Measuring the Role of Tourism in OECD Economies

THE OECD MANUAL ON TOURISM SATELLITE ACCOUNTS AND EMPLOYMENT

ENTERPRISE, INDUSTRY AND SERVICES



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FOREWORD

The increasingly important role of tourism in the economy, its growth and potential for job creation, the fragmentation of this business sector, and the cross-sectoral nature of tourism policies are all elements that have led the OECD's Tourism Committee to design a new economic instrument for tourism which provides insights into the socio-economic impact, structure and development of activities related to tourism. The rationale underlying the construction of this new tool is that, despite its economic importance, tourism still suffers from a lack of governmental recognition, particularly in developed countries.

Measuring the Role of Tourism in OECD Economies: OECD Manual on Tourism Satellite Accounts and Employment summarises the efforts that have been made over the past decade to develop new methods to analyse tourism and tourism-related employment, standardise and ensure the relevance of tourism statistics systems, increase consistency between the various systems in place at an international level, and create awareness among Member countries of the implementation of such tools and how the results should be interpreted.

For the first time, the *Manual* presents the methods developed by the OECD's Tourism Committee on Tourism Satellite Accounts (TSA) and employment in tourism. In particular, it explains the rationale underlying the Tourism Satellite Accounts. The two tools, which were officially approved by the Tourism Committee on 14-15 October 1999, are based on the most recent international statistical trends, particularly the *System of National Accounts* of 1993, and the World Tourism Organisation and United Nations 1993 definitions on tourism statistics.

The *Manual* does not deal with the joint conceptual framework of the Tourism Satellite Account developed at the same time by the World Tourism Organisation, the OECD and Eurostat. This joint tool was adopted by the United Nations Statistical Commission in March 2000, and will be published jointly by the four international organisations during the course of 2000.

The *Manual* is organised as follows:

Part I: OECD Manual on Tourism Satellite Accounts

Part II: OECD Manual on Tourism Satellite Accounts: Employment Module

Part III: National Experiences in the Field of Tourism Satellite Accounts

The OECD would like to thank all countries and individuals who contributed to the methodological development of the Tourism Satellite Accounts and the Employment Module. In particular, the OECD would like to thank the following experts: Mr A. Franz (Austria), Mr J. Joisce (International Monetary Fund), Mr N. Heerschap (the Netherlands), Mrs R. Meier (Switzerland), Mr S. Meis (Canada) and Mrs T. Nygård Evensen (Norway). The report was co-ordinated by Mr Alain Dupeyras of the OECD's Tourism Unit and is published on the responsibility of the Secretary-General of the OECD.

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INTRODUCTION

The purpose of the efforts undertaken by OECD's Tourism Committee (http://www.oecd.org/dsti/sti/transpor/tourism/index.htm) is to contribute to improving the effectiveness of tourism policies and related measures, improve existing means of evaluating these policies and increase awareness of the field and of the role played by tourism in developed economies.

The service sector is the driving force behind economic growth in most OECD countries. It represents a considerable share of economic activity and its importance is growing continuously. Tourism and travel are part of the service sector, accounting for around 30% of international trade in services in the OECD zone: the OECD countries generate around 70% of world-wide tourism business. The economic and social impact of travel and tourism are felt in many areas of government intervention.

As a result, improving information on how the tourism economy – a poorly developed statistical notion – works represents a major challenge to statistical agencies and is essential for policy analysis. Traditional methods, with which statistical agencies have experience, need to be extended in order to better represent and analyse the economic and social role of tourism.

For this reason, the Tourism Committee has developed an integrated statistical tool to measure the socio-economic aspects of tourism (value added, employment, earnings, investment, profits). In addition, the Committee has developed an additional methodology to carry out an in-depth study of employment in the tourism sector.

These tools are aimed at helping public and private authorities responsible for tourism in OECD countries develop indicators to evaluate tourism in the broader political context. Such reliable, detailed and consistent information will, in the long run, provide a frame of reference for use by all players in the tourism sector.

Several countries are already using Tourism Satellite Accounts. Over the past 15 years, the Tourism Committee has worked to create awareness among public authorities of the need to develop better statistical tools to define and measure the economic impact of tourism. The Tourism Committee regularly reviews work done at national level, compares it to other countries' experiences, and promotes the most effective practices implemented.

The Tourism Satellite Account offers policy makers an overview of tourism in relation to other economic sectors, and enables comparisons to be drawn between the tourism industry and other industries. It provides an in-depth understanding of the structure of the tourism industry and a conceptual framework that may, at a later stage, be adapted to calculate the socio-economic impact of tourism at the regional level. Finally, it offers a model for policy analysis in terms of issues relating to the tourism economy, as well as for the design of models, growth analysis and evaluating productivity in this business sector.

The focus on employment, together with the importance of the data provided, the level of detail and 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 these jobs. These data provide policy makers with the necessary information to develop employment strategies backed up by concrete data. They also enable decision makers to focus their action on maximising tourism growth and its contribution to employment.

In the long term, the Tourism Satellite Accounts and employment methodology will provide the tools necessary to define and measure the economic impact of tourism. Other tourism indicators will nevertheless remain necessary to monitor the development of tourism, particularly as regards current trends. In light of the significant resources – human, statistical and financial – required and the need for a long-term commitment, the decision to implement these tools at national level will be subject to prior feasibility studies. It may initially be preferable to focus resources on a few key indicators.

By means of the credible figures they will provide, these tools will supply national tourism authorities, the industry, and all players interested in tourism with information that will facilitate decision making, increase the political recognition afforded tourism and improve the effectiveness of tourism policies.

Risaburo Nezu
Director
OECD Directorate for Science,
Technology and Industry

PART I

OECD MANUAL ON TOURISM SATELLITE ACCOUNTS

Chapter 1

THE RATIONALE FOR A TOURISM SATELLITE ACCOUNT

Interest in tourism has grown substantially over the last quarter century as the industry has become a significant economic and social phenomenon. However, tourism remains difficult to define and measure and, as a result, the industry suffers from a credibility problem. In an attempt to improve understanding of the importance of the tourism industry, the OECD, among others, began work in the 1980s to implement an internationally acceptable standard. Following on from that work, the OECD developed the Tourism Economic Accounts (TEA). However, although they provide a useful stepping stone, the TEA are not a fully integrated set of tables. Accordingly, the OECD has built on the TEA to produce an integrated set of tables: the Tourism Satellite Account (TSA).

In developing its TSA, the OECD has drawn on work initiated by other agencies. Statistics Canada presented a draft proposal at the Ottawa Conference on Tourism in June 1991 and published its first results in 1994. Since then, several countries have either published a TSA or are in the process of developing one. A chapter of the 1993 version of the *System of National Accounts* (SNA93)[1] was devoted to satellite accounts, with references to tourism. In July 1995, the World Tourism Organisation (WTO-OMT) put forward a draft proposal which drew heavily on the OECD Tourism Economic Accounts. Further drafts were released in 1996, 1997, 1998 and 1999.

In the national accounts' framework, there is little room for organising data into a structure that permits examination and analysis by function. To overcome this problem, satellite accounts are proposed; these draw from the core accounts in concept and data but are recast to highlight the particular aspect of the economy that is inadequately described. This methodology was applied to tourism so that the industries supplying tourism output can be identified in the production account

1. See EEC-EUROSTAT, IMF, OECD, UN, WORLD BANK, *System of National Accounts*, 1993. Chapter XXI of the SNA93 attempts to generalise some of the issues related to satellite accounts. One of the rationales for satellite accounts is that the national accounts do not identify every aspect of the economy. Certain issues are inadequately identified or in some instances completely ignored. Health, transportation and tourism fall into the former; the environment and unpaid work into the latter. National accountants have long recognised the shortcomings of the structure of the national accounts in certain areas and, while SNA93 is a far more comprehensive and rigorous document than its 1968 predecessor, it nonetheless cannot cover all areas of the economy. Accordingly, there are a "core" set of accounts which are centred on institutional sectors (the production, generation, use and distribution of income, accumulation and financing of capital, and balance sheets of households, including unincorporated businesses, general government, non-financial corporations, financial corporations and non-profit institutions serving households). This core set of accounts is, in many respects, analogous to a company's financial statements. In addition to these institutional sectors, and strongly related to them, are the industry production accounts which identify the inter-related nature of production. These industry tables show commodity inputs and outputs for each industry as well as the industry value added (returns to labour, capital and entrepreneurship and any net indirect taxes paid by the industry from the production of output).

while at the same time allowing the determining characteristic of tourism, *i.e.* visitors' demand, to be identified by function.

Since tourism is an integral part of the economy, it is already represented in the national accounts. The commodities produced by suppliers and purchased by visitors are included in the core accounts, as is the formation of fixed capital. However, they are not readily visible because tourism is not identified as a separate activity and the commodities produced and consumed in meeting tourism demand are buried in other elements of the core accounts. A TSA provides the means by which the economic aspects of tourism can be separated out and analysed individually, while remaining within the main accounts and retaining their relationship with them. One of the major features of a TSA is that it is set in the framework of the economy as a whole (the national accounts), so that tourism need not be studied in isolation. Indeed, it is important that tourism be framed in the context of the rest of the economy so that its economic role can be better understood.

The OECD's TSA provides more than a simple recasting of the economic flow data that are found in the national accounts. It enables these data to be linked to other dimensions of tourism, such as capital stock estimates, employment (*e.g.* numbers of employees, hours worked, etc.), and physical (as opposed to monetary) features, such as the number of visitors (resident and non-resident). If necessary, the TSA can be further elaborated to provide greater detail on employment, demographic characteristics of visitors, and physical elements of supply (such as availability of hotel rooms, seats on flights). One such module is the employment module (see Part II).

The OECD's TSA can be used to:

- Analyse tourism from an economic point of view.
- Present data on tourism strictly based on the principles of the System of National Accounts (SNA) and compatible with the recommendations on Tourism Statistics elaborated by UN/WTO-OMT to permit comparison with other industries and make tourism statistics more credible and more robust.
- Provide a set of accounts that are internationally compatible, working within national accounting principles.
- Offer policy makers insights into tourism and its socio-economic functions and impacts (in current prices as well as in volume terms).
- Calculate tourism value added for a given list of industries in a coherent system.
- Provide information on the employment profiles of the tourism industries.
- Indicate the production functions of tourism industries and illustrate the interlinkages between the tourism industries and the rest of the economy.
- Offer a reference framework within which impact models and other analytical economic models of tourism can be calculated.
- Provide an indication of the size of tourism capital investment, and the means to analyse its link with tourism supply.
- Provide information on the industry's capital stock and capital base.

The TSA provides a framework for policy analysis of issues related to tourism economics as well as for model building, tourism growth analysis and productivity measurement.

The TSA has been designed in such a way that not all of its elements need be developed at the outset. In fact, the opposite applies: while the TSA has a comprehensive framework, individual elements and individual tables, each of which is of analytical use in its own right, can be constructed incrementally using a building-block approach. Taken as a whole, the TSA might seem to place considerable resource and data demands on Member countries. However, a phased implementation is planned to enable useful data to emerge at an earlier stage and avoid placing excessive demands on Member countries to provide all the necessary information at one time.

An important feature of the TSA is that it differentiates between "observed" effects and imputed or modelled results.[2] As a result, the user who does not wish to use the derived calculations, or prefers to use an alternative method, would still have the basic information.

The TSA is a set of fourteen interlinked tables, each showing a different aspect of tourism. The tables allow demand for tourism commodities to be linked to production of tourism commodities by tourism industries and thus provides a mechanism for deriving direct tourism value added by industry. (The design of the TSA also allows indirect measures to be derived, but these are not shown explicitly.) These dimensions can also be shown in volume terms. An employment dimension is added to the demand, production and value-added elements of tourism so that average compensation of employees can be derived and compared across tourism industries and with the rest of the economy. Non-financial capital acquisition (and capital stock) are also shown since there is a strong link between tourism demand and capital formation in tourism industries. These variables have a significant employment multiplier effect and the TSA allows this type of analysis. The TSA tables provide insights on aspects of tourism that the standard national accounts framework cannot provide.

One of the most important tests that needs to be met by an analytical framework for tourism is the test of credibility. At present, because some of the issues surrounding tourism (such as what should be included as tourism expenditure) are still open to question, any measure of tourism will necessarily be imprecise. More importantly, there is no satisfactory way of regrouping the relevant data so that they can be compared with data for other industries. A TSA must provide a structure within which such questions as "What is tourism value added?" can be answered with sufficient authority to overcome concerns about the legitimacy of the approach. This is especially important as tourism value added is not directly observable. The TSA developed by the OECD offers an analytical framework that is sufficiently well developed and articulated that it can provide answers that are robust enough to allay these concerns.

Tourism is a demand-based concept. The OECD's TSA provides the mechanism for transforming that concept into a methodology for identifying who produces what for the visitor. It identifies the typical tourism industries, *i.e.* those industries that produce commodities which represent a significant part of tourism demand and whose existence is very strongly dependent on tourism demand or would be seriously affected were tourism to cease. For this set of industries, the TSA measures the value added, employment, capital formation, etc., flowing from that demand and identifies who the visitors are.

2. For example, unlike the value added of a "standard" industry, tourism value added is not usually observable since tourism value added is derived through a certain number of assumptions while value added for standard industries is based on directly measurable inputs and outputs.

A "visitor" can be either a same-day traveller or a tourist, while a "visit" or "trip" encompasses travel undertaken for business purposes or for personal reasons (not necessarily for leisure). Some forms of travel are excluded, namely that undertaken by migrants, diplomats and military personnel when taking up appointment. Commuter travel is also excluded because it is considered to be part of the "usual environment".

Tourism demand is an important element of tourism. What does it actually entail? There has been much debate over how best to define tourism demand. The WTO-OMT and the OECD use the following definition:

> *"Expenditure made by, or on behalf of, the visitor before, during and after the trip and which expenditure is related to that trip and which trip is undertaken outside the usual environment of the visitor."*

The concept of "usual environment" renders the compilation of tourism statistics difficult. This problem can be overcome by applying a distance criterion (although the criterion may vary from country to country).

In addition to the usual expenditures made by visitors while travelling (or preparing to travel) on commodities such as transport, meals or accommodation, these expenditures cover, *inter alia*, expenses incurred for the purposes of travel, such as suitcases which may be purchased some time before the planned trip. On the other hand, the measure excludes expenditure on capital equipment or other capital acquisition that may be made by a businessman while on a trip (even if that were the reason for the trip). If the trip were paid for by a non-visitor (such as parents paying for their child to visit them from abroad), it would be included because the expenditure was made on behalf of the visitor.

The OECD's TSA defines tourism demand and identifies visitors, and analyses some of the more difficult measurement issues, such as how to treat package tours, consumer durables, second homes, non-market production (such as free access, or access at prices that are not economically significant, to museums and galleries) and the gross fixed capital acquisition that should be included in the account and in which units.

The TSA will provide valuable information on hitherto unanswerable questions, such as:

- What do visitors buy and which industries are most affected by these purchases?
- Who are the main visitors (*i.e.* households, businesses, government employees or non-residents); how many people are employed in tourism industries?
- What is the average compensation for each tourism industry?
- How much capital formation has been undertaken by tourism industries?

The answers to these questions will provide analysts in industry and government with a profile of tourism and will offer insights on how tourism fits into the domestic economy. Moreover, volume measures, once developed, will provide important additional information on how tourism is evolving over time in real (as opposed to nominal) terms. The TSA will allow tourism to be measured on a comparable basis with other standard industries (such as mining, manufacturing, agriculture), thereby endowing it with the credibility it currently lacks.

Chapter 2

UNDERLYING PRINCIPLES

What is tourism demand?

While the notion of ***visitor*** is clearly explained in the *OECD Manual on Tourism Economic Accounts*, it is important that expenditures by visitors (tourism demand) be clearly understood as the definition of tourism demand has caused considerable disagreement. Determining what is classified as tourism demand will help to clarify the following contentious issues:

- What is tourism economic behaviour and hence what should be measured?
- The credibility of tourism as an economic phenomenon.

Tourism demand is defined as "the expenditure made by, or on behalf of, the visitor before, during and after the trip and which expenditure is related to that trip and which trip is undertaken outside the usual environment of the visitor". While a direct physical relationship is normally involved in the delivery of the good or service, some amplification on this point is necessary regarding the underlying economic and physical relationships.[3]

Some relationships may be purely economic, *i.e.* there is no counterpart physical contact, such as a travel ticket which has been bought but not used due to unexpected illness, for example.[4] Others may have a purely direct physical dimension, *i.e.* there is no counterpart economic contact. This would hold in the case of a free visit to a tourist attraction such as a government-run museum (the provider of the output, rather than the visitor, is deemed to cover the costs involved). In such circumstances, it is difficult to apply a general rule. If physical contact is considered to be a necessary but not sufficient condition for inclusion in tourism statistics, neither of the above-mentioned examples would qualify, while the TSA would include both examples.

In general, delivery of a tourism commodity depends on an economic output that is provided directly (*i.e.* physically) to the visitor. However, capturing circumstances such as those described above requires a degree of flexibility and the application of a logical approach as to what the TSA seeks to measure, *i.e.* tourism supply in response to specific tourism demand by visitors. Accordingly, in the interest of pragmatism, a "preponderance" rule is proposed focusing on a direct economic relationship, supplemented by additional criteria, such as a physical relationship, as necessary.

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3. See the discussion on statistical units, page 26.

4. Although, in this case, no tourism commodity was actually used, it was acquired. In national accounting terms, these two are synonymous and that notion extends also to the TSA.

Package tours are a good example: direct contact with the supplier (*e.g.* the airline) is purely physical, *i.e.* the visitor purchased the services via an intermediary. If a "net approach" which decomposes the package into its component parts (see below) is adopted, the existence of physical contact (*i.e.* between the airline and the visitor) is automatically implied (in spite of the presence of the intermediary), at least under certain circumstances.

