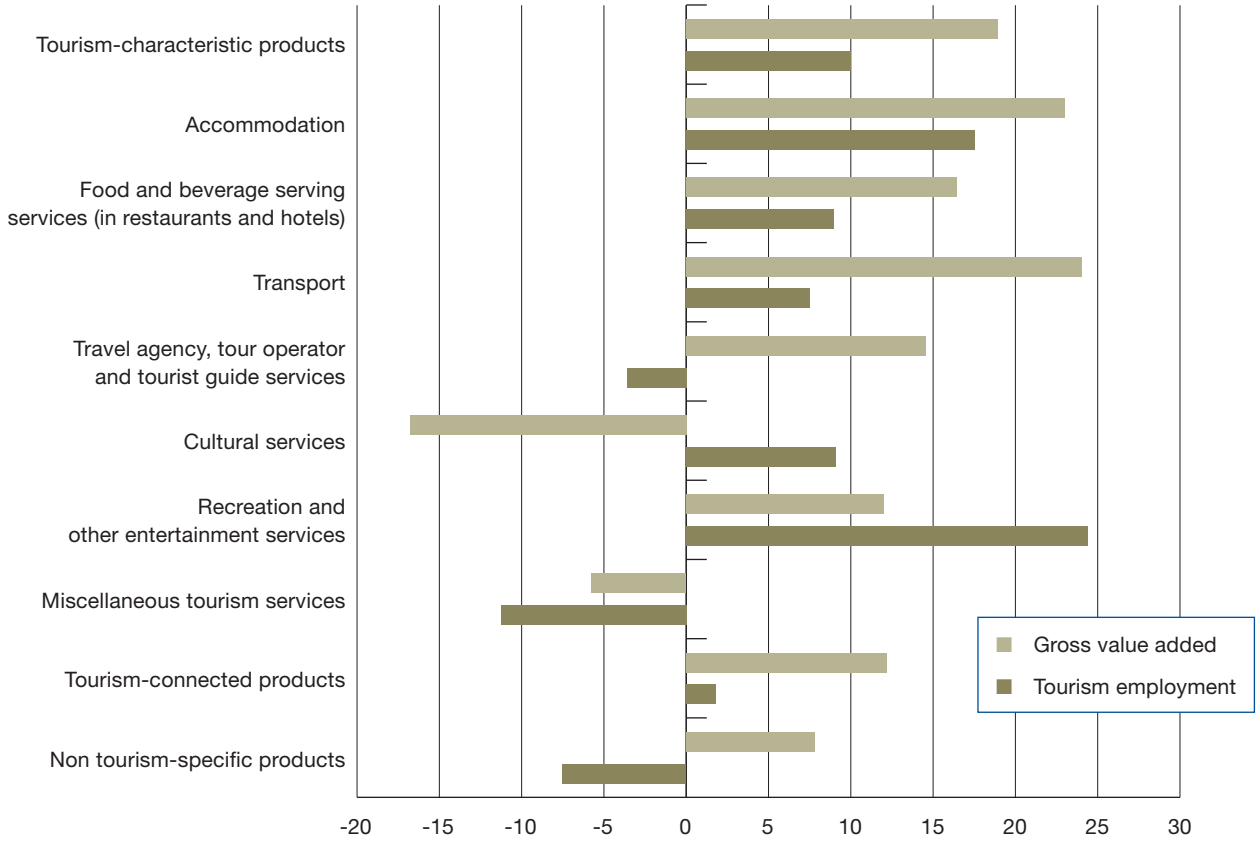
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010[1]
Tourism gross value added at current prices										
(CHF millions)	12,413	12,135	12,149	12,449	12,647	13,233	14,008	14,803	14,608	14,898
(% change)	…	-2.2	0.1	2.5	1.6	4.6	5.9	5.7	-1.3	2.0
Tourism demand in current prices										
(CHF million)	30,176	29,266	29,277	29,789	30,448	31,109	33,179	34,878	33,947	34,724
(% change)	…	-3.0	0.0	1.7	2.2	2.2	6.7	5.1	-2.7	2.3
Tourism employment in FTEs										
(number of employees)	143,633	141,176	137,576	135,624	138,203	139,415	144,932	149,389	145,413	144,838
(% change)	…	-1.7	-2.6	-1.4	1.9	0.9	4.0	3.1	-2.7	-0.4

1) Provisional values.

Source: Federal Statistical Office, National Accounts.

The increase in productivity was even more pronounced in transport and travel agencies and tourist offices. Only categories cultures and leisure entertainment and saw productivity decline.

Figure 5.38 **Evolution of employment and gross value added of tourism, 2005–2008 (%)**



Data sources and calculation methods in the TSA for Switzerland

In order to estimate employment in tourism industries and tourism employment, the first step consists in calculating employment in tourism industries.[73] Table 5.29 below gives an overview of the data sources used.

73 The term *employment in tourism industries* is not entirely adequate, see footnote 159 above.

Table 5.29 **Employment (FTE) in tourism industries: TSA Data sources**

Tourism products	Data sources
A. Specific products	
A.1 Characteristics of products	
1. Accommodation	
– Hotels	Business Census Ratio of accommodation output to total output of ISIC 55
– Other lodging services	Business Census
– Second homes services on own account or for free	–
2. Food and beverage serving services	Business Census Ratio of food serving output to total output of ISIC 55
3. Passenger transport services	
– Interurban railway	Business Census Ratio of passenger transport output to total output
– Cableways, funiculars, ski-tows	Business Census
– Road	Business Census Ratio of passenger transport output to total output
– Water	Business Census Ratio of passenger transport output to total output
– Air	Business Census Ratio of passenger transport output to total output
– Supporting services	Annual reports of airports
– Transport equipment rental	Business Census
4. Travel agency, tour operator and tourist guide services	Business Census
5. Cultural services	
– Performing arts	Business Census
– Museum and other cultural services	Business Census
6. Recreation and other entertainment services	Business Census
7. Miscellaneous tourism services	
– Financial and insurance services	Business Census
– Other good rental services	–
– Other tourism services	Business Census
A.2 Connected products	
Retail trade	Business Census
Service stations	Business Census
Health and social services	Business Census
Communication services	Business Census
Other tourism services	Business Census
B. Non-specific products	
Retail trade products and petrol	–
Wholesale trade	Business Census

For all tourism products, with the exception of transport supporting services, the calculation of total employment is based on the BC. Adaptations going beyond de scope of the BC were made for accommodation services, food and beverage serving services and passenger transport services. In the case of accommodation and food and beverage serving services overall employment of branch ISIC 55 was divided between these two products according to the share of each product on overall output of branch ISIC 55.[74] In the case of passenger transport services the ratio of passenger transport to total output was applied to the figures of the establishment census.

Tourism ratio

Tourism ratios are important reference variables because they show the share of demand, the share of value added and the share of employment attributable to tourism. The establishment of tourism ratios for these three structural indicators is possible due to the high level of detail available from the TSA.

The stability of the ratio of total demand calculated for all tourism products (unchanged at 8%) hides fluctuations that affect different categories of products. Notably, the tourism employment ratios have stagnated in general with a timid increasing only for catering (2 points) and gas stations (3 points).

Tourism ratio in GDP and share of tourisms employment in total employment

Despite the contrasting trends identified in the tourism sector, it has maintained all its position in the Swiss economy. Since, 2005, the tourism share in GDP remained unchanged at the level of 2.9%.[75] The tourism share of employment in total employment has however declined, falling from 4.4% in 2005 to 4.2% in 2008.

Annual TSA indicators for Switzerland[76]

For a wide range of users, the long time it takes to produce (it is published at the earliest two years after the end of the reference year) and its non-annual frequency are major weak points of the tourism satellite accounts. Decision makers in politics and business need annual time series published with as short a time lag as possible, so that their decisions are based on facts instead of assumptions.