On the other hand, tourists can have physical contacts with suppliers (or supplies) that are not be easily identifiable and which, despite their importance for the tourism industry, lack specific/individual relationships (examples include good road or communication systems). Such contacts would not be considered as tourist activities in the TSA, because specific/individual relationships are required.

In tourism, as with many elements of economic statistics, there are grey areas for which no hard and fast rules can be applied. A direct (*i.e.* physical) economic relationship is normally required for such supply/demand to be considered "tourism", but there will be marginal cases which require a certain amount of judgement.

It must be re-emphasised that tourism demand covers expenditures by, or on behalf of, a visitor (*i.e.* someone outside his/her "usual environment" but excluding certain categories such as diplomats, migrants, and others travelling to take up employment) before, during and after a trip, and which expenditures are related to the trip.

Purchases of a capital nature made by a businessman while on a trip are excluded from tourism demand (even though the purchase of capital may have been the purpose of the trip), as is shuttle trade[5] since it represents the acquisition of capital (as inventory) for the traveller to take back to his/her usual environment. The reason for these exclusions is that tourism demand is intended to cover expenditures (and hence, the provision of the service and goods by the producer) made to satisfy the needs or wants of the visitor during, or arising from, the trip. Thus, for example, the transport, accommodation, meals or other similar expenditure to be taken into account are those required to take the person outside his/her usual environment and meet the accommodation, food and entertainment requirements of the visitor. The purchase of capital does not meet that criterion.

Cross-border shopping undertaken on a regular basis is also excluded from the TSA as it does not fall outside the usual environment. (Occasional trips for cross-border shopping should be included, although it is recognised that it is not always easy to draw the distinction.)

Expenditures included in the TSA cover same-day trips as well as visits lasting more than 24 hours.

5. "Shuttle trade" occurs when a trader crosses a border to acquire goods which he/she can carry (or fill his vehicle with) for resale in the country of origin. It usually occurs when there are large price differences between neighbouring countries or when goods in one country are unavailable in the other. Instances arise, for example, when there are large differences in excise taxes in alcohol and tobacco or in countries of the former Soviet Union where goods are unavailable or very expensive. The intention is that the goods are to be resold.

"Usual environment"

The precise meaning of "usual environment" is rather unclear but the notion is central to the debate on what counts or does not count as "tourism". A distance criterion, as is often used, may prove to be the best method. However, it is worth exploring what is meant by the concept. "Tourism" is not a usual activity, whether it be a business flight to the other side of the globe or simply a family visiting an art exhibition in their own town (if visiting an art exhibition is something that is not normally done by that family). On the other hand, if it is normal practice for a family to drive 50 kilometres every week to visit grandparents or to do the weekly shopping, then that is not part of tourism demand, even though the travel involved may be in excess of some distance criterion. The notion of "tourism" is an attempt to cover certain elements of human activity (and hence socio-economic phenomena) that are not routine activities. In some small countries, a distance criterion of as little as 40 kilometres may be more than the country's whole width. It is, therefore, very important that information collected from the demand side clarify as far as possible what "usual environment" means so that respondents can better understand the purpose of the questions being asked. As noted above, a distance criterion may have to be applied, but should only be used once all other avenues have been exhausted. Countries are requested to indicate in their methodological notes the definition used for "usual environment". Refer to the *Recommendations on Tourism Statistics* (UN/WTO-OMT) for guidance on the appropriate approach for defining "usual environment".

Tourism as a demand-based concept and "characteristicity" of supply

In the standard national accounts' approach to the derivation of an industry's value added, the destination of the output is not normally a consideration. The purchaser, whether it be another business (a mining company or a bank), a household, the government or even an importer in another country, is not taken into account (except in so far as differing degrees of market power may influence the price obtained by the producer for the output). An industry's value added is determined as: gross output (at basic prices) less intermediate purchases of commodities produced by other industries (or imported) (at purchasers' prices).

However, for tourism the situation is different. As noted above, tourism does not fit the standard notion of an industry because it is a demand-based concept. It is not the producer who provides the distinguishing characteristics which determine how tourism is classified, but rather the purchaser, *i.e.* the visitor. The situation is further complicated because when the visitor purchases a commodity, it is not always clear which industry produced that commodity. As a result, a given transaction can be treated in one of six ways:

Figure 1. **Schema of tourism and non-tourism output and demand**

	Tourism output	Non-tourism output
Characteristic industry Purchased by:	Visitors and non-visitors	Visitors and non-visitors
Tourism-related industry Purchased by:	Visitors and non-visitors	Visitors and non-visitors
Non-characteristic industry Purchased by:	Visitors and non-visitors	Visitors and non-visitors

Thus, an industry that can be characterised as supplying predominantly tourism output may sell to both visitors and non-visitors. At the same time, an industry may produce a commodity that is not characteristic of tourism demand but that may be purchased by visitors as well as by non-visitors.

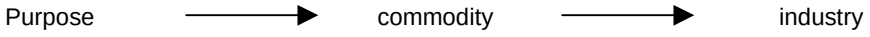
Alternatively, an industry which produces most of its output for non-visitors may play an important part in some aspect(s) of the provision of products to visitors. Such industries may play a major role in meeting certain aspects of tourism demand and in their absence, other more important aspects of tourism demand could suffer.

An industry whose production is predominantly of a non-tourism character could produce secondary (or tertiary) output which may be characteristic of tourism and which may be purchased by both visitors and non-visitors. Similarly, its predominant (non-characteristic) output may be acquired by both visitors and non-visitors.

This situation points to an important feature of national accounting and satellite account design, which must be considered more closely, *i.e.* the distinction between *input/output (I/O) characteristicity* and *purpose characteristicity*. In the case of I/O characteristicity, the relation between commodities and industries is based on similarity of output, and, by extension, of inputs (raw materials, labour, capital, technology), as often expressed in similar (symmetrical) classification notions of product and corresponding industry. In the case of purpose characteristicity (*e.g.* tourism), it is the actual *use* of the commodity which is the determinant: however, when aggregated, the uses are unlikely to correspond to a sufficiently homogeneous industry aggregate as is the case, for example, with tourism demand which is for heterogeneous products; nor may an industry notion always readily correspond to a specific, more detailed use category. The limited possibilities of industry breakdown and the necessity of sufficient homogeneity are constraints.

Purpose characteristicity is not necessarily applied in the sense of excluding something that is non-characteristic but rather should be seen as the structure of visitors' expenditure *per se*, possibly with an aggregation structure more oriented to tourism (such as the Classification of Individual Consumption by Purpose – COICOP). The individual elements of this structure (*i.e.* commodities arranged by such purpose, or at the lowest level of aggregation available) may then be related to another structure capable of I/O characteristicity (usually the Central Product Classification – COICOP).

In principle, COICOP elements can be defined in terms of CPC so that at the lowest level a *1 (COICOP) : 1 or n (CPC)* situation is given. Therefore, the supposed characteristicity sequence:



may not hold invariably because of the possibility of a one-to-many ratio between the relationships. The situation becomes even more complex the broader the purpose groups used, since the underlying nature of the industry elements (statistical units) cannot be readily decomposed.

This situation is reflected below:

		Products (= Output)			
	I/O characteristicity →	I/O characteristic (*e.g.* accommodation)		I/O non-characteristic (*e.g.* milk production)	
	Purpose characteristicity →	Tourism characteristic	Non-tourism characteristic	Tourism characteristic	Non-tourism characteristic
ACTIVITIES	Tourism characteristic ***(spa hotel***)	1.1.1	1.1.2	1.2.1	1.2.2
	Non-tourism characteristic (***farm)***	2.1.1*	2.1.2*	2.2.1*	2.2.2*

Examples:

1.1.1	Overnight stays at spa hotel
1.1.2	Meal delivered by the same hotel to a local hospital
1.2.1	Guided tour organised by the hotel
1.2.2	Facilities rented out by the hotel for local business meetings
2.1.1	"–" (zero, by definition)
2.1.2	Farm producing milk
2.2.1	Guided tour organised by farmer
2.2.2	Wood cut by farmer from own woodland

*Not recorded as part of tourism demand/activity in the TSA.

In the above example, there are two I/O activities (spa hotel and farm) and two characteristic I/O products (accommodation and milk production) that determine the I/O industry in which these activities are classified. The two activities include aspects of output that are not identified at the I/O level. That is, whereas accommodation services (1.1.1) are the primary output of the hotel (otherwise it would not be included in this industry classification), it also produces meals, some of which are sold to the local hospital (1.1.2). While these products are both I/O characteristic output, the meals delivered to the local hospital do not constitute tourism output since the demand does not come from a visitor. On the other hand, the hotel also: *i)* organises guided tours (1.2.1); and *ii)* rents out its facilities for local business meetings (1.2.2), neither of which constitute I/O characteristic output for the accommodation services industry. Renting the meeting facilities for a local business does not count as tourism output as it is not used for tourism purposes. Thus, of the four outputs of the hotel, while two are characteristic of a tourism industry (I/O characteristicity), they do not represent tourism demand (purpose characteristicity).

In the case of the farm, the opposite applies. Farming is not a (characteristic) tourism industry. In the above example, however, in addition to output that is characteristic of agriculture (milk, 2.1.2), the

farm also produces output that is characteristic of tourism (tours organised by the farmer for visitors, 2.2.1), and output that is not characteristic of either tourism or agriculture (wood cutting, 2.2.2).

Cell 2.1.1 is of particular interest because it shows that, within its I/O characteristicity range, a non-tourism industry cannot at the same time produce any tourism commodities.

From the above discussion, it can be seen that when "purpose" is taken as the starting point, the situation is rather more complex than suggested by a straightforward commodity * industry matrix. There would be more possible reference points of additional definition and classification, each pursuing a different aspect of characteristicity. Such systematic exhaustiveness, however, is not necessary in the present context, where the aim is to focus on linking the purposes of tourism demand with the industry and commodity discussion, to allow for coherent analysis. In any case, as shown above, I/O characteristicity and purpose characteristicity cannot be expected to have a strictly defined 1 : 1 (or even 1 : n) relationship to each other and may not, therefore, be used interchangeably.

Within these limits, what determines characteristicity? For a given industry, a simple criterion may be that a supplier producing characteristic tourism commodities (however defined), would either cease to exist in its present form, *i.e.* producing its present product(s), or would be significantly affected, if tourism were to cease (tourism industry). Similarly, and in a related fashion, a commodity has tourism characteristicity if it represents an important part of tourism demand or if a significant proportion of the commodity's sales are to visitors. A further criterion could be that, in the absence of the commodity, tourism demand would be significantly affected, even though the commodity may not represent a very important part of tourism demand.

Characteristicity will be described in more practical terms below in the discussion on the respective matrixes.

Certain industries produce output which is unambiguously destined for tourism. The outputs of cruise ships or travel agents are almost entirely purchased by visitors, while air passenger transport and (short-stay) accommodation services may also be said to be unambiguously of a "tourism" nature. Air passenger transport is generally undertaken by visitors: some travellers will be emigrants, others will be on diplomatic service, or moving to a new place of residence to take up employment but these passengers make up a very small share of total sales. Similarly, some short-term accommodation may be used to house the needy and there is always the possibility that local residents may wish to spend a night (or a weekend) away from home. For the most part, air transport and accommodation services are provided by the air transport and accommodation industries, respectively, so that their classification as "tourism industries" is relatively straightforward, although some output from short-stay accommodation and air passenger transport may be sold to non-visitors (and these industries may also produce non-characteristic – tourism or non-tourism – output).

However, apart from the commodities described above, few others have an *a priori* claim to meet the tourism characteristicity argument in that their sales may not necessarily be of a "tourism" nature. Meals are a case in point.

Overall, visitors' purchases of meals may not account for much more than a quarter of total sales of the commodity "meals". On the other hand, meals are a necessary and important part of tourism demand for overnight visitors (and even for same-day travellers). Therefore, while meals may fail to meet tourism characteristicity on the first criterion (*i.e.* that most of output is supplied to meet tourism demand), they will meet other criteria, either because they represent a substantial part of tourism demand or because the industry would be significantly affected were tourism activity to cease. Similarly, the absence of meals services would have a significant effect on tourism demand. The same

may apply to other commodities where a cessation of tourism would have a significant effect on the industry(ies) providing the commodity. Characteristicity is central to the TSA.

Rail transport poses particular problems as it concerns both passengers and freight. A substantial (in some countries, an overwhelming) proportion of passenger travel is for commuting. Given this fact, separately identifying passenger sales would not suffice. First, many of the inputs into freight transport are the same as for passenger transport (railroad track being the most obvious); secondly, only a (small) proportion of rail passenger travel is by visitors. Separating out this latter element may require the use of assumptions on ratios of use.

Valuation principles

The valuation principles that should be employed are essentially those advocated in SNA93, *i.e.* production should be valued at basic values and use at purchasers' prices. This method ensures that the derivation of value added (output less intermediate consumption) is attributed to the appropriate industry.

Para. 6.205 of the SNA defines basic value as:

> *"The amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, on that unit as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer."*

Para. 6.215 defines purchasers' prices as:

> *"The amount paid by the purchaser, excluding deductible VAT or similar deductible tax, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place."*

Imports are something of a special case. They should be recorded at the equivalent of basic values, *i.e.* they should be placed on a comparable basis with domestic production so that there is an equivalence between the price of an import when it enters the domestic economy and the price of commodities produced in the domestic economy. Accordingly, imports are set at a "basic value equivalence" by including in their price all transport costs to the country's border.

If basic prices cannot be readily determined, producers' prices are a possible (but not very good) substitute. Para. 6.205 of the SNA defines the producer's price as:

> *"The amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any VAT, or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer."*

In deriving basic values, the national accountant is usually required to begin the construction of supply and use tables with data at purchasers' prices. Transport, wholesale and retail margins are removed from the supply data.[6] This calculation derives producers' prices. To derive basic values, commodity taxes are removed. This exercise requires identifying the taxes imposed on an industry's output of different commodities, such as excise taxes on gasoline, tobacco, alcohol, and any other taxes levied on the commodity (such as wholesale or retail taxes). Most of these tax rates are available from legislation. However, there may be exceptions, differing rates may be applied depending on usage, or there may be subsidies. If there are subsidies, these should be added back as they represent part of the return to the producer. All these manipulations are necessary to derive basic values.

Rebatable VAT [or a similar broad-based goods and services (consumption) tax] further complicates the exercise as it is rebated to the seller. In countries with a VAT, an additional calculation will be required to ensure that value added is not reduced by ignoring the rebate (*i.e.* intermediate purchasers are shown net of any VAT rebate). The method of calculating the rebate is an essential feature of the calculation of value added in these countries, and it is suggested that the prevailing practice in a particular country's national accounts should be applied for the TSA.

Recording of VAT on output and on intermediate inputs should be undertaken on a "net", rather than on a "gross", basis. Recording on a gross basis would mean included the VAT in the value of the transaction. However, there are a number of reasons for not adopting this approach (as indicated in para. 6.211 of the SNA). These can best be summarised as: *i)* businesses tend to keep their records in such a fashion that the amounts of VAT paid and payable (and thus rebatable) are kept separately and economic surveys will thus tend to collect information on transactions recorded excluding VAT-type taxes; and *ii)* recording transactions on a gross basis would tend to distort the underlying economic situation as it does not reflect the amounts of taxes actually paid by businesses.

Accordingly, the SNA requires that VAT should be recorded on a net basis. Para. 6.212 of the SNA defines the net basis as:

> *"Outputs of goods and services are valued excluding invoiced VAT: imports are similarly valued excluding invoiced VAT; purchases of goods and services are recorded including non-deductible VAT."*

The result of this treatment is that any transaction which involves a non-deductible VAT will have two prices attached to it: the net price for the seller and the gross price for the purchaser. These differences complicate the derivation of output and value added for certain commodities and/or industries. However, for pricing principles in the TSA to be the same as those used in the national accounts, it is important that the approach taken be the same. This will need to be explored within each country's national accounting practices.

Some analysis is concerned with the amount of taxes less subsidies on production ("indirect taxes") that are generated by tourism. This result can be derived by summing two sub-components*:* *taxes less subsidies on products* and *taxes less subsidies on production: other*.

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6. Since these are produced by the transport, wholesale and retail industries. In the national accounts, a transaction for the acquisition of a good, when valued at basic prices, involves several simultaneous transactions: the value of the good ex-factory (or dockside), the value of the transport margin, the value of the wholesale margin and the value of the retail margin. Part of the reason for choosing this approach is to identify that part of value added that is attributable to these industries, without modifying the data. These margins would be included in the value added of the manufacturer, for example, with the result that these industries would show little, if any, value added.

The first concept, *taxes less subsidies on products*, provides information on taxes [such as room taxes on accommodation services, excise tax on fuel, retail or wholesale taxes (where there is no VAT)] paid by visitors, which are not part of the output of the tourism industries. Such information is valuable for policy purposes. The proportion of these taxes that is attributable to tourism demand may be derived in the same way as the share of compensation of employees and gross operating surplus, *i.e.* by applying the tourism ratio for the commodity for which the industry is primary producer. Where an industry produces more than one tourism commodity, a weighted average of the commodities should be applied, weighted by the share of output of the different products.

To calculate total *taxes less subsidies on products* generated by tourism demand, it is necessary to apportion to each commodity the appropriate tax rate(s). These may vary depending on the industry (or final consumption) in which they are used. This information is usually available for the calculation of the supply and use tables as part of the process of estimating basic prices. Once the proportion of a given commodity's value at purchasers' prices that is attributable to taxes has been derived, the taxes less subsidies that are the result of tourism demand can be derived using the tourism ratio for each commodity.

The second concept, *taxes less subsidies on production: other*, is derived as part of an industry's value added – which can be decomposed into compensation of employees, gross operating surplus and *taxes less subsidies on production: other*. This latter is the amount paid by the industry itself as a result of its productive activity, and includes taxes on land and payroll taxes. The proportion attributable to tourism is generated using the tourism ratio.

By summing the two approaches (*taxes less subsidies on production: other* generated by the industry adjusted for the share attributable to tourism demand plus *taxes less subsidies on products* that form tourism demand), total taxes less subsidies on production resulting from tourism demand can be measured.

Time of recording

As far as time of recording is concerned, the TSA operates on the same basis as SNA93, that is, on an accruals basis, rather than on cash or "due for payment" bases. Therefore, regardless of when or how a transaction is settled, the transaction should be recorded at the time it occurred.

For example, if a visitor stays at an hotel and has the hotel invoice his/her place of employment, the transaction should be recorded at the time the visitor stayed at the hotel. The invoicing is separate and would involve entries in a financial account (as "accounts receivable" on the part of the hotel and as "accounts payable" on the part of the visitor's business). The same is true for pre-paid travel. If a visitor buys an airline ticket for a flight in three weeks, the delivery of the service (the flight) should not be recorded until the visitor has travelled. Until that time, there is an (implicit) account receivable for the visitor and an account payable by the airline.

The effect of the use of accrual accounting has a more noticeable impact where capital is being acquired, although it differs depending on whether the capital is equipment or construction, especially where the capital takes several periods to complete.

For example, if an airline orders an aircraft, it will be several years before it takes delivery. During that time, the airline will be required to make progress payments. In strict national accounting terms, these should be recorded as financial claims/liabilities (trade credit) so that the aircraft is acquired by the airline only when it is completed (and the financial account entries are reversed).

On the other hand, if an hotel operator contracts with a construction company to build an hotel, the correct treatment in SNA93 is that capital formation by the hotel operator should be recorded as the value of work put in place by the construction company during the period, regardless of how long it may be before the building is ready for occupation or when progress payments are made. In this instance, the argument is that the hotel (or other large construction project) changes hands progressively, on the basis that it can be used (at least partially) before it is completed.

However, in most cases, the hotel operator will not know the amount of work put in place and may record on a payments basis (that is, as and when progress payments are made). Wherever possible, the principles noted above should be followed, although it is recognised that this is not always feasible. In that case, the treatment used in the compilation of the country's national accounts should be adopted.

Statistical units

For the *producing unit*, the statistical unit is the establishment as opposed to the enterprise (the legal entity or the proxy of the legal entity that covers financing, acquisition of financial assets and liabilities). The reason for preferring the establishment (or some similar unit) over the enterprise is that the establishment is the statistical unit concerned with production whereas the enterprise has a wider, and less focused, role (including financing activity – which lies outside the scope of the TSA). For many small, single site/location, producing units, the establishment and the enterprise are the same. For these units, there is less likelihood of multi-commodity output so that the specialisation ratio tends to be close to 100%. However, for larger units, or units with more than one location, there is a greater likelihood that there will be either more than one characteristic tourism commodity produced or that non-tourism output will be produced as well as characteristic tourism output. Accordingly, the closer the data are related to a single-site, single-commodity producing unit, the better.

For the *user*, since all tourism outlays are made to meet the needs and wants of the visitor, the first point of observation may be through a household-based survey of resident expenditure. Whatever mechanism is used, however, it would need to indicate which expenditures were made for personal/household use and which for business use (*i.e.* were inputs costs of the business or government?) in order to determine whether the user should be identified as an establishment (for intermediate consumption), a person or a non-profit institution serving households (NPISH). Tourism demand outside the domestic economy should be identified separately as this is not part of domestic production. In the TSA, most of the analysis, and especially the derivation of tourism value added, focuses on the domestic economy – the supply of (tourism) commodities to meet tourism demand. If demand by residents outside their domestic economy were included, this would overstate domestic tourism activity. For non-residents, data on tourism demand needs to be collected through a survey of non-residents as they leave, or after they have left, the country.

The TSA is concerned with tourism demand. Tourism consumption is mainly broken down into: *i)* expenditure by households for leisure, recreation or visiting friends or relations and paid by themselves (or by another household on their behalf); *ii)* expenditure by establishments (via business and government employees travelling on behalf, or for the purposes, of their employers, or unincorporated businesses) and which expenditure is paid for by the employer (or unincorporated businesses); and *iii)* expenditure by non-residents visiting the domestic economy. Under national accounting principles, the first item is included in household final consumption; the second in intermediate consumption (*i.e.* expenses undertaken to produce output included in the production boundary); and the third in exports.

Tourism consumption =	1. Tourism expenditure made by households (included in household final expenditure)	+
	2. Tourism expenditure made by establishments (included in intermediate consumption)	+
	3. Tourism expenditure made by non-residents (included in exports)	

A related issue that is not always recognised as a national accounting principle concerns meals taken by business travellers, that are paid for by their employers. Such meals are not considered as intermediate consumption, but rather as final demand (as an imputation, of equal value, to compensation of employees to raise the business travellers' income from which the meal is deemed to have been paid).

It is important to note that tourism consumption by business travellers in the TSA will cover only tourism expenditure paid by the establishment. If a business traveller spends three days at a business meeting in another town, his transport, accommodation, etc., expenses are paid for by the business. However, going to the theatre in the evening or staying on for an extra day are not expenses paid for by the establishment – rather these are expenses paid for by the traveller on his/her own account and are, therefore, part of household final expenditure. Establishing a distinction between these types of expenditure can be very difficult, however.

Four points should perhaps be re-emphasised. First, business (including government) tourism demand is considered to be part of total tourism demand because tourism is not limited to leisure expenditure by households (or, indeed, to simple total household "tourism" expenditure). At the same time, where a traveller is involved in "shuttle trade" – the purchase of goods in one country for resale in another – the purchases of shuttle goods are not included as tourism demand since they were not incurred to meet the (human) needs of the visitor while travelling. In other words, shuttle trade activity is not part of tourism demand, and if the activity is undertaken on a regular basis the traveller is not considered to be a visitor. In essence, the acquisition of shuttle trade goods represents capital goods (as inventory) which, by definition, are not part of tourism demand. Second, where a household undertakes regular shopping trips across a border, the trip is part of the usual environment and is not considered tourism demand. Only where the cross-border trips are sufficiently rare to be considered as falling outside the "usual environment" should they be included in tourism demand. Third, as far as the derivation of TVA is concerned, it is immaterial whether expenditure is undertaken as part of final demand or as intermediate consumption. However, for analysis of where characteristic tourism output is being used, the information is very important. Fourth, where a household visitor's expenses are met by a host family – be it transport costs or paying for a restaurant meal – these expenses are part of tourism demand and represent an implied transfer to the visiting household which is then deemed to make the expenditure on its own behalf. However, it is recognised that obtaining this information may prove difficult. At the same time, no imputation should be made for tourism accommodation provided without charge (such as visiting friends or family), although any gifts which may be made as (part) compensation for the visit should be included in tourism demand.

Production boundary

The production boundary of the TSA is the same as that for the SNA. This means, *inter alia*, that production of services undertaken in the household for use by that household is excluded. Accordingly, meals prepared in the home for use by visitors are excluded (except for the value of the food), as are the services from most consumer durables (for further discussion, see below). On the

other hand, while the output of owner-occupied housing is included in the production boundary of the national accounts, no imputation is made in the TSA as part of tourism demand (except in the case of *second homes*, see below) since the link between the demand by the visitors and the supply by the host family is insufficiently clear and close.

As the TSA is based on the *domestic* concept, in line with SNA production and the TEA, the locus of production is central. Residence is determined by centre of economic interest and the domestic economy by the geographical borders of the country/region concerned. A non-resident is an entity (person, enterprise, government, non-profit institution, international organisation such as the OECD or the IMF) whose centre of economic activity lies outside these geographical borders.

Intermediate consumption of characteristic tourism industries

Intermediate consumption of characteristic tourism industries requires some explanation. This issue concerns the extent to which an industry consumes its own output. If, for example, an hotel employee, while working on a business project, stays at another hotel owned by the same company in another city, that employee will be a visitor. He/she will also consume the output of the hotel industry. How should this be treated in the TSA? Insofar as the accommodation costs are borne by the hotel, the employee may not even know how much it cost to stay at the hotel. The company will not record any sales of accommodation services but it will incur marginal costs (such as laundry and cleaning costs).

In principle, the transaction should be "grossed up" (*i.e.* the value of the services provided to the employee should be imputed). The reason for this is that, insofar as the TSA seeks to capture the delivery of goods and services to visitors and a "transaction" (albeit an implicit one) has taken place, output and demand should be recorded in the same way as would have been the case had the employee stayed at another company's hotel and paid for his/her accommodation. However, it may not be practical to attempt to measure this from either the demand or the supply sides.

Classifications

The following classification systems are employed in the TSA:

- For commodities, the Central Product Classification (CPC).
- For industries, the International Standard Industrial Classification (ISIC).
- For visitors, the UN/WTO-OMT recommendation on tourism statistics.
- For the institutional sector, the relevant SNA classifications [*i.e.* households, non-financial corporations, financial corporations, general government and non-profit institutions serving households (NPISHs)]. The rest of the world is treated in the same way as in the SNA. The definition of resident (and of non-resident) follows that of the SNA and the balance of payments.

Details of how these classification systems are linked to the tables are provided in Appendix F.

Chapter 3

SOME CONCEPTUAL ISSUES REVISITED

Before describing the structure of the TSA, it is worthwhile reviewing some of the concepts that are the basis of the TEA in the *OECD Manual on Tourism Economic Accounts* and remain at the heart of the TSA.

As noted above, like the TEA, the TSA is based on the national accounts. There are a number of reasons for this: *i)* the national accounts are a fully developed set of economic statistics offering a comprehensive view of the economy; *ii)* the national accounts are widely used and well understood (thus, a TSA based on the national accounts does not have to restate or create a new set of basic concepts); *iii)* an additional benefit is that basing the TSA on the national accounts will help to overcome the credibility problem from which tourism statistics suffer; and *iv)* as a result, tourism's contribution to the economy can be shown on a comparable basis with other "standard" industries so that its role in the economy will be more readily identifiable and recognised.

As is the case with the TEA, the basis of the TSA is domestic economic activity, *i.e.* the foci of measurement are the activities of residents and non-residents that take place within the geographical boundaries of the country (region). The domestic concept allows for both international comparability and additivity; this is important since government policies are mainly targeted at the national economy.

However, the TSA will also measure imports of competing tourism commodities so that comparisons can be made between what a country produces and what it imports. (This is also important for analytical exercises such as impact models as imports represent a leakage from the domestic economy.)

Consumer durables

The treatment of expenditure on consumer durables has provoked considerable debate. If consumer durables were introduced into the TSA, they could be considered as either capital expenditures or consumption goods. If they were counted as capital goods, the production boundary would need to be changed. The production boundary of the national accounts has been set to include transactions that are market based or have a very close proxy to market production. The measure of output in the national accounts is not designed to capture all economic production: among the activities excluded are transactions between members of the same household. Therefore, goods used by households for their own benefit and which are of a "capital nature" (*i.e.* which "live" for more than one year, such as cars, washing machines, etc., but not dwellings) for the delivery of ongoing services are not considered to be "capital". All such purchases by households (as individuals or groups of individuals, *i.e.* excluding any purchases they make as unincorporated businesses) are treated as consumption. If a consumer durable, such as a camera, were treated as a capital purchase, by definition that would mean that as a capital good it would have to have an input to a productive process within

the production boundary on an ongoing basis (*i.e.* for more than one year); that is, a stream of services would be measured as the output from these capital goods.

However, as household production (such as a means of transporting children to a sports event) has been excluded from the production boundary of the national accounts, consumer durables cannot be treated as capital goods within that framework. Accordingly, to treat consumer durables as capital in the TSA would weaken the link with the core national accounts. By so doing, one of the principal benefits of a TSA, *i.e.* the calculation of the proportion of GDP that is attributable to tourism, would be lost. It would not be possible (or meaningful) to say that "tourism expenditures" represented x% of GDP as the numerator would be on a different basis than the denominator. Since generating credibility for tourism is one of the key reasons for developing a TSA, loss of that relationship (to GDP) would be a serious problem. This is not to say that it could not be done: a satellite account can be virtually anything the designer/user wants it to be. However, if one of the goals is to determine a direct relationship with the national accounts, in general, and with GDP, in particular, that goal would be defeated. In essence, to argue that consumer durables should be included because they provide an equivalent service to car rental companies, for example, is to argue for the creation of a notional "ownership of tourism consumer durables" industry as an extension of the present production boundary. Such a change would involve changing the underpinnings of the current structure of the SNA.

If, on the other hand, all consumer durables used in tourism activities were treated as part of tourism consumption, tourism consumption would be overstated. The reason for this is that most consumer durables have multiple uses and for the most part tourism use is relatively small. Neither is it appropriate to apportion consumer durables between tourism use and non-tourism use on a pro-rata basis since it is not known to what extent the tourism dimension of the potential future use of the consumer durable may have influenced the purchase. For example, a camera may be used for both tourism and non-tourism purposes. At time of purchase, it is not possible to identify the marginal cost, if any, that its tourism use would have on the decision to buy it. A consumer durable with multiple uses cannot be "broken" into different parts, each with a different function and a different value. As most consumer durables have multiple uses, and as they are deemed to be used when acquired, they cannot be attributed to tourism consumption unless it can be demonstrated that they have a very strong link to tourism.

Accordingly, two types of expenditures on consumer durables have been included in the TSA. First, all consumer durables acquired while on a trip should be included in tourism demand in the same way that all other purchases of services and goods, such as food or clothing, are considered part of tourism expenditures undertaken while on the trip. Second, for single purpose tourism consumer durables, *i.e.* those with a very high tourism usage, such as luggage, their inclusion in the TSA is appropriate, regardless of when they are acquired since their use will be solely, or overwhelmingly, for tourism purposes. The value of all the goods to be included is the sum of the retail, wholesale and transport margins and the basic value of the good. Appendix E lists single-purpose consumer durables whose purchase is considered part of tourism expenditure.

Second homes

The issue of second homes, and the rent, either imputed or paid, on them is an important element in the provision of accommodation services in some countries. Second homes are not the primary residence and may be used for tourism purposes only (or partly) by the owner and can be made available to third parties for holidays, leisure and business activities. They should be regarded as residential structures that households own in a different environment from that of their primary

residence and that are used as a retreat of some sort from their primary residence. For purposes of the TSA, in order to be included in the tourism category, second homes must be considered to be outside the "usual environment" and to be used for tourism purposes. Drawing such a distinction may be difficult and the decision will be made, at least in part, according to the frequency with which the second home is (intended to be) used. Second homes may include a country cottage used as a summer weekend escape; a ski chalet used during (some) winter weekends; or a beach hut used during the summer or the children's vacation; or some similar purpose and location. Second homes which serve as a business location or as a place to stay while at another business location should not be included as they are not outside the "usual environment". See Appendix G.

Also included among second homes are *time-share units*. These are usually units in a tourism location which are owned by many different parties in common. Each party is assigned time for use during the year (a one-, two-week spot, etc.). Time-share units may be exchanged with other owners or rented to third parties. Each party bears a share of the cost of the operation of the unit, proportional to the amount of investment in the acquisition of the property (or time allowed for use, perhaps weighted by the popularity of the season where the units are to be used), as well as a proportional share of any income. For purposes of the TSA, time-share units should be considered as "second homes", providing that the same criteria are met as for other types of second home (*i.e.* outside the "usual environment" and used for tourism purposes).

The acquisition of second homes should be regarded as part of tourism gross fixed capital investment of the industry "ownership of homes". While the purchase should not be treated as tourism demand, any imputed rent (or in the case of rents paid by third parties, the actual cash rent) from such homes should be regarded as part of tourism demand.

This imputation of rent on second homes and time-share units follows the national accounts' treatment of imputation of rent on owner-occupied residences. This is because the national accounts seek to measure not only purely "market" transactions but also "quasi-market" transactions where failure to measure such transactions could cause a distortion in the national accounts over time. For example, where an owner-occupier moves to another city (say, on a three-year contract) and stays with relatives, she/he may rent her/his house/apartment while away. During that period, the residence would continue to provide the same services to the tenant as to the owner. If only monetary rents were recorded in the national accounts, there would appear to be an increase in economic activity when none had in fact occurred as there would now be a rental payment by the tenant to the owner whereas previously the owner would not have paid himself/herself anything. To avoid this situation, the national accounts impute a rent to owners in respect of the houses they occupy under the "invariant rule", namely, that measures of economic activity are invariant to changes in non-economic occurrences. Insofar as the TSA seeks to use national accounts' concepts to the extent possible, it is appropriate to adopt the same approach.

In cases where a second home which meets the above criteria for classification to tourism, is owned by a non-resident, the TSA follows the same rules as SNA93 and the *Balance of Payments* 5th Edition. That is, if the non-resident is a person or unincorporated business, the non-resident is deemed to have invested indirectly in that second home through a notional company. This because all physical capital is treated as part of the *domestic* economy and all production (*i.e.* payment of rents and any running costs) associated with that physical capital is produced domestically and is, therefore, part of Gross *Domestic* Product. Any income (or loss) generated by the second home would be measured in the "income account" of the balance of payments (*i.e.* the account that measures flows of property income, not the production of goods and services) and as part of the Distribution of Income Account in the national accounts. By the same token, any acquisition of a tourism second home by a non-resident person or unincorporated business would be recorded in a similar fashion, *i.e.* through the

notional company, so that the acquisition would be considered to have occurred in the domestic economy (*i.e.* where the second home is located). The financing would be recorded in the financial account – but this lies outside the scope of the TSA.