Based on the Tourism Satellite Accounts 2001 and 2005 as reference points, the most important aggregates of the tourism satellite account are updated annually. The way the results are published, as well as the time of publication, will be further adjusted to the needs of users.

74 To estimate the share of accommodation services on total output of branch ISIC (code 55) the figures of the statistics on value added tax were used by making use of the fact that accommodation services are taxed at a special rate. The output of food serving services was then calculated as the difference between total output and output of accommodation services.

75 The tourism share in GDP is the ratio of the tourism value added value in the total value added. For more details, see the *Tourism Satellite Account for Switzerland, 2001 and 2005 – Principles, methods and results,* FSO, Neuchâtel, 2008, p. 15.

76 Adapted from FSO News, *Methodology Report: Annual Indicators of the Tourism Satellite Account,* 30 March 2010-10 Tourism, Neuchâtel.

The goal of the *annual TSA indicators* is to publish, in a useful time schedule and in a simple and reduced format, first estimates of the main aggregates for the most important tourism products in the Tourism Satellite Account.

The annual indicators of the tourism satellite account focus on the direct estimate of the three core variables of the tourism satellite account: *tourism demand, gross value added by tourism and tourism employment in full-time equivalents.* These main variables are shown for all tourism product categories.

Data sources for annual TSA

Experience garnered during the elaboration of the Tourism Satellite Accounts 2001 and 2005 showed that there was no dearth of potential data sources to estimate the annual indicators of the tourism satellite account. But the criteria according to which data sources are selected have changed. Unlike a TSA, where only one criterion was decisive in selecting the data that were utilised, i.e. their completeness, in selecting the data sources for the annual indicators two non-complementary criteria play a decisive role.

It goes without saying that the completeness of the data is of central importance. However, it is well known that data are less complete the earlier they are available. Therefore, a trade-off between data that are available as early as possible and the completeness of the data is a key consideration when selecting data sources to calculate the annual indicators of the TSA.

A third and final selection criterion is the continuous, safe and unchanged availability of the data in the coming years. To sum up, the selection criteria are:

- Completeness of data;
- Early availability of data; and
- Continuous availability of data.

In view of these requirements, the *national accounts production account* imposes itself as the principal source, because it fully meets all the requirements. As already explained above, to establish the Tourism Satellite Accounts 2001 and 2005, an IOT was specially elaborated. Due to much shorter deadlines, a similar procedure is not possible to calculate the annual indicators of the tourism satellite account. Because the IOT is based on the national accounts production account, the obvious conclusion is that the first provisional estimate of the national accounts production account should be used as the primary data source.

The national accounts production account is published at a significantly aggregated level for the first estimate of the gross domestic product (GDP). But the calculations are at a NOGA 2-digit level of detail. For that reason, variables such as gross production value, intermediate consumption and gross value added are already available internally at the time of t+9 months for a first estimate of the A60 structure. Although these data are not available to the public, they can be accessed within the framework of this project.

For a number of years, the national accounts have supplied on a regular annual basis accurate data on production in the Swiss economy. The estimation method for the national accounts production account is well documented and therefore comprehensible; moreover, during the revisions of the

national accounts production account, which are done on a regular basis, the time series in the national accounts are adjusted to prevent any breaks in the time series.

Of course, the use of the national accounts production account has not only advantages. The numbers calculated in September of the following year (t+9 months) are based on a provisional evaluation of the numbers of the value added statistics intended to be used exclusively for the national accounts.[77] The value added statistics are used for the second estimate of the national accounts production account at the time of t+17 months, which inevitably results in revised numbers for the national accounts production account, because at this time the complete evaluation of the value added statistics has been finished. If the national accounts production account is used as a data source, revisions of the first estimate of the tourism satellite account indicators are inevitable during the following year. But this process is based on the usual practices for the national accounts and corresponds to international specifications.

Employment numbers, expressed in terms of *full-time equivalent employment,* are also drawn from the extended data pool of the national accounts. The data available at the NOGA 5-digit level[78] can on the one hand be used to calculate employment figures and, on the other, to break down with a higher level of detail aggregated data such as the numbers of the national accounts production account.

77 See www.bfs.admin.ch/bfs/portal/de/index/infothek/erhebungen_quellen/blank/blank/pw/01.html for the overview of the value added statistics.

78 The NOGA 5-digit structure stems from the Business Census and is therefore updated every 3–4 years. The annual development rates, however, stem from employment statistics (BESTA) and are available at the NOGA 2-digit level.

5.9 United Kingdom: measurement of employment in tourism

5.9.1 General description of methods used

The system of tourism statistics in the United Kingdom consists of sources of information from a variety of providers, particularly in relation to the demand side of tourism. On the supply side the situation is more consistent with information on gross value added (GVA) and turnover derived from establishment-based business surveys and employment in tourism information sourced from household-based sample surveys. This information is collected by the Office for National Statistics (ONS) in the United Kingdom. Occupancy data is collected through panel surveys operated by the national tourist boards.

As detailed in the *Sources and Methods, Labour Statistics – Employment in the Tourism Industries (Special Edition)*[79], the United Kingdom uses the following sources for collecting data on employment in the tourism industries (all of these sources are produced by ONS):

1. Labour force or other household based sample surveys:
   - Labour Force Survey (LFS); and
   - Annual Population Survey (APS) (this acts as a boost to the LFS and allows for more disaggregate level analysis of employment and population characteristics).
2. Establishment Surveys:
   - Workforce Jobs Survey, as part of the Short-Term Employment Surveys (STEs);
   - Business Register and Employment Survey (BRES) is an establishment survey that replaces and integrates two former ONS business surveys, the Annual Business Inquiry (ABI) and Business Register Survey (BRS) and is a sample survey of approximately 80,000 businesses. This is also used to benchmark the Workforce Jobs Survey; and
   - Annual Survey of Hours and Earnings (ASHE).

In addition to the sources highlighted above there is the Inter-departmental Business Register (IDBR) in the United Kingdom which is register of all businesses that includes information on employment and turnover. This is often used as the sample frame for establishment-based surveys such as the Business Register and Employment Survey.

Since August 2008, there has been a new unit within the ONS with a specific remit to analyse tourism industry data: the Tourism Intelligence Unit (TIU). The TIU has produced two Tourism Satellite Accounts for reference years 2006, 2008 and 2009, and also produced reports on the *Supply Side of Tourism and the Employment Characteristics of Tourism.* The TSA provides a comprehensive set of economic data on the direct contribution of tourism to the United Kingdom economy within the national accounting framework. It provides a means by which the economic aspects of tourism can be drawn out and analysed separately within the structure of the main accounts and allows the determination of tourism's contribution to major national accounting aggregates. This has allowed, in the 2008 and 2009 UK TSA, an analysis of tourism dependent employment. This is derived by applying the tourism ratios from the TSA to employment estimates. This method of using the tourism ratios involves an implicit assumption that the employment

79 International Labour Office and World Tourism Organization (2008), pp. 383–387.

generated by tourism in each industry is in direct proportion to value added generated by tourism.[80] This methodology is consistent with the *TSA Recommended Methodological Framework* and the OECD employment module in particular (TSA:RMF, 2008).

The ONS measures employment with two types of surveys: household surveys and establishment-based surveys. For most industries the number of employee jobs is measured by employer-based surveys, while the number of self-employed is measured by the Annual Population Survey (APS), a household survey (benchmarked against the Business Register and Employment Survey (BRES)). From these figures the number of Workforce Jobs (WFJ)[81] is derived. For the purposes of constructing table 7 of the TSA, further information is provided in terms of break downs by sex.

In table 5.30 estimated workforce jobs are presented for 2009 in terms of a broad grouping based on tourism industries and non-tourism industries.