An alternative view on the treatment of second homes and whether they should be included in a TSA is that the TSA should focus solely on market (*i.e.* monetary) transactions related to the delivery of a service (or good) to the visitor. Inasmuch as the service flow from a second home to its owner lies outside the market (in that there is no actual transaction), and inasmuch as the purpose of the TSA is to measure market transactions to assist in policy making, then any imputation may be inappropriate. However, in most cases, the construction and/or acquisition of a second home involves a market transaction. If the acquisition of a second home is considered to be a market-based capital transaction, then it follows that the service should also be treated as part of tourism output to meet tourism demand. Accordingly, it seems inappropriate to omit imputed rent. On the other hand, if countries, for their own purposes, wish to exclude imputed rent, the information is provided separately in the tables and can be removed if so desired.

Capital acquisition related to tourism

From the foregoing, it should be clear that gross fixed capital formation of tourism industries does not constitute tourism demand. There is no direct relationship between the visitor and the acquisition of capital by the tourism industries: the visitor will use the stream of services provided by such capital but the acquisition of the capital is undertaken by the industry. Thus, for example, an aircraft is bought by an airline, a visitor then buys a ticket from the airline to fly from A to B, thereby purchasing *transport services*. Although the airline cannot provide the service to the passenger without the aircraft, it is not the passenger/visitor who buys the aircraft from the manufacturer. As a consequence, gross fixed capital formation by tourism industries is a very important variable (as is the capital stock), but has only an *indirect impact* on the measure of tourism demand and TVA, for example.

While the importance of capital acquisition is recognised in the OECD's TSA, two particular difficulties arise in deciding what should be included.

The first issue concerns what should be counted as part of the characteristic tourism industry's capital acquisition. For some industries, this may be straightforward. For an industry such as air transport, if all, or nearly all, of output is acquired by visitors, then it may be reasonable to include all the industry's capital acquisition in the TSA. However, as noted above, such an assumption may not be legitimate for all industries for at least two reasons.

First, as already noted, not all industries are characterised by a single commodity output. Airlines may carry freight as well as passengers; hotels may provide meals and/or rent space for retail outlets in addition to providing accommodation; rail services not only carry both freight and passengers, many of those passengers may be commuters (*i.e.* non-visitors). It could be argued that the tourism ratio could be to an industry's capital acquisition, but that would assume that there is the same capital input to meet tourism demand as for all other inputs. In fact, capital inputs will vary across the range of outputs for the industry. In some instances, this may be a legitimate assumption, in others less so. It can perhaps be reasonably argued that the higher the tourism "specialisation ratio" (the ratio of the primary tourism output of the industry to its total output), the better the assumption. However, for industries that use the same capital (capital in common) for different purposes (such as rail transport), this poses considerable difficulties. The marginal cost of capital in meeting tourism demand may be close to zero in an industry which uses capital in common for a variety of purposes and any tourism

element may be small. The use of the tourism ratio to measure investment related to tourism is not recommended at this stage in view of our limited understanding of the role of capital in certain industries in the delivery of services to visitors. Should users wish to use the tourism ratio, they are warned that any derivation of a "tourism" capital acquisition should be treated with caution unless the industry has a very high specialisation ratio.

The second issue relating to the measurement of capital acquisition concerns suppliers of services to industries that supply services (and goods) to visitors. Thus, for example, the construction of an airport is not usually undertaken by an airline. However, in the absence of such capital, aircraft cannot fly. By the same argument, bus companies could not provide passenger transport services without roads, shipping companies without docking facilities, and, in some countries, where the track is not owned by the rail operators, rail companies could not provide rail passenger transport.

Since it is proposed that airports (especially terminal buildings) built by airlines and rail track and seaports built by rail operators and shipping companies should be treated as tourism gross fixed capital formation in the TSA, it may be appropriate that the same investments when undertaken by other bodies (be they government or private companies) should also be treated as tourism gross fixed capital formation. This logic holds for the construction of airports and long-distance bus transport (which are often constructed by bodies that are not airlines or long-distance bus operators and who do not, therefore, provide a service directly to visitors): the capital so employed has (ultimately) a very high tourism usage. On the other hand, because roads are not built by bus companies, and because roads, seaports and rail track are used much more frequently for non-tourism than for tourism purposes, these should be excluded from the measure of tourism gross fixed capital formation where the investment is not undertaken by a characteristic tourism industry. The principle here is that where capital investment is undertaken by a unit which does not have a direct relationship with the visitor in the provision of the tourism commodity, such investment should be considered tourism investment only where there is a very high proportion of use of that capital by characteristic tourism industries.

It is proposed that all capital acquisition by characteristic tourism industries be included in the TSA, *i.e.* not only gross fixed capital formation, but also other, non-produced capital, such as land.

The reasons for this are:

- It is the total capital base that is important for measuring the return to characteristic tourism industries' capital stock.

- It is important to identify what tourism industries are acquiring in terms of capital in order to better understand present and future capital needs. Knowledge of capital acquisition may serve as an indicator of the strength or weakness of the industry, providing signs of entry or exits from industries. For example, robust capital acquisition indicates optimism on the part of the entrepreneurs and shows that the capital is new and attractive to visitors.

- The capital base is often used by governments as the basis for assessing (local) taxes.

Gross fixed capital formation covers produced capital – that is, tangible and intangible commodities that come into existence through economic activity and are used in the productive process for more than one year. This will cover not only buildings, runways, aircraft, locomotives, ships, computers, but also intangible produced assets, of which computer software is the most important for tourism.

The value of most tangible fixed capital is reasonably easy to estimate as it is based on an observable market transaction (except in the case of own-account capital). In those instances where an entity undertakes own-account capital tangible formation, however, most national accounts have developed frameworks for developing estimates – either based on inputs of labour and materials, or some market proxy. However, as with most aspects of tourism estimates, estimation may require a fairly detailed and disaggregated industry sample.

Intangible capital formation, and computer software in particular, is less easy to value since software is not always a separate, discrete purchase – it is often included in the purchase price with the hardware. Again, software may be developed in house and so will not have a ready market value. While this latter problem is true for all own-account capital, software is possibly more problematic as companies may not be capitalising the costs in their own books. In fact, it is quite common for companies not to capitalise computer software directly – it will either be expensed if acquired separately from the hardware or capitalised with the hardware and so given the same asset age as the hardware (which usually has a much longer life). Nonetheless, the inclusion of software (and other intangible produced assets) is in line with SNA93 and, to the extent that countries are able to develop estimates for the main national accounts, they may already have information that may assist in the construction of estimates for the TSA.

Other intangible capital that may be relevant to tourism includes artistic originals – these may be acquired by libraries, museums and galleries. This is a new aspect of SNA93 and many countries may not yet have adequate mechanisms in place to capture these data, especially for the value of the stock outstanding. In many countries, fine art, sculptures and similar items may be considered as priceless or as impossible to value.

It could be argued that "valuables" should be included in the TSA. "Valuables" are tangible assets acquired as a store of wealth, they do not play any role in the production process. They are not included in the TSA since they are not considered to be of any significance for tourism industries. Fine art collections in museums and galleries are not included as "valuables" as they are not acquired for the purpose of maintaining their value (which they may or may not do), but as a representation of a country's or collector's appreciation of artistic endeavour. They are part of the productive process and, if measurable, should be included in artistic originals (although most acquisitions are not from current production, they do represent a use of funds as they will be acquired from others in the domestic economy or from non-residents as imports).

In addition to produced capital, it is proposed that the TSA include as capital – as part of the overall structure – non-produced tangible capital, such as land, and non-produced intangible assets, such as landing rights which are used in the productive process for more than a year. The inclusion of these items poses several compilation problems (although both are part of the national accounts' capital account for institutional sectors). However, it is recognised that obtaining estimates for these aspects of capital acquisition is difficult, and it is suggested that their development be undertaken at a later stage of the development of the account. As noted above, land is important for the levying of local taxes in many countries and is a significant aspect of tourism, especially for hotels and resorts. It is also important for the construction of major projects such as airports. Non-produced intangible assets, of which landing rights is perhaps the most important, but which also include such assets as franchises and taxi licence plates, represent a substantial source of revenue for governments and other entities.

Understanding the total inputs in an industry is as important as understanding the outputs. Consequently, to obtain as complete a picture as possible of characteristic tourism industries, all aspects of capital should be included.

Tourism bureaux and non-market production

Tourism bureaux and non-market production pose particular problems in the measurement of tourism demand. For the most part, tourism bureaux and non-market production offer their output at no charge or at less than economically significant prices. The kinds of service referred to here include information offices (*e.g.* at airports, in local communities) and museums and libraries. Tourism promotion bureaux that market a particular area or country fall into a somewhat different category and are discussed below.

Non-market production that may be used substantially by visitors is particularly difficult to classify. Such services as museums and galleries may be provided free of charge or at subsidised prices. In national accounting practice, non-market production is valued at the cost of inputs (compensation of employees, office rental, stationery, printing, advertising, etc.) and is deemed to be purchased by the producer (*e.g.* the government). Accordingly, it may be appropriate to use a new concept in SNA93, *i.e.* "individual" (as opposed to "collective") consumption of governments and non-profit institutions serving households (NPISHs). This concept represents an attempt to overcome institutional differences between countries, where, for example, health services may be provided by the state in some countries or provided (in whole or in part) by private insurance, in others. The primary areas in which this distinction has been drawn are health and education, which are deemed to be "individual" consumption (*i.e.* expenditure by governments with the direct benefits flowing to individuals), vs. "collective" consumption (such as defence or public administration) where no clear-cut direct benefit flows directly to the individual [in many respects, the discussion is between the provision of public and private "goods" (and services) by general government and NPISHs].

As far as tourism is concerned, treating such non-market services as museums and galleries as "individual" consumption may allow the direct link between producer and visitor to be established. Using this mechanism, an imputation shows households receiving (and paying for, via government support) the services that result. By treating the transactions in this way, the TSA maintains the direct link between visitor and provider of the service even if no charge has been made. Nonetheless, there is still a considerable data issue in determining how much of the services of museums, for example, are acquired by visitors vs. by users in their usual environment. It may be necessary to collect data on the numbers of visitors who visit these facilities, to add this information to a separate supply-side collection of data from the producers as to their costs, and then to pro-rate the amounts that are (indirectly) part of tourism demand. See Appendix C.

With regard to *tourism promotion bureaux*, their output is not acquired by visitors, or at least not directly. To the extent that advertising, for example, has an effect on behaviour, it could be said that promotional advertising affects travellers. The output of promotional agencies is acquired by the parties that pay for the promotion (*e.g.* a government or an hotel association) in the same way as advertising is normally regarded as being acquired by the party paying for it. The output of tourism promotion bureaux, therefore, does not constitute tourism demand and does not contribute to TVA, but the expenditures are part of "tourism's economic impact in the economy" and thus information is requested as a memorandum item in the tables.

Land

Purchases of land can represent a substantial part of tourism capital outlays (for example, as the land under an hotel or second home). However, land is not created in the process of production and so it cannot be considered to be gross fixed capital *formation*. Nonetheless, land is an asset and it is important that purchase of land, and the holding of land, be included in a TSA. For example, returns to

capital should include returns to all capital, including land. Similarly, taxes are frequently levied on land as a separate element of capital and for analytical purposes it is useful to identify tax ratios. Accordingly, land is shown separately in the table on the acquisition of capital and in the capital stock table. However, it is recognised that obtaining data on land (or separating the value of the land from the value of the structure which may stand on it) is very difficult and it may be some time before estimates are available.

Frequent flyer programmes

Frequent flyer programmes have become widespread. Under a frequent flyer programme, a traveller accumulates points based on the number of flights he/she takes with a particular airline (the programme functions as a mechanism to encourage passenger loyalty). Once a sufficient number of points have been accumulated, the traveller can use them to book free flights (depending on the number of accumulated points and the distance to destination). In a TSA, no adjustment is made for these "free" flights since, in principle, they have already been paid for [during the accumulation of the (paid) flights]. Accordingly, it would be double-counting to impute any "sale". It should be noted that "frequent flyer" points can be accumulated by other means than flying (*e.g.* from car rental, hotel accommodation) and can be used for other purposes than flying. However, whatever the source or use, no imputation is required.

Package tours

An area of particular concern for the derivation of TVA concerns package tours. This issue was discussed at some length in the *OECD Manual on Tourism Economic Accounts* but, in view of the importance of package tours for tourism, the issue is re-visited here.

Package tours may be seen as the quintessential tourism product as they may be the only product that is unequivocally sold to visitors. They may be sold either through an agent or by a tour organiser. In the first instance, the agent is not at risk and so is not a principal. Consequently, the treatment of the agent's output is the same as for any other retailer: the margin. For the organiser, the situation is very different. The organiser acts as principal in bringing together the various components of the package (transport, accommodation, meals, sightseeing, etc.), and is at risk if there is insufficient demand for the package. Either way, however, the purchaser of the package (the visitor) has no idea of the costs of the individual elements of the package.

The "gross" treatment preferred in the TEA treats all the purchases by the organiser as intermediate consumption, and the output as a single commodity, "package tours", acquired by the final user.

The alternative "net" treatment of the TEA records the organiser's margins as the sole output – arranging the tour – and treats the components of the tour as having been purchased directly by the visitor.

The gross treatment has two major implications. First, it may be taken to violate the basic principle of the use of basic values if the organiser is viewed as not changing the nature of the products that constitute the package. The seat on the aircraft, the room in the hotel, etc., would be the same regardless of whether they were part of a package or acquired directly by the visitor. In that sense, the organiser is no different from any other "middle man" in that the output of the facilitator is not the gross sale but merely the margin that the intermediary charges between the cost of the

services/goods purchased and the revenue earned from the sale. In some respects, the role of the organiser of a package tour is somewhat similar to that of a "wholesaler" of services, as compared with a wholesaler of goods. In national accounting, the output of wholesalers (and retailers) is deemed to be only the margin, not the total sale of the commodities sold, because these producers are not deemed to transform the products in any way. The good that leaves the factory is, to all intents and purposes, the same as that which is sold to the final user. Essentially, the role of the wholesaler and retailer is to save the purchaser the time that would be involved in visiting all the different factories and all the different products. The good remains unchanged. This argument could be said to largely apply to a package tour organiser: the services provided by the hotel, airline, etc., are not altered in any way by the tour organiser.

On the other hand, it could be argued that there is a difference between standard wholesaling and the purchase of a package tour. In the case of a purchase of a good from a standard wholesaler, the purchaser is buying separate goods, *i.e.* he acquires chairs, tables, carpets, etc., as individual commodities, clearly distinct and discrete and is aware of the cost of each separate component. In the case of a package tour, by its very nature, the purchaser acquires the whole, rather than the individual parts, raising the issue of whether package tours are a *sui generis*, *i.e.* whether the underlying commodities have been transformed into a new product, or whether the component parts of the package remain essentially just that, separate commodities, and the "packaging" of the tour is only the service of assembling them into one commodity for the convenience of the purchaser (in much the same way as a retailer or wholesaler of goods). The TSA adopts the approach that the relationship between the visitor and the airline, for example, is essentially the same whether the visitor is travelling as part of a package tour or whether the visitor is using the airline services separately. This issue was discussed above in more general terms on the nature of the physical and economic relationships inherent in a "tourism relationship" between supplier and user.

The second implication of the use of the "gross" approach is that the TVA of the air passenger transport industry or the hotel or restaurant industries, for example, would be commensurately smaller because some of their output would be purchased by organisers (non-visitors) and thus would not represent a direct "tourism" relationship with the visitor. An example may help to illustrate the point.

An organiser assembles a package which covers air fare, hotel and meals. The air fare costs the organiser 500, the hotel 300 and the meals 200, for a total of 1 000 which is sold to the visitor for 1 200. This would mean that the organiser has a value added of 200 (1 200 – 1 000). Under the "gross" approach, total TVA for this activity is 200 (the organiser's margin). In this example, there would be no TVA for the airline, the hotel operator or the restaurateur as their output is not sold directly to the visitor but to the organiser. Therefore, their transactions cannot be counted as tourism demand.

However, under a "net" approach, the 200 would be considered TVA as would the value added for the airline on the sale of the ticket in the same way as if there were no organiser; the same would apply to the hotel and the restaurateur.

Assume that the airline's intermediate costs for the ticket are 350, then its TVA would be 150 (500 – 350) from the sale of the ticket. For the hotel operator, assume the intermediate costs are 200 for the provision of the accommodation services for this visitor. Its TVA in this instance would be 100 (300 – 200). Similarly, for the restaurateur. Assume its intermediate costs are 120. In this case, its TVA would 80 (200 – 120). The total TVA using the "net" approach would be 200 (the organiser's margin) plus 150 (the airline's value added) plus 100 (the hotel's value added) plus 80 (the restaurateur's value added) for a total of 530.

However, while in principle, it is considered appropriate that the TSA adopt the net approach, it is recognised that this may not be possible in cases where there are insufficient data to record output in this manner. In that case, the gross approach may be used (where that is the method employed in Member countries' national accounts). This means that the inputs for tour organisers will need to be grossed up to cover all the costs of accommodation, transportation, etc., and output will record all sales, not just those at the margin. This modification is reflected in Tables 1A, 2A, 3A, 4A and 6A (and Tables 9A, 10A, 11A and 12A), where the "organiser's margin" has been changed to record gross sales of tour organisers or to record "package tours" as a separate commodity. The use of the gross approach will affect the results unless the organisers' purchases of characteristic tourism commodities are "looked through" (which means that the tourism purchases of organisers are deemed to be purchased by the visitors as well as by the organisers).

Unless tour organisers are "looked through", all the purchases of the package's components are excluded from tourism demand as they constitute inputs for the organisers. As noted above, the net effect will be to reduce TVA. If, however, tour organisers are "looked through", characteristic tourism commodities that are acquired by the organisers will also be recorded as having been purchased directly by visitors and hence will contribute to TVA. In that case, the TVA would be the same using either the gross or the net approach. Interpretation of the results should be undertaken with care in order to make it clear that the value added of the suppliers (*e.g.* the airlines) resulting from the supply of the characteristic tourism commodity to the organiser had been passed through to the visitor, rather than having been merely an input to the non-visitor (*i.e.* the organiser). Even so, the use of the gross approach poses problems within the TSA as it is important to identify purchases by the organisers in order to allocate the output of the supplying industries (for example, for meal services) where not all of the output is for tourism demand. While total purchases by organisers will allow the generation of TVA for organisers, it will not allow for an adequate calculation of the TVA for industries supplying the organisers as there will be insufficient information to identify how much of their output has been sold to visitors and/or organisers and how much to non-visitors. Nonetheless, identifying the component costs is a significant measurement challenge. Possible ways in which this may be achieved are: *i)* to survey tour organisers; and *ii)* to obtain comparable information on items such as origin, destination, number of travellers in party, length of stay, components (transport, accommodation meals, etc.), and compare these data with those for travellers having similar characteristics who visited the same destination for a similar duration, etc., but who did not use a package tour, and pro-rate these costs to the costs of the package tour. Such a calculation would require a rich data source, a relational database and good software packages.

In summary, it is the recommendation of the TSA that the "net" approach be adopted, wherever possible. However, where countries are unable to provide data for the "net" approach, or wish to use the "gross" approach for their own analysis, they may do so.

Chapter 4

EMPLOYMENT

Information on employment is of considerable importance to analysis of any industry, but it may be of particular importance in the case of tourism. Data on tourism employment is necessary for government and industry analysis in order to understand the nature of the underlying dynamics (type of employee, age, sex, education, occupation, etc.). Some tourism industries serve as the entry point to the labour market for workers from overseas (with limited language skills in the country of employment), for the unemployed (re-)entering the workforce, and also, increasingly, for those seeking employment while attending an educational institution or having just graduated from one. Tourism offers a wide variety of types of occupation, from low-skilled, low-value-added to very highly skilled, very high-value-added. Governments and industry alike have an interest in ensuring that tourism offer more than a few high-skilled, well-paid secure jobs and a myriad of low-skilled, low-paid jobs with rapid turnover.

A key additional point related to tourism employment is that it is even more difficult to measure than is the case for many other industries. The reason for this is that tourism employment (at least for the low-skilled, low-value-added workers) is often characterised by one or more of the following factors: seasonality; part-time and/or unsocial hours; low-paid (or unpaid) family labour; illegal labour – where measurement is notoriously harder. Many areas of tourism have high labour turnover which is costly to both the industry and users of the output since the service provided is often of a lower quality as a result of the above factors. Employment in tourism industries involves a disproportionately high degree of owner/proprietors (especially for the hotel, restaurant, cafe and other tourism industries with low barriers of entry) as well as own-account workers, *i.e.* those who work on a contractual basis for a specified time but where there is no formal employee/employer relationship. Information on these entities (often simply an individual operating implicitly, if not explicitly, as an unincorporated business) is frequently hard 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".

Related to this is a further problem – which is not unique to tourism but may be growing in importance for the industry. This concerns the role of employment agencies in providing labour, especially on a short-term basis. Employment agencies provide employers with labour but the employer/employee relationship is between the employee and the agency, rather than between the employee and the industry where the employee works. This poses two particular problems: on the one hand, if these employees are considered to be employed in the *business services industry* (the industry to which employment agencies are classified), the value added they produce is attributed to that industry, rather than to the (tourism) industry where they actually work. The industry using the labour does not pay the worker directly. It pays the agency, thereby recording the expense as part of its intermediate costs for the service the agency provides. This lowers the (tourism) industry's value added by raising its intermediate consumption; the value added is attributed to business services as that industry has the employer/employee relationship and pays the wages, salaries and other aspects of compensation of employees. In such circumstances, it may be legitimate, depending on the purpose of the analysis, to reassign the labour to the (tourism) industry.

The second problem raised by employment agencies is that many of those employed by these industries do not consider themselves to be working in the business services industry – that is, for the employment agency – but rather for the industry where they spend their day, in this case the tourism industry. As many employment data are drawn from household surveys, this information will be in conflict with any employer- or establishment-based survey.

Given the various aspects of the labour market which are necessary for a full analysis, the TSA cannot encompass all the different needs in the main tables. An employment module (see Part II) may prove to be a valuable mechanism for providing this information through a linking table, as shown in Table 5. This table provides the monetary variables so that links can be made to the physical, and socio-economic elements essential for an analysis of employment [mean and/or median and standard deviation of: age, sex, education, length of employment, country of origin, language, occupation (cross-classified by income, salary, other compensation of employees borne by the employer, and other income (*e.g.* tips) not borne by the employer]. These elements are too extensive to be included in the TSA. For the TSA, which is essentially an economic framework, the information is designed to tie in with the economic variables presented in the other tables. Accordingly, "jobs" and "salary", for example, are not part of the national accounting framework, important as that information may be for other purposes. Similarly, while occupation is clearly important when assessing compensation of employees, and any link to other variables such as education, age, sex, turnover, this information needs to be pursued through an employment module. Otherwise, the central core of the TSA will become excessively focused on employment.

The employment variables used in the TSA relate to the value-added concept from Tables 1, 2 and 3 so that, for example, average compensation of employment is derivable by industry, making such information more readily comparable with other industries in the national accounts' framework. Accordingly, a "volume" measure (hours of employment) gives a better indication of how much labour was required to produce a given amount of output than do "jobs". Take the example of five part-time jobs occupied by five different employees, none of whom works for more than eight hours a week for more than four months of the year. Deriving an average compensation of employment by dividing the total by the numbers employed or the number of jobs would provide a very distorted picture of the true return to labour when compared with other industries characterised by full-time employment. Taking hours worked and compensation per hour worked allows for better analysis and cross-industry comparisons which may well indicate that, when allowance is made for such factors as experience and age, tourism's reputation as a low-paid activity may not be fully justified.

Similarly, "salaries" is not used in the national accounts as it does not provide a proper measure of the full extent to which labour is compensated. Some industries may have low salaries but substantial amounts of "other income", such as tips. In others, non-salary benefits (health cover, pension entitlements, access to free or cheap travel) may be very different from those offered elsewhere.

In much labour market analysis, the information is obtained on an "at a point in time" basis. That is, data on employment for a given day or for a given reference week may be obtained on a quarterly or annual basis In other instances, such data may be available from population censuses (which are usually carried out only every five years or even less frequently). Census data may provide the most detailed information, but there are major problems with this source for the TSA or for tourism labour market analysis, more generally. In particular, census data suffer from two main problems: *i)* they do not adequately capture employment in seasonal industries; and *ii)* in most household surveys, the industry (and even the occupation) identified by the respondent may not be classified in the same category as that used by the statistical agency.

For the TSA, inputs should be dealt with on an ongoing basis, in the same way as for capital and other inputs, in order to obtain a production function. As such information is not usually readily available, aggregating sub-annual information for the annual TSA is often the only means of deriving the required information. The more frequent the sub-annual information, the better the annual estimates. However, as the TSA is designed to handle annual information, seasonal influences will tend to be masked. Similarly, as the TSA is designed for national data, regional information will not be easily available, although it may be possible to derive regional data, using certain assumptions and depending on what is available from other data sources.

A tourism labour module (see Part II: Employment Module) has been designed to provide answers to some of the questions on labour profiles that cannot be solved with the TSA. As indicated above, the two frameworks are linked: Table 12 in the labour module links with Table 5 in the TSA. These tables provide much the same information: Table 5 of the TSA presents data on number of employees, other employment, total employment, total hours and the tourism ratio (other ratios can also be used, depending on analytical preferences) for each of the characteristic tourism industries and for some other industries without which tourism total activity would be affected. The intention is to derive an indication of the extent to which tourism expenditures generate employment. Table 12 of the employment module has essentially the same industry dimension and presents information on the number of jobs (disaggregated between self-employed and employees), the number of hours worked and full-time equivalents (both with the same breakdown) and total compensation of employees. The variable "compensation of employees" is available from Table 1 of the TSA.

The labour module provides information on:

- Total numbers employed, including the number of self-employed and the number of people holding a second job ("moonlighting").
- Total number of employees per quarter (an indication of seasonality).
- Change in the number of people employed over a given period.
- Number of establishments, by size class.
- Number of births and deaths of establishments, by size class.
- Labour market by sex, education and age profile, national origin, seniority, full-time/part-time, average working hours per week, total hours worked per year, average hourly wages without overtime (by sex). Additional information is sought on job tenure, irregular working hours, sex profile against working scheme (employees only, by size of enterprise).

In light of the substantial volume of information required and its importance, it is clear that the labour module needs to be considered in a companion framework and as a separate exercise from the TSA. The focus of the latter is broader than that of the labour module, but not as deep.

Chapter 5

THE TABLES OF THE TSA

The TSA comprises fourteen tables:

Table 1	Production Account of Characteristic Tourism Industries, net basis (current prices).
Table 2	Tourism Supply and Demand, by Type of Commodity and Type of Visitor, net basis, at purchasers' prices (current prices).
Table 3	Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, net basis (current prices).
Table 4	Tourism Value Added of Characteristic Tourism and Other Industries, net basis (current prices).
Table 5	Tourism Employment of Characteristic Tourism and Other Industries.
Table 6	Visitor Characteristics, Same-day Visitors and Tourists, net basis.
Table 7	Characteristic Tourism Industries' Gross Capital Acquisition (current prices).
Table 8	Characteristic Tourism Industries' Gross Capital Stock (current prices).
Table 9	Production Account of Characteristic Tourism Industries, net basis (prices of previous period).
Table 10	Tourism Supply and Demand, by Type of Commodity and Type of Visitor, net basis, at purchasers' prices (prices of previous period).
Table 11	Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, net basis (prices of previous period).
Table 12	Tourism Value Added of Characteristic Industries and Other Industries, net basis (prices of previous period).
Table 13	Characteristic Tourism Industries Gross Fixed Capital Acquisition (prices of previous period).
Table 14	Characteristic Tourism Industries' Gross Capital Stock (prices of previous period).

Note: As Tables 1, 2, 3, 4, 6, 9, 10, 11 and 12 are based on the net approach to the treatment of package tours, countries seeking to report on a gross basis should complete the following tables:

Table 1A Production Account of Characteristic Tourism Industries, gross basis (current prices).

Table 2A Tourism Supply and Demand, by Type of Commodity and Type of Visitor, gross basis, at purchasers' prices (current prices).

Table 3A Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, gross basis (current prices).

Table 4A Tourism Value Added of Characteristic Tourism Industries, gross basis (current prices).

Table 6A Visitor Characteristics, Same-day Visitors and Tourists, gross basis.

Table 9A Production Account of Characteristic Tourism Industries, gross basis (prices of previous period).

Table 10A Tourism Supply and Demand, by Type of Commodity and Type of Visitor, gross basis, at purchasers' prices (prices of previous period).

Table 11A Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, gross basis (prices of previous period).

Table 12A Tourism Value Added of Characteristic Industries and other Industries, gross basis (prices of previous period).

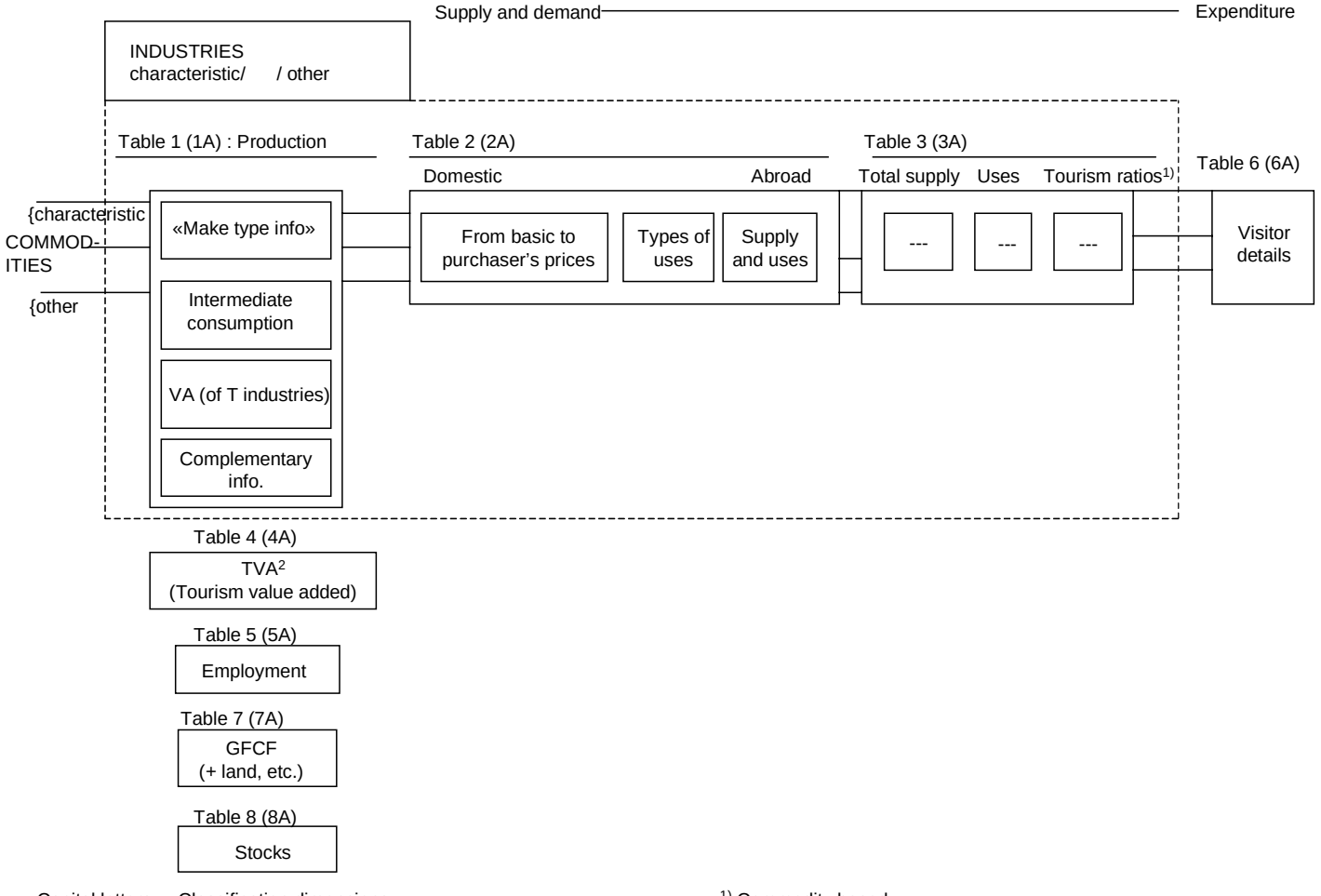
The tables used in the TSA are interrelated, as shown in the following schematic diagram. These interrelationships are explained in more detail below. The diagram shows how Table 1 is the basic building block from which all the other tables flow, providing the production account data, industry by commodity. Table 1 links with Table 2 which provides data on the essential, distinguishing feature of tourism, demand. From these two tables, the relationship between tourism demand and supply of commodities is transposed into industry of supply. Table 4 presents the derivation of tourism value added (TVA) by industry, while Table 5 provides the employment dimension, by industry, which links to the compensation of employees attributable to tourism demand. Tables 7 and 8 provide the acquisition and stock of tourism industries' non-financial capital. Table 6 is not shown in the diagram as it provides characteristics of visitors and thus differs from the economic information provided in the other tables.

However, it must be stressed that countries will be asked to complete these tables in a staged introduction, over a number of years.

These tables are based largely on the TEA, but have been expanded and modified to address some of the issues (raised in the earlier discussion) which the TEA cannot adequately address. The tables are inter-related so that information can (and does) feed from one to another, thus allowing the role of tourism in economic activity and employment to be readily identified.

To understand these interconnections, each of the tables is described with an indication of how they can be used both individually and together. It should be noted that, in line with the TEA, the commodities are defined according to CPC, with the industries classified according to ISIC.

Structure of the TSA



Capital letters: Classification dimensions
Table n: net version } for statistical purposes
Table (nA): gross version } of package tour operators

1) Commodity based
2) Combination of Table 1 totals and Table 3 ratios
Tables 1-4, 7 and 8 have a constant price equivalent (*i.e.* Tables 9-14)

Description of the tables

Table 1. Production Account of Characteristic Tourism Industries, net basis (current prices) provides one of the basic building blocks for the identification of characteristic tourism industries as well as some important related industries. The industries identified as "characteristic" may not cover all the industries in a given country. In other instances, there may be more industries than those proposed. The list of the industries which are relevant for tourism in a particular economy depends on the nature of tourism demand (see Table 2). The reason for this is that, because tourism is a demand-based concept, the supplying industries are not pre-determined but rather are the consequence of that demand once the (tourism) commodities have been identified – so that the industries producing those commodities can be identified and surveyed.

Table 1 of the TSA is drawn from the standard supply and use tables used in the compilation of the national accounts (as a precursor to the creation of input-output tables). In comparison, although Table 1 of the TEA is *characteristic tourism commodity-based* and shows the link between supply and (tourism) demand, it is not a production account as it does not show the industry dimension nor the commodity inputs required to produce the output. (These latter are shown only in aggregate in Table 1 but they could be disaggregated, depending on the needs of the user.)