Table 5.30 **Estimated workforce jobs: tourism and non-tourism industries, by quarter 2009 (× 1,000)**

Number of jobs (not seasonally adjusted)	Q1	Q2	Q3	Q4
All tourism jobs	**3,139**	**3,169**	**3,132**	**3,065**
Full-time jobs	1,685	1,675	1,644	1,662
Part-time jobs	1,454	1,494	1,488	1,403
Employee jobs	2,608	2,636	2,614	2,556
Self-employed jobs	529	531	516	507
Total non-tourism jobs	**28,506**	**28,367**	**28,241**	**28,324**
Total jobs (all industries)	**31,645**	**31,536**	**31,373**	**31,389**

Note: Totals may not sum due to rounding.

Source: Office for national Statistics, 'Workforce Jobs, Business Register and Employment Survey', *Annual Population Survey.*

80 Buccellato, T. et al. (2010), 'The Experimental Tourism Satellite Account for the United Kingdom (E-UKTSA)', *Economic and Labour Market Review* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (08-05-2014).

Smith, E. et al. (2010), *The Supply Side of Tourism, 2008 Report* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

Smith, E. et al. (2011a), *The Economic Importance of Tourism – The UK Tourism Satellite Account for 2008* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

Smith, E. et al. (2011b), *Employment Characteristics of UK Tourism Industries in 2008* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

Smith, E. and White, S. (2012a), *Supply Side of Tourism Report, 2009* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

Smith, E. and White, S. (2012b), *The Economic Importance of Tourism: UK Tourism Satellite Account, 2009* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

Smith, E. and White, S. (2012c), *The Geography of Tourism Employment* (online), available at: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economic+Value+of+Tourism (13-05-2014).

81 WFJ is a measure of jobs, not people. In other words, it is possible to have more jobs than the number of people in employment, because some people might have more than one full-time job.

For the TSA, there is a clear need to differentiate between the tourism characteristic activities, broken down by employee and self-employed jobs (see table 5.33, the UK TSA table 7 at the end of the text). To summarise, the following steps are involved in constructing the estimates presented in table 7:

1. **Number of enterprises:** this data is sourced from the Annual Business Survey for 2009 which is published at SIC 2007 4 digit level on the ONS website. An enterprise in this sense is defined as the smallest combination of legal units, which have a certain degree of autonomy within an enterprise group. An enterprise group is simply a number of enterprises under common ownership;
2. **Number of employees:** data on the number of employees at the 5 digit SIC 2007 level is available from the Business Register and Employment Survey (BRES) for the whole of the United Kingdom; and
3. **Number of self-employed:** data on self-employed persons is sourced from the Annual Population Survey for 2009.

   The tourism industries as defined by the UNWTO are within five of the 19 industry groups that the workforce jobs estimates are published for. However, only one of the five is entirely made up of tourism industries so the ONS has calculated multipliers for the other four to estimate the total number of tourism industry workforce jobs. Because the full-time/part-time split of employment is different in many tourism industries than elsewhere, the ONS has used non-seasonally adjusted data and calculated multipliers for both these types of employee job and self-employed job.

   For employee jobs, the multipliers are based on data from the Business Register and Employment Survey (BRES), which gives estimates of the number of part-time and full-time employees by industry sub-groups (5-digit SIC code)[82]. The BRES is based on a sample of businesses and three years worth of data (2008–2010) are used to ensure relatively large sample sizes for each sub-class.

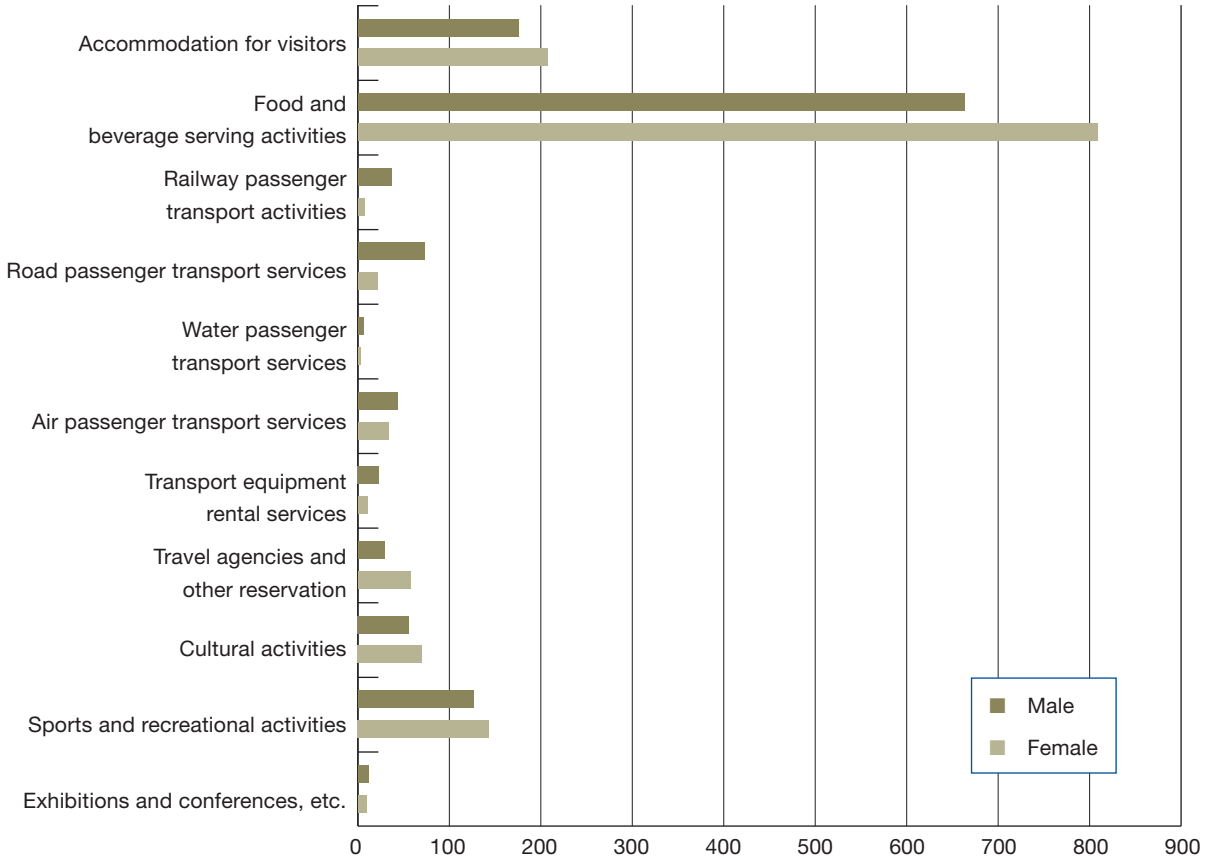
   For full-time and part-time self-employed jobs the multipliers are based on the 2009 Annual Population Survey (APS). For the relatively few Government supported trainee jobs in tourism industries the ONS has used the same BRES multipliers as for employee jobs. All Armed Forces jobs are in an industry group that does not include any tourism industries;
4. **Number of full-time equivalents (FTEs):** an interesting feature of table 7 of the TSA is the treatment of FTEs. Typically an average proportion of part-time to full-time jobs is used in the calculation of FTEs: for example, it may be assumed that 2 part-time jobs is the equivalent of 1 full-time job. Here the ONS has used the Annual Survey of Hours and Earnings (ASHE) to calculate the average hours for full-time and part-time employees for each tourism industry. This allows for a more accurate calculation of FTEs. First, the FTEs for employees are calculated and then the totals for self-employed persons are added to arrive at total FTEs across the tourism industries;
5. **Total number employed:** this is simply the sum of employee and self-employed jobs across all the tourism industries; and
6. **Direct Tourism Employment:** this is calculated by applying the Tourism Ratios from table 6 of the TSA to the total tourism employment figures for each tourism industry. Note that here the tourism demand to supply ratio is also included from table 6 for *other consumption products* and applied to the rest of the economy employment totals (sourced from the ONS

82 Standard Industrial Classification codes (SIC Codes), are an internationally accepted set of codes for the standard classification of all economic activities. These codes are prescribed by the Department of International Economic and Social Affairs of the United Nations.