Table 1 of the TSA is a modified version of Table 1 of the TEA and the "standard" supply and use table in the national accounts, edited to place the focus on characteristic tourism industries and commodities. The table summarises much of the information shown in the subsequent tables. Table 1 provides a framework, within the national accounts, for analysis of tourism as an economic phenomenon. It presents information on all tourism characteristic industries and commodities. This enables: *i)* identification of which tourism commodities are produced by which industries; *ii)* identification of the inputs used to create that supply. The resulting data allow the value added of tourism industries to be calculated. Although this table is set within the production account of the whole economy, its primary focus is on tourism characteristic industries.

Value added at basic prices is derived by deducting the intermediate inputs (commodities, *i.e.* goods and services, at purchasers' prices) from the value of gross output (at basic prices) for each industry. The result is not TVA – that is derived in Table 4 – but it does provide the basis from which Table 4 can be derived. It is an important building block in understanding the role of tourism in the economy because the supplying industries of characteristic tourism commodities do not, yet, have a tourism demand element (this is introduced in Table 2). Moreover, since Table 1 is set within the economy as a whole, it serves as a basis for the calculation of impact models from which indirect effects can be estimated.

Another important element of Table 1 is that it is rooted in observable economic phenomena. Unlike Table 4 where the results are imputed (or "modelled"), the data in Table 1 are drawn from actual (observable) economic transactions. For some statisticians, taking the next step (in Table 4) renders the information too subjective, and they may prefer to base their analysis on observed, rather than imputed, effects.

It should be noted that the value added of the characteristic tourism industries generated from this table should not be aggregated to some proxy of TVA. The reason for this is that a number of industries have a relatively low proportion of their output which is sold to visitors. Accordingly, it would be inappropriate to infer that all the value added of a given industry is attributable to tourism demand, and hence, produces TVA. Nonetheless, the table serves a valuable function in "setting the scene", especially where countries may not have yet developed sufficient information on the demand side.

In Table 1 of the TSA, tourism characteristic industries are shown in the columns. Initially, only those industries which are considered to be tourism characteristic are to be completed. As noted above, there may be instances where tourism demand for a commodity is significant in some countries but not in others. Accordingly, for those countries where the commodity is important, it may be considered "characteristic" but it is not characteristic for other countries. This degree of modification to suit individual cases is one of the strengths of the TSA. It should also be noted that the "single-purpose consumer durables" entry is shown in a separate column as if it were a "characteristic" tourism industry. The reason for this is that, by definition, these commodities meet tourism demand. See the preceding discussion on the treatment of consumer durables and Appendix E.

The purpose of Table 1 is to place characteristic tourism industries, their commodity outputs, intermediate inputs and value added within the context of the whole economy since "all other industries" and "all other commodities" are also included. [These latter two items are shown as a single column and a single row but they can be expanded as all the information in Table 1 is embodied (either explicitly or implicitly) in the national accounts. Consequently, the information in "all other industries" and "all other commodities" is merely a summary of detail available elsewhere.]

The first fourteen columns (excluding the title column) of Table 1 of the TSA show the standard characteristic tourism industries such as hotels, restaurants, transport (by mode), travel agencies, etc., but these could be modified, depending on the local situation (as noted above). In addition, in the fourteenth column, "single-purpose consumer durables" has been included even though it is not an industry. The reason for this is that these household products have been identified as "tourism characteristic" (see the discussion on consumer durables). They will need to be viewed as a "constructed" or "artificial" industry as they are output from different industries. The retail and wholesale and transport margins will also need to be identified as the valuation principle of this table is basic prices. These margins will be included in the columns for those industries (see below). See the foregoing discussion on valuation principles in Chapter 2.

See Appendix F for a concordance between the industries in the TSA and ISIC. The list is not, and cannot be, exhaustive and is purely indicative.

The next eleven columns cover those industries which, while not "tourism characteristic", are nonetheless likely to be important for tourism in most countries, including the retail, wholesale and transport margins that are associated with the purchase of any good. Following these columns is "all other industries", *i.e.* those industries not specified in the previous 20 columns. The purpose of this column is two-fold: on the one hand, it will identify any tourism output from industries not indicated in the other columns. Secondly, and equally importantly, it shows how the TSA is set in the national accounts' structure so that linking tourism activity with the rest of the economy is relatively straightforward. This column could be expanded within the standard supply and use tables of the national accounts, to the full array of a country's industry detail.

The last column is the sum of all the previous columns, producing total gross output by commodity for the whole of the domestic economy, at basic values.

The rows are arranged in several different ranges. The first set of rows show the characteristic tourism commodities produced by the industries indicated in the columns. (Included in "accommodation services" is an imputation of rental paid on second homes, including time-share units which should be recorded in the column "ownership of dwellings", rather than in "accommodation".) It should be noted that "package tours" are not shown as a single commodity, but are broken down into their component commodities (travel, accommodation, etc.) and travel agents'/organisers' margins. This is the "net approach" to measurement of package tours. Visitors will not be aware of the

cost/price structure of the components, and a survey of visitor expenditures will need to ask whether there were any purchasers of package tours as well as the duration of the trip (information on other visitors with similar characteristics but who did not travel with a package tour is needed for imputation purposes). The net and gross approaches to package tours are discussed above, together with the derivation of the margin. See the discussion on package tours in Chapter 3.

It should also be noted that the output of tourism information bureaux is included with other non-market output of museums and libraries (market entertainment is also shown in this column). These commodities are to be recorded at basic prices since they represent output, in line with SNA93. If basic prices are unobtainable, producers' prices may be used as a proxy. There is full concordance between these characteristic tourism commodities and the characteristic tourism industries in the columns. However, while desirable, it is unlikely that there will be 100% coverage and specialisation ratios; that is, a commodity may be produced by industries other than that for which it is primary and, similarly, an industry may produce more than the one commodity to which it is classified. The closer these ratios are to 100%, the better the results. See the discussion in Chapter 6.

The next set of rows shows all other commodities purchased by visitors; those which are considered likely to have a higher tourism element are shown as "of which". These commodities may need to be modified depending on local circumstances. The goods shown here are most likely to be purchased by visitors (fuel, clothing, food, alcohol and tobacco products, and their associated wholesale, retail and transport margins), convention fees as well as financial services (such as insurance, banking, travellers cheque commissions). Tourism single-purpose consumer durables (see Appendix E) are shown as a separate line in order to identify them clearly: these are to be included regardless of when they were purchased as they have a very strong tourism element and to ignore them merely because they were not bought "before, during or after" a trip would be to understate tourism demand. The appropriate valuation principle for these commodities is basic values (as they constitute output). See Appendix F for a concordance between the commodities used in the TSA and CPC (version 1.0). The list is not, and cannot be, exhaustive and is purely indicative.

"All other commodities" covers anything that is not included as characteristic of tourism. Apart from the cell in the column "all other industries" (which will have a very large value), the smaller the values in this row (against the characteristic tourism industries), the better the quality of the results as this will indicate high specialisation ratios.

Below the line "total output" is "intermediate inputs (at purchasers' pries)". This category measures all the goods and services that each industry buys to produce its output. Valuing inputs at purchasers' prices is in line with SNA93, but rebatable VAT should be deducted as, in fact, the producer does not pay VAT since it will be recovered when the output is sold. Non-rebatable VAT should be included in purchasers' prices. It should be noted that it is not necessary in this table to identify intermediate consumption by commodity because: *i)* there are too many commodities; *ii)* the information is not required for the derivation of the industry's total value added; and *iii)* for the derivation of TVA, where the information *is* required, the calculation is done in the worksheet for Table 4. See Appendix C.

The rationale for measuring output at basic prices and inputs at purchasers' prices is that this method provides the most accurate measure of an industry's value added. It is appropriate to value all inputs at the prices the producer pays for them since these are his/her costs. By the same token, output should be valued in terms of what the producer effectively receives as both producers' prices and purchasers' prices include income that accrues to other parties. For example, in the case of producers' prices, trade and transport margins will be included, while purchasers' prices will include these margins as well as any taxes (less subsidies) on products (such as excise taxes). The trade and

transport margins are the output of the retail and wholesale industries (trade margins) and transport industry (transport margins on freight transport). Taxes (less subsidies) on products are paid to government and are unrelated to the industry's production processes.

The next set of rows show the industry value added, compensation of employees, mixed income, gross operating surplus and "net taxes on production: other" (*i.e.* taxes less subsidies on production excluding taxes less subsidies on products).

Compensation of employees includes wages and salaries plus any social contributions receivable by employees such as social insurance payments made by the employer (*e.g.* superannuation), any benefits in kind, workers' compensation premiums. Wherever possible, these should be recorded on an accruals basis. It is, however, recognised that this is not always possible, in which case a cash basis is an acceptable alternative.

Mixed income is the return to unincorporated business. It is called "mixed income" because there are elements of both return to labour and return to capital (and entrepreneurship), but these are not separable. Mixed income should be recorded on an accruals basis but, as with compensation of employees, cash may be the only available basis. If mixed income is not available separately from the national accounts' data, it should be included in gross operating surplus.

Gross operating surplus is the return to capital and entrepreneurship. It is usually derived residually as gross output less intermediate inputs less compensation of employees less mixed income less "net taxes on production: other".

"Net taxes on production: other", as noted above, are taxes less subsidies on production that cannot be directly attributed to a commodity (such as taxes on land or payroll taxes). Wherever possible, these should be measured on an accruals basis, although they are often only available on a cash basis.

"Other variables" includes five rows: "number of employees"; "numbers of others employed"; "number of hours worked"; "gross fixed capital formation"; and "capital stock (end of period)".

In the case of number of employees, it is preferable to indicate the average number of employees during the year. However, this information may be unavailable, in which case number of employees on the books at the end of the period is an acceptable alternative. The same applies to "others employed" which covers proprietors of unincorporated businesses and unpaid members of their families. The distinction is drawn between employees and "others employed" because it provides a better link to Table 5 (on employment) and the derivation of average compensation of employees.

Number of hours worked is very important for analysing labour market dynamics. This variable should be the number of hours worked during the year by employees and non-employees. This information may not be readily available, especially if the average number of employees during the period is unavailable from employers. An alternative possibility may be to obtain the data from a household survey (such as a labour force survey). In order to complete the picture as far as possible in one table, gross fixed capital formation by industry during the period, capital stock at the end of the period and activities of tourism promotion bureaux are shown at the foot of this table.

Table 1A. Production Account of Characteristic Tourism Industries, gross basis (current prices) follows the same basic layout as Table 1 except that package tours are recorded on a "gross basis", that is, the output of organisers is recorded as the value of their sales, not just the margins (the net approach used in Table 1).

Table 2. Tourism Supply and Demand, by Type of Commodity and Type of Visitor, net basis, at purchasers' prices (current prices) brings together demand and supply of tourism commodities. The title column shows the same commodity detail as presented in Table 1 for characteristic commodities and "other commodities" with the same sub-grouping for those commodities which play an important role in tourism. The first column, "domestic output" at basic prices is brought forward from the last column of Table 1. The next column is imports (which should be reported *cif* – cost of insurance and freight), and these two columns are summed to the third column, "total supply" at basic prices.

However, since consumption is valued at purchasers' prices, and since it is necessary for supply and use to be equal, it is necessary for basic values to be converted to purchasers' prices. As a consequence, net taxes on products are shown. This column covers taxes less subsidies on products (as opposed to "net taxes on production: other" which is part of an industry's value added). These cover such taxes as excise duty on alcohol and tobacco, retail and wholesale taxes. A separate column is shown for VAT, which is principally borne by the final consumer.

In addition to the inclusion of net taxes on products, trade and transport margins need to be added to make the adjustment from basic values to purchasers' prices. These are shown in the next column. As a general rule, this column has only a minor bearing on tourism as these margins are related to goods while the majority of tourism demand is for services. They are, therefore, only to be found in the rows against goods (see below).

The next column provides output at purchasers' prices, the sum across the rows of the previous four columns (basic values plus net taxes on products plus VAT plus trade and transport margins). However, as noted above, as some tourism demand will acquire imports, these need to be removed to provide total domestic supply. This is done in column 8.

The remaining columns in Table 2 of the TSA cover demand which is identified by type of visitor and by whether the demand is domestically supplied or imported. While these imports are not necessary for the estimation of TVA or tourism employment (for example), they are included as they offer a point of comparison with the domestic market's activities. This information may be important for policy purposes because: *i)* it offers information on different segments of the domestic market; and *ii)* it may serve as an indication of competition from other countries to the domestic tourism market.

The values by commodity in column 9, total domestic use (at purchasers' prices), will be the sum for each commodity of columns 14 and 15 and will equal the values shown in column 8.

Columns 10 through 13 show demand by non-residents, households, business and government, respectively, at purchasers' prices. "Households" cover the expenditure by members of households in their capacity as final consumers; if tourism activity is undertaken by households as part of the business activity of unincorporated businesses, these expenditures are considered to be intermediate consumption and should therefore be included in "business" tourism demand. This split is not necessary for deriving TVA, but it is important to be able to identify the four elements of tourism demand. All that is required for the derivation of TVA is column 14 ("total domestic demand") which is the sum of the previous four columns. The valuation principle for this table is purchasers' prices as these are demand variables. The data for the four previous columns may be more difficult to derive than the total; even so, it is still possible to derive TVA by using the aggregate of this column.

The next column (15) records all other uses of tourism commodities so that the total demand for all commodities is equal to total supply, that is, the sum for each commodity in columns 14 and 15 equals those in column 9 (which equals those in column 8).

Columns 17 to 20 record imports: columns 17 to 19 identify tourism products imported directly by households (column 17), business (column 18) and government (column 19). Column 20 is the total of these three columns and will equal column 2.

The rows show the same commodity detail as in Table 1, thus providing a match between supply and demand.

"All other commodities purchased by visitors" is shown as a separate line. The next set of rows shows all other commodities purchased by visitors, with those considered likely to have a higher tourism element shown as "of which". These commodities may need to be modified depending on local circumstances. The goods shown here are those most likely to be purchased by visitors (fuel, clothing, food, alcohol and tobacco products), convention fees as well as financial services (such as insurance, banking, travellers cheque commissions). Tourism single-purpose consumer durables (see Appendix E) are shown as a separate line in order to identify them clearly: these are to be included regardless of when they were purchased as they have a very strong tourism element and to ignore them merely because they were not bought "before, during or after" a trip would lead to an understatement of tourism demand.

However, unless the underlying demand data are very detailed, allocating these "other purchases by visitors" to producing industries will pose problems. Depending on the significance of this residual, it may not be appropriate to attempt to allocate it.

Table 2A. Tourism Supply and Demand, by Type of Commodity and Type of Visitor, gross basis, at purchasers' prices (current prices) has the same basic layout as Table 2 except that package tours are recorded on a "gross basis", that is, the value of demand for the output of organisers is recorded as the value of their sales, not just the margins (the net approach used in Table 2). (See page 38 for details on the possibility of "looking through" the organisers.)

Table 3. Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, net basis (current prices) provides the means of linking the supply and demand of commodities, as shown in Tables 1 and 2, with the industries producing those commodities. The industry dimensions are identical to the commodity dimensions. The table shows purchases by the four types of purchasers (non-residents, households, business and government) and provides the link with Table 2. This table is an important and integral step to the derivation of TVA (in Table 4). Where an industry has 100% coverage and specialisation ratios, there will be a complete concordance between the demand for the commodity in Table 2 and the production of the characteristic commodity in Table 3. However, for many commodities, other industries will produce the characteristic commodity and/or the characteristic industry will produce other commodities (some of which will be characteristic of tourism and some not). In that case, there will need to be pro-rating, as shown in the section on tourism value added and in Appendix C. In addition, as TVA is derived at basic prices but demand is recorded at purchasers' prices, there is the need to convert demand to basic prices. This involves breaking down the components of purchasers' prices into the basic price and the margins, and is a reversal of the process in Table 2 in which supply was presented at purchasers' prices. The conversion is only necessary for goods and so will constitute only a small adjustment for the TSA and the derivation of TVA. *Countries should apply the methodology used by the national accounts in their country.*

The first column of Table 3 sets out the characteristic tourism industries (which are identical to the commodities shown in Tables 1 and 2) as well as all other commodities, including those indicated as having a tourism element. The second column shows total domestic supply. The next four columns show purchases by type of visitor (summed in column 6). As noted above, the disaggregation of total

demand is not necessary for the derivation of TVA, although total domestic tourism demand, by commodity (column 6), is required.

The final column of Table 3 is the "tourism ratio", which is derived by dividing column 6 by column 1. It represents that portion of a "constructed" tourism characteristic industry's output that is delivered to visitors.[7]

Table 3A. Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, gross basis (current prices) has the same structure and purpose as Table 3, but is presented on a "gross" basis for the treatment of tour organisers.

The purpose of **Table 4. Tourism Value Added of Characteristic Industries and Other Industries, net basis (in current prices)** is to derive the value added resulting from tourism demand in characteristic tourism industries and all other industries. The title column is identical to that for Table 3. The means by which TVA is derived is indicated in the section on tourism value added (Chapter 6). It should be noted that, as with Tables 1, 1A, 2, 2A, 3 and 3A, tourism demand has an imputation for value of rent paid on second homes. The primary focus of this table is the derivation of tourism value added for tourism characteristic industries. The derivation of value added from tourism demand in other industries may contribute an important additional, but secondary, component.

In the first column, "total output" is recorded at basic prices and is reproduced from Table 3. The second column, "intermediate consumption", records the commodity inputs required to produce the industry output. This is recorded at purchasers' prices. The third column, "value added (at basic prices)" is the difference between the first two columns.

The fourth column provides the *tourism ratio*. An important modification of the "tourism ratio" is the *tourism value added ratio*. The tourism value added ratio takes into account the different weightings of the components of value added (*i.e.* compensation of employees, mixed income, gross operating surplus, net taxes on production: other) in an industry where the specialisation ratio is less than 100% or where the industry has more than one tourism output and uses different proportions of primary inputs to meet tourism demand, and serves to ensure that the sum of the weights equals the total. See the section on tourism value added for its derivation (Chapter 6).

TVA is derived by taking the tourism ratio (or the tourism value added ratio) for each of the commodities from Table 3 and applying it to total value added in column 3. Summing the TVA column and dividing it by GDP gives the tourism share of the economy, thus placing tourism on the same basis as all other industries and providing the tourism sector with the legitimacy it currently lacks.

Table 4A. Tourism Value Added of Characteristic Industries and Other Industries, gross basis (current prices) is the same as Table 4 except that package tours are recorded on a "gross basis", that is, the value added of organisers is recorded as the value of their sales, not just the margins (the net approach used in Table 4). In line with this approach, demand for the component elements of the packages are treated as intermediate inputs for the organisers and not as tourism demand, *i.e.* the output is not sold to visitors. However, see above for a description of an alternative means for dealing with the "looking through" of the organisers' purchases.

7. Insofar as some industries produce more than one product, some output may be allocated to another industry for which that output is primary. See Appendix C.

Table 5. Tourism Employment of Characteristic Tourism and Other Industries provides information on employment in characteristic tourism industries. This information is very important from a policy point of view as tourism is seen as an important area of potential job growth, especially for new entrants and re-entrants to the job market.

It needs to be recognised that total employment of a tourism characteristic industry does not (necessarily) equate to the employment generated by tourism demand. For example, output of food services will involve substantial sales to non-visitors – for most countries, demand by non-visitors will be greater than 70%. It would, therefore, be inappropriate to allocate all employment in food services to "tourism employment". It is necessary to use an allocator to approximate more closely the levels of employment generated by tourism demand. Either the tourism ratio or the "tourism value added ratio" may be used. See Chapter 6, section on tourism value added for the methodology used to derive these ratios, and Appendix H for examples of the application of the tourism ratio to employment.

The industry detail (in the rows) is the same as for the characteristic tourism industries in Tables 3 and 4, thus enabling the information provided in these tables to be linked (although ownership of dwellings is excluded as it has no employment impact).

The first column records the total number of employees (as measured by the numbers of jobs) in each of the industries. The second column measures the total number of non-employees (proprietors and unsalaried family members) working in each of the industries. The sum of these is shown in the third column: it may be the case that in some countries, a breakdown between employees and other types of employment is not possible. In such cases, the total should be recorded, wherever possible.

Total hours are shown in the fourth column. Total hours are as important as (and perhaps even more important than) total employment because they give a better measure of the volume of labour than simply counting the number of jobs. However, this variable may pose data problems. Total hours for all groups should be easier: some countries gather the data as a matter of course while others may not collect such data on a regular basis, indicating that there may be a need for special (occasional) surveys. The table provides the main link to the employment module (see Part II).

Table 6. Visitors Characteristics, Same-day Visitors and Tourists, net basis is designed to provide a profile of visitors, their country of origin (if non-residents) and their average expenditure per trip. The columns are divided into two broad ranges: non-residents and residents, with each category being broken down into excursionists and tourists.

The first three columns provide information on non-residents. The columns provide data on numbers, country of origin, total expenditure and average expenditure per visitor.

The information on expenditure and country of origin may be drawn from the sources used in the balance of payments. For countries with few, if any, land border controls, the source of this information may be household surveys in the counterpart countries (*e.g.* the Netherlands may use information on expenditure and numbers of visitors collected by Belgium, Luxembourg, France, Germany, etc.). For island countries, or for countries with stricter land border controls, data on numbers entering the country are usually available. Expenditure by non-residents may be obtained from departure surveys (*e.g.* conducted in air- or seaport departure lounges).

The nine remaining columns provide data on resident visitors, disaggregated into households, government and business visitors. For each of these categories, the data show number of visitors, total expenditure and average expenditure per visitor.

Data for domestic visitors may be drawn from a variety of sources but the major source is likely to be household surveys. Respondent fatigue or forgetfulness may be the most serious problem with this data source. However, in the absence of a survey of hotels (which may be able to provide information on those who register but are unlikely to have any information on those accompanying them), few other surveys provide the range of information required.

The title column provides the same commodity detail (characteristic and "other", with some detail of "other" where available) as Table 1, except that accommodation services are not shown for excursionists (on the basis that excursionists, by definition, do not purchase such services); neither are single-purpose consumer durables since these are, by definition, used for longer than a 24-hour period. As these data are at purchasers' prices (since they are consumed), no margins are shown.

Table 6A. Visitors Characteristics, Same-day Visitors and Tourists, gross basis is the same as Table 5 except that package tours are recorded on a "gross basis", that is, the value added of organisers is recorded as the value of their sales, not just the margins (the net approach used in Table 6). As a result, the component parts of the packages (*e.g.* air fares, accommodation costs, etc.) are excluded from these commodities.

Table 7. Characteristic Tourism Industries Gross Capital Acquisition provides information on fixed capital *acquisition*, rather than just fixed capital formation, as it measures net purchases of land as well as net acquisition of other non-produced, non-financial assets (such as landing rights). These latter are not produced (in essence, they are "created" by governments). However, they can be very valuable, especially in busy airports. Other similar non-produced assets include taxi licence plates (especially in cities where the allotment is strictly limited), and franchises for hotels or restaurants. These non-produced, non-financial assets should be included in the TSA as they represent part of the capital outlays of tourism industries and account for a proportion of the asset base on which returns are calculated.

As noted above, although the acquisition of non-financial capital is not part of tourism demand, capital is integral to the delivery of tourism services (and goods). As air transport or accommodation, for example, could not be provided in the absence of substantial investment in equipment and/or buildings, it is important that they be included in a TSA. Accordingly, this table measures net acquisition by type of asset: dwellings, non-dwelling construction, mobile equipment, computer and other electronic equipment, as well as land and other non-produced assets. Moreover, produced non-financial capital investment represents an essential element for modelling the impact of tourism on the rest of the economy and on employment.

However, under SNA93, it is recognised that some aspects of capital other than those that come into existence through production are also important in an industry's cost base. From the point of view of the producer's unit returns on capital invested, all aspects of capital, both produced and non-produced, should be included. From the point of view of the analyst, not only are returns on capital important but so are a number of other elements; not least among which, the amount of taxes levied on land. Other non-produced capital, such as landing rights, are important for certain industries and provide an important revenue source for governments. Their inclusion in the TSA is therefore necessary, although difficult.

The industry detail (in the title column) is the same as for the characteristic tourism industries shown in Tables 3 and 4, except that a category "services to air transport" has been added.

This category has been added to allow information to be captured on capital investment used by, but not necessarily owned by, airlines. The airlines use runways but do not own them, so runways are

not included in the industry's capital formation. The same would apply to air terminals where they are not owned by the airlines using them. An important element for both these types of capital formation is their acquisition of land, especially for airports. Although it is difficult to obtain estimates of land (either as acquisitions or as a stock), they are especially important here.

The inclusion in tourism gross capital formation of activities that are wider than the definition of tourism industries is necessary because of their importance in the provision of a capital asset without which the tourism activity could not operate and also in cases where this asset is almost exclusively used for tourism purposes. The logic here is the same as for the inclusion of single-purpose consumer durables: the services provided by the good (the capital asset in this instance) have an overwhelming tourism (ultimate) use. However, because the industries that produce single-purpose consumer durables are part of other industries, it is not practical to identify their capital acquisition.

The asset detail may be difficult to obtain, at least at the outset. Where the detail is available it should be provided, but measuring total capital formation and land are the two priorities.

Table 8. Characteristic Tourism Industries' Gross Capital Stock is similar to Table 7 in layout but, whereas Table 7 measures flows during the period, Table 8 measures the stock at the end of period. Moreover, there is an additional column in Table 8 ("capacity utilisation") which is not included in Table 7. Capacity utilisation is an important indication of how an industry is using its capital base and whether there are pressures to exit or enter the industry. It also indicates the possible implications that capacity demands (or lack of them) may have on prices, and may also serve as a measure of future demand for capital needs. For some industries, such as accommodation services, capacity utilisation is relatively straightforward: the ratio of total use of rooms to the total number of rooms available. However, for other industries, such as museums and libraries, or even air transport, there may be no adequate measure of capacity utilisation. It is suggested that countries use whatever data sources, if any, are available and generally used in their country, indicating the basis in any accompanying metadata.

The data for produced non-financial assets in Table 8 may be taken from a country's estimates of capital stock (such as the Perpetual Inventory Model – PIM) used in the calculation of consumption of fixed capital (in the national accounts). However, it is probable that this level of detail (either industry or asset type) will not be readily available. In that case, reporting the totals would be a valuable starting point.

Land estimates are not part of a PIM and may require some time to develop from a special/supplementary (occasional) survey. They are, however, an important aspect of the asset base for several tourism industries as well as a tax base for governments.

Regarding other non-produced, non-financial assets (such as landing rights), it is very difficult to place a value on these as stock. One avenue is to use tenders for such rights; otherwise a recent transaction may provide a useful proxy for other airlines' rights. In the case of franchise operations, some indication may be available from either the franchisees or the franchisers.

The remaining tables express Tables 1, 2, 3, 4, 7 and 8 in prices for the previous period, *i.e.* in volume terms. Providing information for these tables will take longer for two reasons: *i)* they become relevant only over a time series; and *ii)* price measures for many of these commodities are not well developed in most countries. While improving price measures for services is an important priority in most countries, progress has been slow. In the absence of adequate price measures, meaningful volume results cannot be calculated. These tables are included in the TSA to ensure completeness.

Table 9. Production Account of Characteristic Tourism Industries, net basis (prices of previous period) is laid out in virtually the same way as Table 1. Differences occur with regard to the components of value added and certain "other variables" which cannot be deflated. It should also be noted that intermediate inputs should not be deflated as an aggregate since intermediate inputs constitute a variety of commodities, the prices of which are unlikely to change in unison. Price data are usually available from the national accounts (in the construction of "constant price" or volume measures for supply and input/output tables) or from producers' price indices (or both). If the price information available to deflate the commodities individually is inadequate, a general price index (such as the GDP price deflator) may be used.

Table 9A. Production Account of Characteristic Tourism Industries, gross basis (prices of previous period) is the same as Table 9 except that it uses the gross basis for the treatment of tour organisers. It should also be noted that intermediate inputs should not be deflated as an aggregate since intermediate inputs constitute a variety of commodities, the prices of which are unlikely to change in unison. Price data are usually available from the national accounts (in the construction of "constant price" or volume measures for supply and input/output tables) or from producers' price indices (or both). If the price information available to deflate the commodities individually is inadequate, a general price index (such as the GDP price deflator) may be used.

Table 10. Tourism Supply and Demand, by Type of Commodity and Type of Visitor, net basis, at purchasers' prices (prices of previous period) follows the same layout as Table 2. The application of a price index to "all other commodities" may not be very meaningful as the mix is probably too great. Whether or not this line should be deflated will depend on the significance of the value in current prices and the facility with which an indicator of the component commodities can be derived. An alternative method may be to apply a general deflator (such as the implicit price deflator for GDP).

Table 10A. Tourism Supply and Demand, by Type of Commodity and Type of Visitor, gross basis, at purchasers' prices (prices of previous period) is the same as Table 10, except that it uses the gross basis for the treatment of tour organisers.

Table 11. Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, net basis (prices of previous period) follows the same basic lay out as Table 3, except that the value-added components are not identified as they cannot be deflated. Deflating intermediate consumption will require details of the commodities consumed by these industries. These can be calculated using the methodology set out in Appendix C.

Table 11A. Supply by Characteristic Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, gross basis (prices of previous period) is the same as Table 11 except that it uses the gross basis for the treatment of tour organisers.

Table 12. Tourism Value Added of Characteristic Industries and Other Industries, net basis (prices of previous period) is the same as Table 4 expressed in volume terms, except that the components of value added cannot be derived. It should be noted that intermediate inputs should not be deflated as an aggregate since intermediate inputs constitute a variety of commodities, the prices of which are unlikely to change in unison. Price data are usually available from the national accounts (in the construction of "constant price" or volume measures for supply and input/output tables) or from producers' price indices (or both). If the price information available to deflate the commodities individually is inadequate, a general price index (such as the GDP price deflator) may be used.

Table 12A. Tourism Value Added of Characteristic Industries and Other Industries, gross basis (prices of previous period) is the same as Table 12, except that it uses the gross basis for the treatment of tour organisers. It should be noted that intermediate inputs should not be deflated as an aggregate since intermediate inputs constitute a variety of commodities, the prices of which are unlikely to change in unison. Price data are usually available from the national accounts (in the construction of "constant price" or volume measures for supply and input/output tables) or from producers' price indices (or both). If the price information available to deflate the commodities individually is inadequate, a general price index (such as the GDP price deflator) may be used.

Table 13. Characteristic Tourism Industries Gross Capital Acquisition (prices of previous period) follows the same lay out as Table 7. Expressing some of these variables in volume terms may prove to be difficult. For example, price indices for land and "other non-produced non-financial assets" may not be available, in which case only the capital formation asset types should be deflated until such time as adequate price indices become available.

Table 14. Characteristic Tourism Industries' Gross Capital Stock (prices of previous period) follows the layout of Table 8. The same problems regarding land and "other non-produced non-financial assets" apply to the stock as to the flows in Table 13. However, the data for the other capital stock variables should be derivable from each country's PIM (although it is recognised that the detail shown here may not be readily available).

Information provided by the tables

Taken together, these tables provide a comprehensive view of tourism as a socio-economic phenomenon.

Tables 1, 2 and 3 (and Tables 1A, 2A and 3A) provide much of the basic economic data on tourism.

Table 1 (and Table 1A) is the starting point from the supply side: it identifies the characteristic tourism industries, their commodity outputs, their intermediate inputs and the resultant value added (as well as providing summary information on employment, hours worked, capital acquisition and capital stock). Even in an ideal supply and use table in the national accounts, not all this information might be available, so that for most countries, neither the commodity nor industry detail will be readily available. The information could be obtained, however, through the standard economic survey of producing units. However, from an analytical point of view for tourism purposes, Table 1 is inadequate on its own: while it provides the value added of tourism industries, it does not provide *tourism value added* (TVA). To obtain that level of analysis, demand-side information is required [which information may, in turn, affect Table 1 inasmuch as visitors may change their demand for commodities over time, prompting (new) industries to be classified as characteristic of tourism].

Table 2 (and Table 2A) provides the essential elements of tourism, that is, since tourism is a demand-based concept, Table 2 provides this information by commodity and type of visitor. In the absence of this information, estimates of the value added of tourism will have limited value.

In addition to the information provided in Tables 1 and 2 (and Tables 1A and 2A), which are commodity based, there is a need to present the data on an industry basis in order to derive the tourism value added for each industry. This is done in Table 3 (and Table 3A), which also indicates which industry's output is acquired by which type of visitor. This table also introduces the "tourism ratio".

TVA can be derived from the information available in Table 3 (and Table 3A) and is presented in Table 4 (and Table 4A). For many analysts, this aggregate is the central feature of a TSA and the primary purpose underlying its development. Table 4 provides data not only on the TVA of characteristic tourism but also for those industries which play a role in satisfying certain important elements of tourism demand. The sum of these is direct TVA. Indirect TVA can be calculated by using the information and structure of a TSA to build an impact model or similar analytical technique (see Appendix A).

Table 5 provides data on an especially relevant dimension of tourism: employment. The information in this table can be combined with that in Table 3 to derive average compensation of employees by tourism industry as well as indicating compensation by hour. This link is very important for policy purposes given the role tourism industries frequently play as a major area of employment growth, especially for the young. Similar calculations can be undertaken for "other employment", which may serve as a useful policy tool in countries where unincorporated businesses are responsible for the delivery of significant amounts of commodities to visitors.

Table 6 (and Table 6A) is related to Table 2 (and Table 2A) in that it provides the link between the values of tourism expenditure with the volume and type of visitor. This information can play a major part in tourism promotion and marketing.

Tables 7 and 8 provide information on the other primary input into the productive process: capital. While the derivation of TVA may be one of the primary – if not the primary – purposes of a TSA, information on the role of capital remains important. Table 7 provides information on its acquisition, Table 8 on its stock, each by type of asset. Data on capital inputs into tourism production allow analysis of, *inter alia*, returns to capital employed, capital output ratios, the effects on capital producing industries, etc.

Tables 9, 10, 11, 12, 13 and 14 (and Tables 9A, 10A, 11A and 12A) provide volume measures of Tables 1, 2, 3, 4, 7 and 8 (Tables 1A, 2A, 3A and 4A). The importance of volume measures over a time series is well recognised by economists and other users of the national accounts as providing a more meaningful way of understanding how (and if) growth is occurring, not only in terms of the series being examined, but also relative to other aspects of the economy (other industries, commodities).

Table 1. **Production account of characteristic tourism industries: net basis***
Current prices

	Characteristic tourism industries													
	Hotels	Restaurants	Passenger rail	Passenger bus intercity	Taxi	Passenger air	Passenger water	Car rental	Travel agencies	Entertainment, museums, libraries	Ski lodge operators	Health spas	Cruises	Single purpose consumer durables
Output (at basic prices)														
Characteristic commodities														
Accommodation: paid														
: imputed														
Food services														
Transportation:														
Passenger rail														
Passenger bus (long distance)														
Taxi														
Passenger air														
Passenger water														
Car rental														
Travel agents'/organisers' margins														
Entertainment, museums, libraries**														
Skiing														
Health spas														
Cruises														
Single purpose consumer durables														
Total output of characteristic tourism commodities														
All other commodities purchased by visitors														
of which:														
Retail margins														
Wholesale margins														
Transportation margins														
Fuel														
Clothing														
Food														
Beer, wine, liquor														
Tobacco products														
Convention fees														
Financial services and insurance														
All other goods and services														
Total output at basic prices														
Intermediate inputs (at purchasers' prices)														
Value added (at basic values)														
Compensation of employees														
Mixed income														
Gross operating surplus														
Net taxes on production: other														
Other variables														
Number of employees														
Other employed														
Hours worked ('000)														
Net capital stock (end of period)														
Gross fixed capital formation														
Net capital stock, end of period														
Tourism promotion bureaux														

* Net treatment of package tours. ** Includes tourism information bureaux.