Labour Market Statistics for 2009 (second quarter)). Perhaps a preferable approach would be to split the other consumption products into their constituent parts, for example certain retail activities, but this would mean having to include these separations in all the other tables of the TSA and thereby generate individual Tourism Ratios for every element of this spending on non-tourism products and services. Direct FTEs are calculated in the same way.

It is also possible to differentiate between male and female employees or self-employed persons and an example of these employment characteristics is provided in figure 5.39.

Figure 5.39 **Number of employees by sex in the tourism characteristic activities, 2009 (× 1,000)**

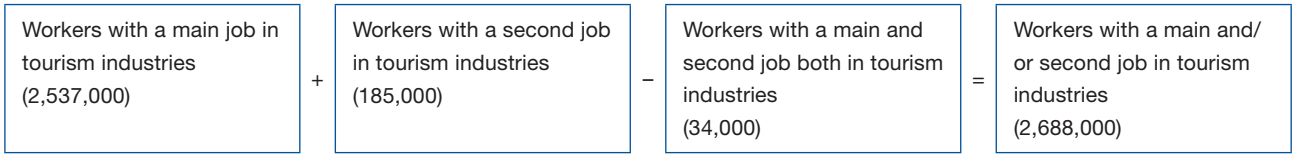


Source: Business Register Employment Survey (BRES) (2009), *Workforce Jobs 2009.*

The major source of household survey data used to analyse employment in the tourism industries is the ONS Labour Force Survey. In the TIU within the ONS, a boosted subset of the LFS called the Annual Population Survey (APS) is being analysed which allows for more detailed disaggregate analysis. As the ONS is not constrained in this analysis by the reference period of the TSA employment table (see table 5.33), the data presented here are for the reference year 2011 to illustrate the potential of household-based labour surveys in describing features of the tourism labour market in the United Kingdom. Notably, for all of this analysis, the ONS is mainly concerned with employment in tourism industries and does not attempt to account for, or differentiate between, employment supported by visitor or resident expenditure.

There were 2.5 million people with a main job in tourism industries in 2011 in the United Kingdom and of these some 34,000 also had a second job in tourism industries. There were an addition 150,000 people with second jobs in tourism as recorded by the APS. These data are summarised in figure 5.40, which illustrates that just fewer than 2.7 million workers had a main job or second job (or both) in tourism industries in 2011.

Figure 5.40 **Workers with a main or second job or both in tourism industries, 2011**



Results based on the household survey (APS) indicate that, in 2011, employment in main and second jobs in tourism industries in the United Kingdom was 2.7 million, 9.1% of the total for all industries. Table 5.31 shows the totals for individual tourism industry groups and highlights the importance of the food and beverage serving industry compared with all other tourism industries in the United Kingdom.

Table 5.31 **Employment by tourism industry, 2011**

Industry group	Employment in main and second jobs 2011 (× 1,000)	Total for all industries (%)
1. Accommodation for visitors	347	1.2
2. Food and beverage serving activities	1,179	3.9
3. Railway passenger transport	71	0.2
4. Road passenger transport	235	0.8
5. Water passenger transport	13	0.0
6. Air passenger transport	51	0.2
7. Transport equipment rental	26	0.1
8. Travel agencies and other reservation services activities	104	0.3
9. Cultural activities	226	0.8
10. Sports and recreational activities	442	1.5
11. Exhibition and conference activities	27	0.1
Subtotal, tourism industries	**2,722**	**9.1**
Subtotal, non-tourism industries	27,213	90.9
Total, all industries	**29,935**	**100**

Note: Totals may not sum due to rounding.

Source: Office for National Statistics, *Annual Population Survey.*

Other statistics in this section are presented broken down into summary tourism industry groups to ensure that the data are based on robust sample sizes. The most often used breakdown contains four summary groups that relate to:

- Accommodation;
- Food and beverage serving;
- Passenger transport, vehicle rental and travel agencies; and
- Cultural, sports, recreational and exhibition/conference activities.

The total main and second job employment in tourism industries is made up of 2.5 million main job employment and 185,000 second job employment, as shown in table 5.32, which also shows that 8.8% of second jobs are in tourism industries compared with 16.3% of main jobs. The table also illustrates a greater proportion of second jobs in the food and beverage serving industry and the combined culture, sport, recreation and conference industry than in other tourism industries as compared to accommodation and passenger transport.

Table 5.32 **Main and second job employment in tourism industries, 2011**

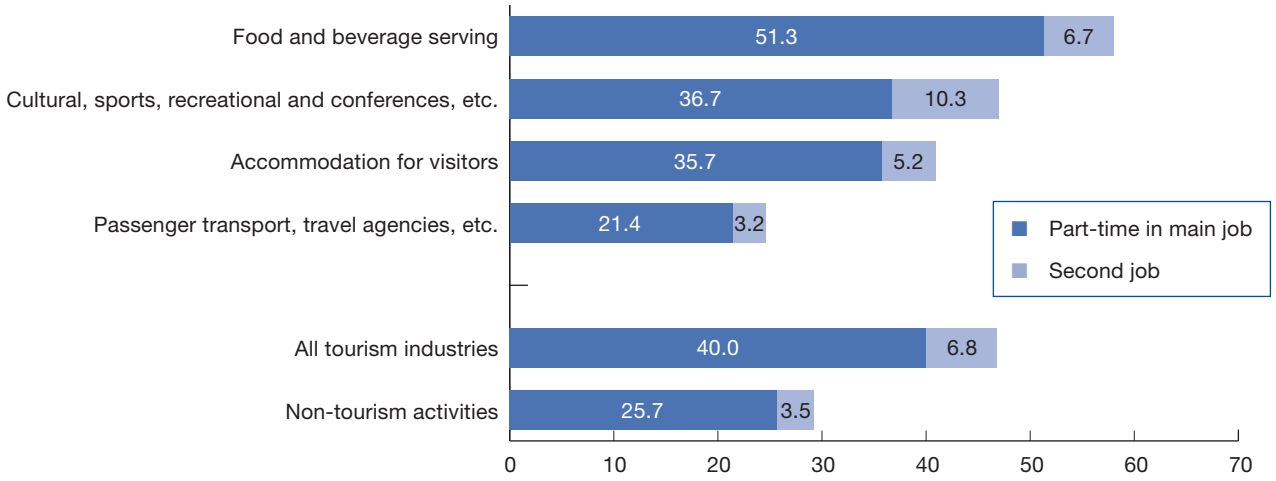
Industry Group	Main jobs		Second jobs		
	(× 1,000)	All industries (%)	(× 1,000)	All industries (%)	Main and second job employment (%)
Accommodation for visitors	329	1.1	18	1.6	1.2
Food and beverage serving activities	1,100	3.8	79	7.0	3.9
Passenger transport, travel agencies, etc.	485	1.7	16	1.4	1.7
Cultural, sports, recreation, conference, etc.	623	2.2	72	6.4	2.3
Subtotal, tourism industries	**2,537**	**8.8**	**185**	**16.3**	**9.1**
Subtotal, non-tourism industries	26,267	91.2	946	83.7	90.9
Total, all industries	**28,804**	**100**	**1,131**	**100**	**100**

Note: Totals may not sum due to rounding.

Source: Office for National Statistics, *Annual Population Survey.*

Combining information about full-time and part-time employment in main jobs in different tourism industries with the second job data used in table 5.32 previously gives an indication of the differing extents of these types of employment within these industries, as figure 5.41 illustrates. This indicates a higher proportion of second jobs in tourism with significant percentages across the tourism industry groupings. Figure 5.41 also highlights the importance of part-time working within the tourism industries.

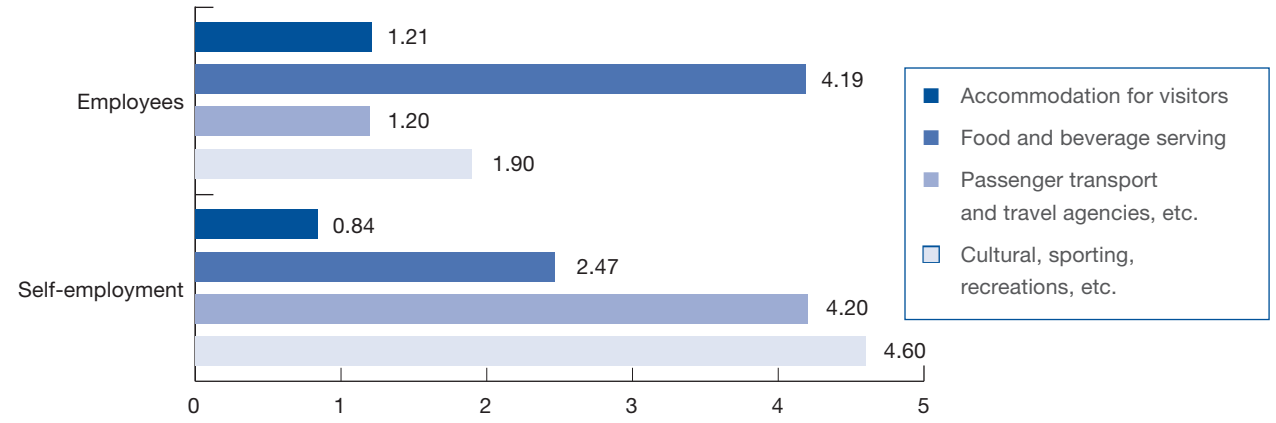
Figure 5.41 **Proportion of part-time and second job employment by tourism industry, 2011**



Source: Office for National Statistics, *Annual Population Survey.*

In 2011, 12.1% of self-employment was in tourism industries, compared with 8.6% of employees. In particular, as figure 5.42 illustrates, passenger transport and travel and cultural, sport and recreational activities were jointly responsible for almost 9% of United Kingdom self-employment, but only just over 3% of United Kingdom employees.

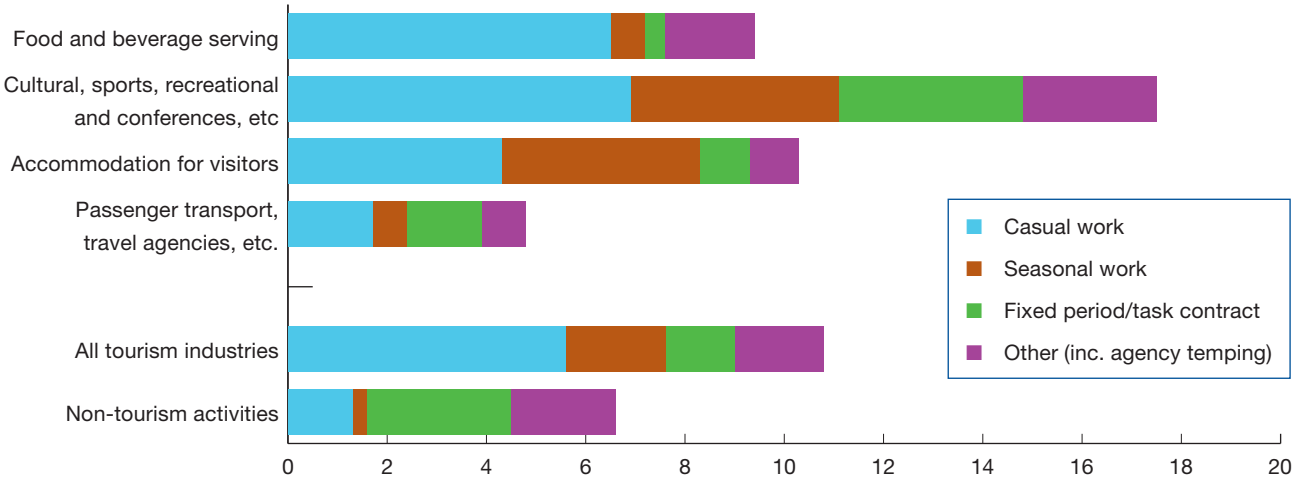
Figure 5.42 **Proportions of employment, 2011**



Source: Office for National Statistics, *Annual Population Survey.*

The headline proportion of main and second employment that tourism industries were responsible for in 2011 was 9.1%. However, these industries were responsible for over 13% of temporary employment. In figure 5.43 we can see that the cultural, sport and recreation industries and the accommodation industries had the highest proportions of their total employment in seasonal work in 2011. The former had the highest proportion of total employment in temporary jobs (17.5%).

Figure 5.43 **Temporary employment as a proportion of total main and second job employment, 2011**

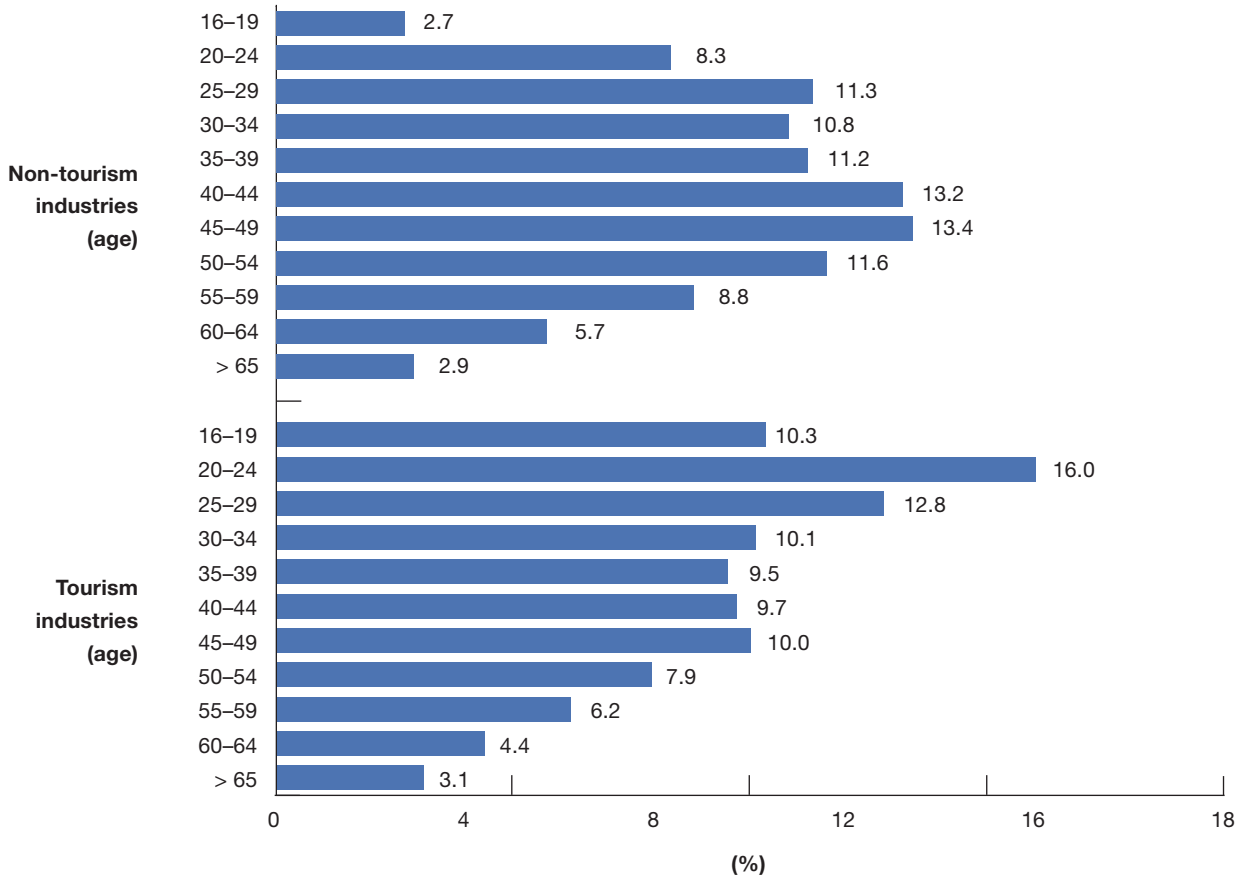


Source: Office for National Statistics, *Annual Population Survey.*

Household labour surveys of this nature can be used to highlight the characteristics of employment in tourism as we have seen in figure 5.40, figure 5.41 and figure 5.42 above. This survey information can also be used, however, to highlight the characteristics of those employed in tourism industries and we present two examples of this here which focus on the age profiles of workers in tourism and their education attainment levels.

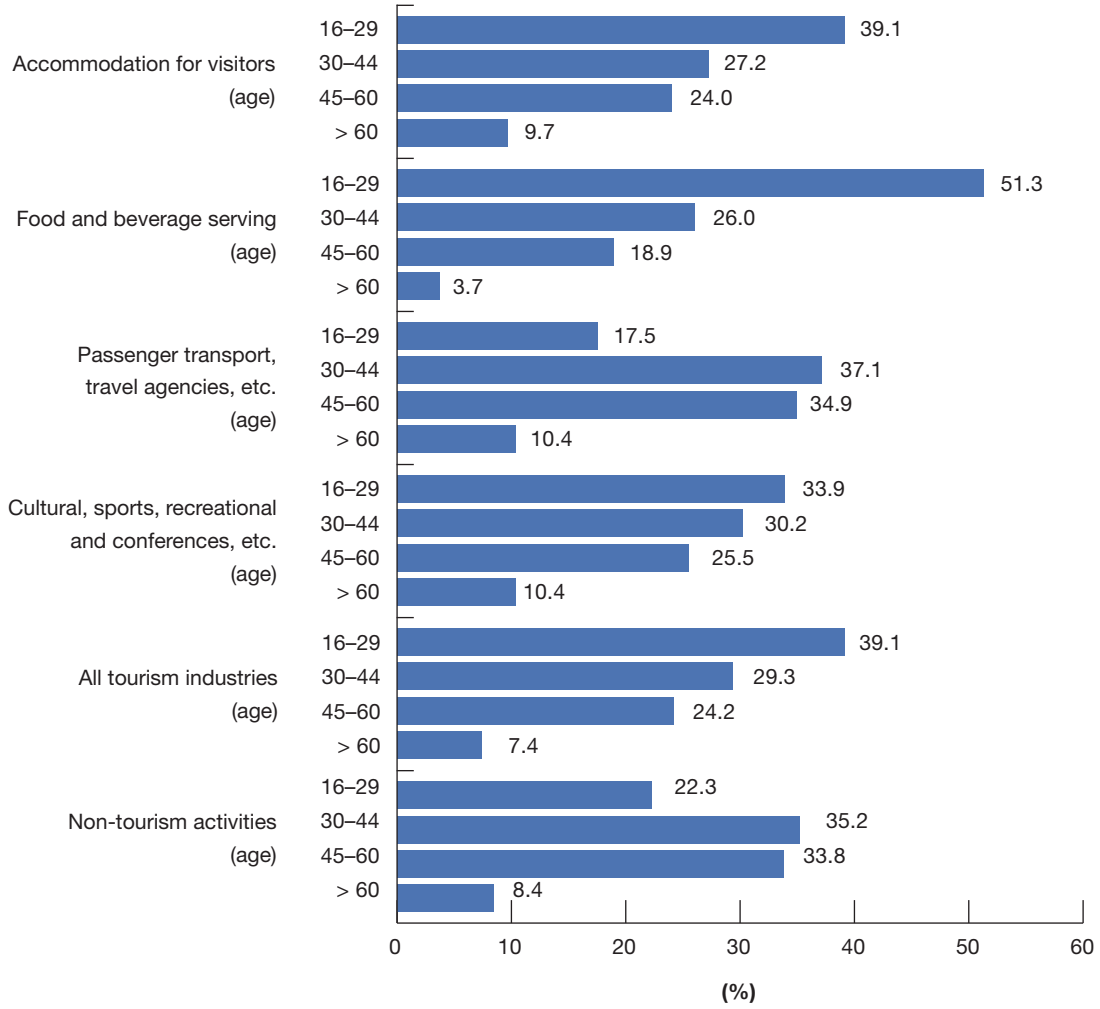
In figure 5.44, we can see that there are much higher proportions of younger age groups working in tourism as compared to non-tourism industries. This is offset by the smaller proportions of those aged 40 and above working in tourism as compared to the rest of the economy.

Figure 5.44 **Employment by age band in tourism and non-tourism industries, 2011 (%)**



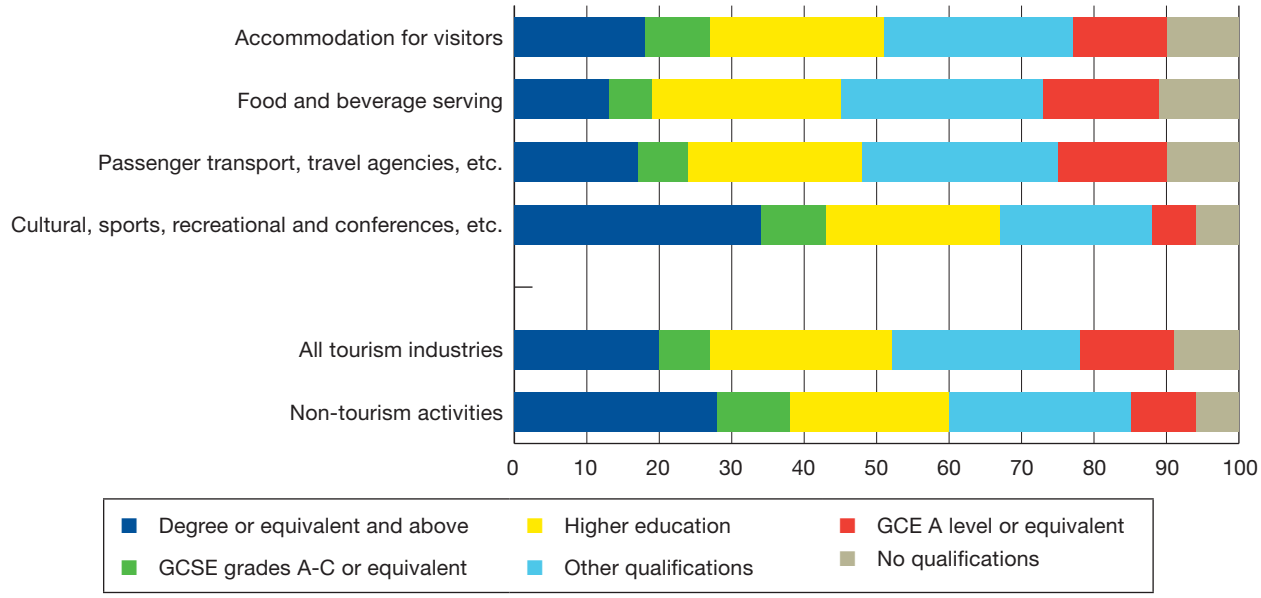
The trends identified in figure 5.44 can be further analysed by tourism industry grouping and we can clearly see from figure 5.45 that the accommodation and food and drink sectors have very high proportions of those aged under 30 in comparison to non-tourism industries – more than double in the case of food and drink serving activities.

Figure 5.45 **Employment by summary age band by tourism industry, 2011 (%)**



We can also examine the qualifications levels of those employed in tourism using the Annual Population Survey for the United Kingdom and in figure 5.46 we can see the highest qualification level of those employed in the different tourism industry categories. Cultural and sport activities have the highest levels of degree level qualifications amongst workers in tourism. In other sectors of tourism, however, there are low levels of higher education and proportionately more workers with no qualifications. This is the pattern that we see when looking at the tourism industries as a whole versus non-tourism industries where 30% of workers have a degree or above compared to 20% in tourism industries.

Figure 5.46 **Employment by qualification level by tourism industry, 2011 (%)**



Source: Office for National Statistics, *Annual Population Survey.*

The preceding analysis has shown that labour force surveys offer a rich source of information for those interested in the employment characteristics of the tourism sector. Clearly there are limitations to the analysis in that we are considering all employment in the tourism industries and not only that employment which is directly supported by tourism consumption. The advantages of being able to examine a wide range of variables on employment characteristics and the ability to look at regional and sub-regional trends and track changes over time make this type of survey an invaluable source for tourism policy makers and researchers.

Table 5.33 **Employment in the tourism industries, 2009 (× 1,000)**

Tourism characteristic activities	Number of enterprises	Number of jobs by status												
		Employees			Self employed			Employees		Employment				
		Male	Female	Total	Male	Female	Total	Full-time	Part-time	Total FTEs	Total employment	Tourism ratios (%)	Tourism direct employment	Tourism direct FTEs
Accommodation services for visitors	15,157	177.5	208.3	385.8	27.0	31.7	58.8	220.8	160.8	352.9	444.6	99.8	443.6	352.1
Food and beverage serving services	113,953	667.0	815.2	1,482.1	47.4	57.9	105.3	568.3	909.0	1,052.0	1,587.4	31.8	505.6	335.0
Railway passenger transport services	104	37.2	9.3	46.5	1.7	0.4	2.2	44.2	2.4	47.9	48.7	54.0	26.3	25.8
Road passenger transport services	12,025	74.3	21.0	95.3	129.6	36.6	166.2	73.7	22.2	248.5	261.5	39.8	104.0	98.8
Water passenger transport services	728	5.2	3.5	8.7	0.4	0.3	0.7	7.4	1.5	9.1	9.4	16.1	1.5	1.5
Air passenger transport services	746	43.4	34.1	77.4	0.3	0.2	0.5	60.4	17.6	70.2	78.0	63.1	49.2	44.3
Transport equipment rental services	3,708	23.7	11.1	34.8	1.5	0.7	2.2	30.6	4.4	35.0	37.1	6.2	2.3	2.2
Travel agencies and other reservation services	5,642	30.8	57.2	88.1	5.8	10.8	16.6	65.9	22.9	93.9	104.7	94.0	98.4	88.3
Cultural activities	28,486	54.4	69.2	123.6	65.1	82.9	148.0	75.8	49.5	243.5	271.6	55.4	150.5	135.0
Sport and recreation activities	24,746	127.7	144.0	271.6	13.4	15.1	28.6	124.3	152.3	218.5	300.2	15.9	47.8	34.8
Exhibitions and conferences, etc.	3,143	10.9	11.8	22.6	1.2	1.2	2.4	16.4	6.2	21.7	25.0	1.3	0.3	0.3
Other consumption products		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23,463.1	28,069.0	1.3	367.7	307.4
Tourism totals	**208,438**	**1,251.9**	**1,384.6**	**2,636.5**	**293.5**	**238.0**	**531.5**	**1,287.8**	**1,348.7**	**2,393.1**	**3,168.0**	**3.6**	**1,797.3**	**1,425.5**

Notes: This is table 7 of the 2008 and 2009 UK TSA.

Tourism totals for Tourism direct employment and FTEs include employment data relating to "Other consumption products". For total employment and total FTEs, they exclude these data.

Data may not sum due to rounding.

Sources: Office for National Statistics, *Annual Population Survey, Annual Survey of Hours and Earnings, Business Register and Employment Survey, Workforce Jobs by Industry, Annual Business Survey.*

Annex 1

Statistics of employment, wages and hours of work in the tourism industries: synoptic table

Note: Each "×" indicates a different type of survey conducted by the country.

Country, area or territory	Type of source			Combination of sources
	Labour force/ household surveys	Establishment surveys	Administrative records	
Albania		×	×	
Argentina		×		
Armenia	×	××		
Australia	×	××	×	×
Austria	×	×	××	×
Azerbaijan			×	
Bahamas	×	×	×	×
Bahrain			×	
Barbados	×			
Belgium	×	×		
Bermuda		××		
Bolivia		×	×	
Botswana	×	×		
Brazil		××	×	×
Bulgaria	×	×		
Canada	×	×	×	×
China	×	×		
Colombia	×	×		
Costa Rica	×			
Croatia	×	××	×	×
Cuba			×	
Dominica	×	××		
Dominican Republic	×			
Ecuador	×		×	
Egypt		××	×	
Estonia	×			

Country, area or territory	Type of source			Combination of sources
	Labour force/ household surveys	Establishment surveys	Administrative records	
Finland	×	×		
France			×	×
Gabon	×		×	
Georgia	×	×		
Gibraltar		×		
Greece	××	××		
Honduras	×	×	×	
Hungary	×	×		
Ireland	×	×××	×	×
Israel	×	×	×	
Jamaica		×		
Jordan	×	×		
Kazakhstan	×	×		
Kenya	×	×		
Kyrgyzstan	×	×		
Latvia	×	×		
Liechtenstein		×	×	
Lithuania	×	×××		×
Luxembourg	×	×		
Macao, China	×	×××××××		
Madagascar	×			
Malaysia		×		
Maldives Islands	×		×	
Mauritius	×	××		
Mexico	×	××		×
Montenegro	×	×	×	
Morocco		×		
Mozambique		×		
New Zealand	×	×	×	×
Norway	×	×	×	
Paraguay			×	
Peru	×	×		×
Philippines	×	×××		

Country, area or territory	Type of source			Combination of sources
	Labour force/ household surveys	Establishment surveys	Administrative records	
Poland		××××		
Portugal	×	×	×	×
Puerto Rico	×	×		
Republic of Moldova		×		
Romania	×	××		
Russian Federation	×	×		
Saudi Arabia	×	××		×
Serbia	×	××	×	
Seychelles	×		×	
Sierra Leone	×	×	×	
Singapore		××	×	
Slovakia	×	×××		
Slovenia		×	×	
Spain	×	××		×
Suriname	×			
Swaziland		×		
Switzerland	×	×××		×
Thailand	×			
The former Yugoslav Republic of Macedonia	×		×	
Trinidad and Tobago	×	×		×
Turkey	×	×		
United Kingdom	×	×		×

Sources: International Labour Office and World Tourism Organization (2008), pp. viii–ix.

Annex 2

List of tourism characteristic activities (tourism industries) and grouping by main categories according to ISIC Rev. 4 and explanatory notes

Tourism industries	ISIC Rev. 4	Description
1. Accommodation for visitors	5510	Short term accommodation activities
	5520	Camping grounds, recreational vehicle parks and trailer parks
	5590	Other accommodation
	6810	Real estate activities with own or leased property[1]
	6820	Real estate activities on a fee or contract basis[1]
2. Food and beverage serving activities	5610	Restaurants and mobile food service activities
	5629	Other food service activities
	5630	Beverage serving activities
3. Railway passenger transport	4911	Passenger rail transport, interurban
4. Road passenger transport	4922	Other passenger land transport
5. Water passenger transport	5011	Sea and coastal passenger water transport
	5021	Inland passenger water transport
6. Air passenger transport	5110	Passenger air transport
7. Transport equipment rental	7710	Renting and leasing of motor vehicles
8. Travel agencies and other reservation service activities	7911	Travel agency activities
	7912	Tour operator activities
	7990	Other reservation service and related activities
9. Cultural activities	9000	Creative, arts and entertainment activities
	9102	Museums activities and operation of historical sites and buildings
	9103	Botanical and zoological gardens and nature reserves activities
10. Sports and recreational activities	7721	Renting and leasing of recreational and sports godos
	9200	Gambling and betting activities
	9311	Operation of sports facilities
	9319	Other sports activities
	9321	Activities of amusement parks and theme parks
	9329	Other amusement and recreation activities n.e.c.
11. Retail trade of country-specific tourism characteristic goods		Duty free shops[2]
		Specialized retail trade of souvernirs[2]
		Specialized retail trade of handicrafts[2]
		Other specialized retail trade of tourism characteristic goods[2]
12. Other country-specific tourism characteristics activities		

1) Part related to second homes and timeshare properties.

2) Not a 4 digit ISIC.

Note: These explanatory notes refer to internationally comparable tourism characteristic activities.

Source: Extracted from *International Standard Industrial Classification of All Economic Activities* (ISIC), Rev. 4. Statistical papers (Series M No. 4/Rev. 4), United Nations, New York, 2008. The complete document can be consulted at: http://unstats.un.org/unsd/cr/registry/regdntransfer.asp?f=135.

List of acronyms and abbreviations

ABI	Annual Business Inquiry
APS	Annual Population Survey
ASHE	Annual Survey of Hours and Earnings
BC	Business Census
BER	Swiss Business Register
BMWFJ	Federal Ministry of Economy, Family and Youth (Austria)
BoP	Balance of Payment
BRES	Business Register and Employment Survey
BRS	Business Register Survey
CAD	Canadian dollar
CAGED	General Registry of Employed and Unemployed (Brazil)
CBO Domiciliar	Brazilian Classification of Occupations
CBS	Central Bureau of Statistics
CEDMPRE	Cadastro Central de Empresas (Central Register of Enterprises) (Brazil)
CEE	Registry of Companies and Establishments (Brazil)
CLT	Consolidation of Labour Laws (Brazil)
CNAE	Clasificación nacional de actividades económicas (National Classification of Economic Activities) (Brazil and Spain)
CNPJ	National Registry of Legal Entities (Brazil)
CPA	Canadian Productivity Accounts
CPC	Central Product Classification
CSNA	Canadian System of National Accounts
CSO	Central Statistical Office
CTA	Characteristic tourism activities
CTHRC	Canadian Tourism Human Resource Council
CTRI	Canadian Tourism Research Institute of the Conference Board of Canada
CTSA	Canadian Tourism Satellite Account
DSP	Department of Social Protection
ECL	Encuesta de coyuntura laboral (Labour Situation Survey) (Spain)
EFTPOS	Electronic funds transfer at point of sale
EMS	Employer Monthly Schedule (New Zealand)
ENDEF	National Household Expenditure Survey (Brazil)
EPA	Encuesta de población activa (Labour Force Survey) (Spain)
ETCL	Encuesta trimestral de coste laboral (Quarterly Labour Cost Survey) (Spain)
ETHZ	Eidgenössische Technische Hochschule Zürich (Swiss Federal Institute of Technology Zurich)

EU	European Union
EUR	Euro
FSO	Swiss Federal Statistical Office
FTE	Full-time equivalent
GDP	Gross domestic product
GST	Goods and services tax
GVA	Gross value added
HRM	Human Resource Module
IBGE	Instituto Brasileiro de Geografia e Estatística (Institute of Geography and Statistics of Brazil)
ICT	Information and communication technology
IDI	Integrated Data Infrastructure
IET	Instituto de Estudios Turísticos (Institute of Tourism Studies) (Spain)
ILO	International Labour Organization
INE	Instituto Nacional de Estadísticas (National Statistics Institute) (Spain)
IPEA	Instituto de Pesquisa Econômica Aplicada (Institute of Applied Economic Research) (Brazil)
ISIC Rev. 4	International Standard Industrial Classification of All Economic Activities, Revision 4
IRTS	International Recommendations for Tourism Statistics
ISCO	International Standard Classification of Occupations
IOT	Input-output-tables
IT	Information and technology
ITS	International Travel Survey
JOBSTAT	Job Statistics Survey (Switzerland)
LAS	Labour Accounting System
LBD	Longitudinal Business Database
LEED	Linked Employer-Employee Data
LFS	Labour Force Survey
MTE	Ministério do Trabalho e Emprego (Ministry of Labour and Employment) (Brazil)
NACE Rev. 2	Statistical Classification of Economic Activities in the European Community, Revision 2
NAICS	North American Industry Classification System
NOC	National Occupation Classification
NOGA	General Classification of Economic Activities (Switzerland)
NSI	National Statistical Institute
NSO	National Statistics Office
NTA	National tourism administration
NTI	National tourism indicators
NUTS	Nomenclature Units for Territorial Statistics (European Union)
NZD	New Zealand dollar
OECD	Organization for Economic Cooperation and Development
OECD EM	OECD Employment Module
ONS	Office for National Statistics (United Kingdom)
PAS	Pesquisa Anual de Serviços (Annual Service Survey) (Brazil)
PME	Pesquisa Mensal de Emprego (Monthly Employment Survey) (Brazil)
PNAD	Pesquisa Nacional por Amostra de Domicilios (National Household Sample Survey) (Brazil)

POF	Pesquisa de Orçamentos Familiares (Consumer Expenditure Survey) (Brazil)
PPSN	Personal identifier (Ireland)
PREM	Employer registration number (Ireland)
RAIS	Relação Anual de Informações Sociais (Annual List of Social Information) (Brazil)
SBS	Structural Business Statistics (Austria)
SECO	State Secretariat for Economic Affairs (Switzerland)
	Staatssekretariat für Wirtschaft
	Secrétariat d'Etat à l'économie
	Segreteria di Stato dell'economia
SEPH	Survey of Employment, Payrolls and Hours
SIC	Standard Industrial Classification
SIMT	Tourism Labour Market Information System (Brazil)
SIPD	Integrated Household Survey System (Brazil)
SLFS	Swiss Labour Force Survey
SSR	Social Security Records
STAT	Statistics Austria
STEs	Short-Term Employment Surveys
STSA	Swiss Tourism Satellite Account
TDR	Tourism dependency Ratio
TLMI	Tourism labour market information
TLMIS	Tourism Labour Market Information System
TCA	Tourism characteristic activity
TCI	Tourism characteristic industry
TIM	Tourism income multiplier
TIU	Tourism Intelligence Unit
TS	Telemarketing Survey
TSA	Tourism Satellite Account
TSAM	Tourism Social Accounting Matrix
TSA-ET	Tourism Satellite Account Employment Tool (Austria)
TSA:HRM	Tourism Satellite Account: Human Resource Module
TSA:RMF	Tourism Satellite Account: Recommended Methodological Framework
UNWTO	World Tourism Organization
VAT	Value added tax
WIFO	Österreichisches Institut für Wirtschaftsforschung (Austrian Institute of Economic Research)

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The World Tourism Organization, a United Nations specialized agency, is the leading international organization with the decisive and central role in promoting the development of responsible, sustainable and universally accessible tourism. It serves as a global forum for tourism policy issues and a practical source of tourism know-how. Its membership includes 156 countries, 6 territories, 2 permanent observers and over 400 Affiliate Members.

The International Labour Organization (ILO) is the United Nations agency dedicated to advancing opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security and human dignity. The world's only tripartite multilateral agency, the ILO, brings together government, employer and worker representatives from its 182 member States to produce international labour standards and to shape policies and programmes that promote social justice for a fair globalization.

UNWTO

World Tourism Organization

Capitán Haya 42, 28020 Madrid, Spain
Tel: (34) 91 567 81 00 / Fax: (34) 91 571 37 33
omt@UNWTO.org / www.UNWTO.org