Source: OECD Tourism Committee.

Table 1 (cont'd.). **Production account of characteristic tourism industries: net basis***
Current prices

	Retail margins	Wholesale margins	Transport margins	Fuel	Clothing	Food	Beer, wine, liquor	Tobacco products	Conventions	Financial services, insurance	Ownership of dwellings	All other industries	Total domestic supply
Output (at basic prices)													
Characteristic commodities													
Accommodation: paid													
: imputed													
Food services													
Transportation:													
Passenger rail													
Passenger bus (long distance)													
Taxi													
Passenger air													
Passenger water													
Car rental													
Travel agents'/organisers' margins													
Entertainment, museums, libraries**													
Skiing													
Health spas													
Cruises													
Single purpose consumer durables													
Total output of characteristic tourism commodities													
All other commodities purchased by visitors													
of which:													
Retail margins													
Wholesale margins													
Transportation margins													
Fuel													
Clothing													
Food													
Beer, wine, liquor													
Tobacco products													
Convention fees													
Financial services and insurance													
All other goods and services													
Total output at basic prices													
Intermediate inputs (at purchasers' prices)													
Value added (at basic values)													
Compensation of employees													
Mixed income													
Gross operating surplus													
Net taxes on production: other													
Other variables													
Number of employees													
Other employed													
Hours worked ('000)													
Net capital stock (end of period)													
Gross fixed capital formation													
Net capital stock, end of period													
Tourism promotion bureaux													

* Net treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 1A. **Production account of characteristic tourism industries: gross basis***
Current prices

	Characteristic tourism industries													
	Hotels	Restaurants	Passenger rail	Passenger bus intercity	Taxi	Passenger air	Passenger water	Car rental	Travel agencies	Entertainment, museums, libraries	Ski lodge operators	Health spas	Cruises	Single purpose consumer durables
Output (at basic prices)														
Characteristic commodities														
Accommodation: paid														
: imputed														
Food services														
Transportation:														
Passenger rail														
Passenger bus (long distance)														
Taxi														
Passenger air														
Passenger water														
Car rental														
Package tours														
Entertainment, museums, libraries**														
Skiing														
Health spas														
Cruises														
Single purpose consumer durables														
Total output of characteristic tourism commodities														
All other commodities purchased by visitors														
of which:														
Retail margins														
Wholesale margins														
Transportation margins														
Fuel														
Clothing														
Food														
Beer, wine, liquor														
Tobacco products														
Convention fees														
Financial services and insurance														
All other goods and services														
Total output at basic prices														
Intermediate inputs (at purchasers' prices)														
Value added (at basic values)														
Compensation of employees														
Mixed income														
Gross operating surplus														
Net taxes on production: other														
Other variables														
Number of employees														
Other employed														
Hours worked ('000)														
Net capital stock (end of period)														
Gross fixed capital formation														
Net capital stock, end of period														
Tourism promotion bureaux														

* Gross treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 1A (cont'd.). **Production account of characteristic tourism industries: gross basis***
Current prices

	Retail margins	Wholesale margins	Transport margins	Fuel	Clothing	Food	Beer, wine, liquor	Tobacco products	Conventions	Financial services, insurance	Ownership of dwellings	All other industries	Total domestic supply
Output (at basic prices)													
Characteristic commodities													
Accommodation: paid													
: imputed													
Food services													
Transportation:													
Passenger rail													
Passenger bus (long distance)													
Taxi													
Passenger air													
Passenger water													
Car rental													
Package tours													
Entertainment, museums, libraries**													
Skiing													
Health spas													
Cruises													
Single purpose consumer durables													
Total output of characteristic tourism commodities													
All other commodities purchased by visitors													
of which:													
Retail margins													
Wholesale margins													
Transportation margins													
Fuel													
Clothing													
Food													
Beer, wine, liquor													
Tobacco products													
Convention fees													
Financial services and insurance													
All other goods and services													
Total output at basic prices													
Intermediate inputs (at purchasers' prices)													
Value added (at basic values)													
Compensation of employees													
Mixed income													
Gross operating surplus													
Net taxes on production: other													
Other variables													
Number of employees													
Other employed													
Hours worked ('000)													
Net capital stock (end of period)													
Gross fixed capital formation													
Net capital stock, end of period													
Tourism promotion bureaux													

* Gross treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 2. **Tourism supply and demand by type of commodity and by type of visitor: net basis,* at purchaser's prices**
Current prices

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Supply (at basic values)			Net taxes on products **	VAT	Margins***	Total supply at purchasers' prices	Total domestic supply (7-2)	Total domestic use at purchasers' prices (14+15)	Domestic supply acquired by type of visitor, at purchasers' prices				Total domestic tourism demand (10+11+12+13)	All other domestic use	Tourism use as percent of domestic supply ((14/8)*100	Non-resident supply acquired by:			Total non-resident supply to residents (17+18+19)
	Domestic output	Imports	Total supply							Non-residents	Residents:						Households	Business	Govern-ment	
											Households	Business****	Govern-ment****							
Characteristic commodities																				
Accommodation: paid																				
: imputed																				
Food services																				
Transportation:																				
passenger rail																				
passenger bus (long distance)																				
taxi																				
passenger air																				
passenger water																				
Car rental																				
Travel agents/organisers margins																				
Entertainment, museums, libraries*****																				
Skiing																				
Health spas																				
Cruises																				
Single purpose consumer durables																				
Total output of characteristic tourism commodities																				
All other commodities purchased by visitors																				
of which:																				
Retail margins																				
Wholesale margins																				
Transportation margins																				
Fuel																				
Clothing																				
Food																				
Beer, wine, liquor																				
Tobacco products																				
Convention fees																				
Financial services and insurance																				
All other goods and services																				
Total economy																				

* Net treatment of package tours. ** Excluding VAT. *** Trade and transport margins.
**** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. ***** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 2A. **Tourism supply and demand by type of commodity and by type of visitor: gross basis,* at purchaser's prices**
Current prices

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Supply (at basic values)			Net taxes on products **	VAT	Margins***	Total supply at purchasers' prices	Total domestic supply (7-2)	Total domestic use at purchasers' prices (14+15)	Domestic supply acquired by type of visitor, at purchasers' prices				Total domestic tourism demand (10+11+12+13)	All other domestic use	Tourism use as percent of domestic supply ((14/8)*100	Non-resident supply acquired by:			Total non-resident supply to residents (17+18+19)
	Domestic output	Imports	Total supply							Non-residents	Residents:						Households	Business	Govern-ment	
											Households	Business****	Govern-ment****							
Characteristic commodities																				
Accommodation: paid																				
: imputed																				
Food services																				
Transportation:																				
passenger rail																				
passenger bus (long distance)																				
taxi																				
passenger air																				
passenger water																				
Car rental																				
Package tours																				
Entertainment, museums, libraries*****																				
Skiing																				
Health spas																				
Cruises																				
Single purpose consumer durables																				
Total output of characteristic tourism commodities																				
All other commodities purchased by visitors																				
of which:																				
Retail margins																				
Wholesale margins																				
Transportation margins																				
Fuel																				
Clothing																				
Food																				
Beer, wine, liquor																				
Tobacco products																				
Convention fees																				
Financial services and insurance																				
All other goods and services																				
Total economy																				

* Net treatment of package tours. ** Excluding VAT. *** Trade and transport margins.
**** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. ***** Includes tourism information bureaux
Source: OECD Tourism Committee.

Table 3. **Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: net basis***

Current prices

	1	2	3	4	5	6	7
	Total domestic supply	Tourism consumption				Total tourism demand (2+3+4+5)	Tourism ratio (1) (6/1)
		Non-residents	Residents				
			Households	Business**	Government**		
Output (at basic values)							
Characteristic industries							
Accommodation: paid							
Ownership of dwellings: imputed rent							
Food services							
Transportation:							
Passenger rail							
Passenger bus (long distance)							
Taxi							
Passenger air							
Passenger water							
Car rental							
Travel agents/organisers margins							
Entertainment, museums, libraries***							
Skiing							
Health spas							
Cruises							
Single purpose consumer durables							
Total output of characteristic tourism industries							
All other industries							
of which:							
Retail margins							
Wholesale margins							
Transportation margins							
Fuel							
Clothing							
Food							
Beer, wine, liquor							
Tobacco products							
Convention fees							
Financial services and insurance							
Total output at basic prices							
Value Added Tax							
Net taxes on production: other****							
Total							

* Net treatment of package tours. ** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. *** Includes tourism information bureaux. **** Includes taxes on imports.
1. An important variation of the tourism ratio is the tourism value-added ratio (See Chapter 6).
Source: OECD Tourism Committee.

Table 3A. **Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: gross basis***

Current prices

	1	2	3	4	5	6	7
	Total domestic supply	Tourism consumption				Total tourism demand (2+3+4+5)	Tourism ratio (1) (6/1)
		Non-residents	Residents				
			Households	Business**	Government**		
Output (at basic values)							
Characteristic industries							
Accommodation: paid							
Ownership of dwellings: imputed rent							
Food services							
Transportation:							
Passenger rail							
Passenger bus (long distance)							
Taxi							
Passenger air							
Passenger water							
Car rental							
Package tours							
Entertainment, museums, libraries***							
Skiing							
Health spas							
Cruises							
Single purpose consumer durables							
Total output of characteristic tourism industries							
All other industries							
of which:							
Retail margins							
Wholesale margins							
Transportation margins							
Fuel							
Clothing							
Food							
Beer, wine, liquor							
Tobacco products							
Convention fees							
Financial services and insurance							
Total output at basic prices							
Value Added Tax							
Net taxes on production: other****							
Total							

* Gross treatment of package tours. ** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. *** Includes tourism information bureaux. **** Includes taxes on imports.

1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).

Source: OECD Tourism Committee.

Table 4. **Tourism value added of characteristic industries and other industries: net basis***

	Output (at basic prices)	Intermediate consumption (at purchasers' prices)	Value added (at basic prices)	Tourism ratio(1)	Tourism value added(1) (TVA)
Output (at basic values)					
Characteristic industries					
Accommodation: paid					
Ownership of dwellings: imputed rent					
Food services					
Transportation:					
Passenger rail					
Passenger bus (long distance)					
Taxi					
Passenger air					
Passenger water					
Car rental					
Travel agents/organisers margins					
Entertainment, museums, libraries**					
Skiing					
Health spas					
Cruises					
Single purpose consumer durables					
Total output of characteristic tourism industries					
All other industries					
of which:					
Retail margins					
Wholesale margins					
Transportation margins					
Fuel					
Clothing					
Food					
Beer, wine, liquor					
Tobacco products					
Convention fees					
Financial services and insurance					
Total output at basic prices					
Value Added Tax					
Net taxes on production: other***					
Total					

* Net treatment of package tours. ** Includes tourism information bureaux. *** Includes taxes on imports.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 4A. **Tourism value added of characteristic industries and other industries: gross basis***

	Output (at basic prices)	Intermediate consumption (at purchasers' prices)	Value added (at basic prices)	Tourism ratio(1)	Tourism value added(1) (TVA)
Output (at basic values)					
Characteristic industries					
Accommodation: paid					
Ownership of dwellings: imputed rent					
Food services					
Transportation:					
Passenger rail					
Passenger bus (long distance)					
Taxi					
Passenger air					
Passenger water					
Car rental					
Travel agents/organisers margins					
Entertainment, museums, libraries**					
Skiing					
Health spas					
Cruises					
Single purpose consumer durables					
Total output of characteristic tourism industries					
All other industries					
of which:					
Retail margins					
Wholesale margins					
Transportation margins					
Fuel					
Clothing					
Food					
Beer, wine, liquor					
Tobacco products					
Convention fees					
Financial services and insurance					
Total output at basic prices					
Value Added Tax					
Net taxes on production: other***					
Total					

* Gross treatment of package tours. ** Includes tourism information bureaux. *** Includes taxes on imports.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 5. **Tourism employment of characteristic industries and other industries**

	Number of employees	Other employment	Total employment	Total hours	Tourism ratio
Characteristic industries					
Accommodation					
Food services					
Transportation:					
Passenger rail					
Passenger bus (long distance)					
Taxi					
Passenger air					
Passenger water					
Car rental					
Travel agents/organisers margins					
Entertainment, museums, libraries*					
Skiing					
Health spas					
Cruises					
Single purpose consumer durables					
Total output of characteristic tourism industries					
All other industries					
of which:					
Retail margins					
Wholesale margins					
Transportation margins					
Fuel					
Clothing					
Food					
Beer, wine, liquor					
Tobacco products					
Convention fees					
Financial services and insurance					
Total all industries					

* Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 6. **Visitors' characteristics***
Same-day visitors and tourists

	Same day non-residents			Same day residents									Grand Total		
				Personal			Government			Business					
	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure
Characteristic commodities															
Food services															
Transportation:															
Passenger rail															
Passenger bus (long distance)															
Taxi															
Passenger air															
Passenger water															
Car rental															
Travel agents', organisers' margins															
Entertainment, museums, libraries***															
Skiing															
Health spas															
Cruises															
Total demand of characteristic tourism commodities															
All other commodities purchased by visitors															
of which:															
Fuel															
Clothing															
Food															
Beer, wine, liquor															
Tobacco products															
Convention fees															
Financial services and insurance															
All other goods and services															
	Tourists - non-residents			Tourists - residents									Grand Total		
				Personal			Government			Business					
	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure
Characteristic commodities															
Accommodation: paid															
: imputed															
Food services															
Transportation:															
passenger rail															
passenger bus (long distance)															
taxi															
passenger air															
passenger water															
Car rental															
Travel agents', organisers' margins															
Entertainment, museums, libraries***															
Skiing															
Health spas															
Cruises															
Single purpose consumer durables															
Total demand of characteristic tourism commodities															
All other commodities purchased by visitors															
of which:															
Fuel															
Clothing															
Food															
Beer, wine, liquor															
Tobacco products															
Convention fees															
Financial services and insurance															
Single purpose consumer durables															
All other goods and services															

* Recorded on a net basis for tour operators. ** At purchasers' prices. *** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 6A. **Visitors' characteristics***
Same-day visitors and tourists

	Same day non-residents			Same day residents									Grand Total		
				Personal			Government			Business					
	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure
Characteristic commodities															
Food services															
Transportation:															
Passenger rail															
Passenger bus (long distance)															
Taxi															
Passenger air															
Passenger water															
Car rental															
Package tours															
Entertainment, museums, libraries***															
Skiing															
Health spas															
Cruises															
Total demand of characteristic tourism commodities															
All other commodities purchased by visitors															
of which:															
Fuel															
Clothing															
Food															
Beer, wine, liquor															
Tobacco products															
Convention fees															
Financial services and insurance															
All other goods and services															

	Tourists - non-residents			Tourists - residents									Grand Total		
				Personal			Government			Business					
	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure	'000	Total expenditure	Average expenditure
Characteristic commodities															
Accommodation: paid															
: imputed															
Food services															
Transportation:															
passenger rail															
passenger bus (long distance)															
taxi															
passenger air															
passenger water															
Car rental															
Package tours															
Entertainment, museums, libraries***															
Skiing															
Health spas															
Cruises															
Single purpose consumer durables															
Total demand of characteristic tourism commodities															
All other commodities purchased by visitors															
of which:															
Fuel															
Clothing															
Food															
Beer, wine, liquor															
Tobacco products															
Convention fees															
Financial services and insurance															
All other goods and services															

* Recorded on a gross basis for tour operators. ** At purchasers' prices. *** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 7. **Characteristic tourism industries' gross capital acquisition**
At current prices

Industry	Produced non-financial fixed capital formation						Non-produced non-financial assets			Total non-financial capital acquisition
	Dwellings	Non-dwelling construction	Mobile equipment	Computer and other electronic equipment	Other	Total	Land	Other non-produced non-financial assets	Total non-produced non-financial assets	
Accommodation: paid										
Ownership of dwellings*										
Food services										
Transportation:										
Passenger rail										
Passenger bus (long distance)										
Taxi										
Passenger air										
Services to air transport										
Passenger water										
Car rental										
Travel agents										
Entertainment, museums, libraries**										
Ski Lodges										
Health spas										
Cruises										
Total										

* Should only include second homes and time-share units. If unavailable, leave blank. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 8. **Characteristic tourism industries' gross capital stock**
At current prices, end of period

Industry	Net produced non-financial fixed capital stock							Non-produced non-financial assets			Total non-financial capital stock
	Dwellings	Non-dwelling construction	Mobile equipment	Computer and other electronic equipment	Other	Total	Capacity utilisation	Land	Other non-produced non-financial assets	Total non-produced non-financial capital stock	
Accommodation: paid											
Ownership of dwellings*											
Food services											
Transportation:											
Passenger rail											
Passenger bus (long distance)											
Taxi											
Passenger air											
Services to air transport											
Passenger water											
Car rental											
Travel agents											
Entertainment, museums, libraries**											
Ski Lodges											
Health spas											
Cruises											
Total											

* Should only include second homes and time-share units. If unavailable, leave blank. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 9. **Production account of characteristic tourism industries: net basis***
At prices of previous period

	Characteristic tourism industries													
	Hotels	Restaurants	Passenger rail	Passenger bus intercity	Taxi	Passenger air	Passenger water	Car rental	Travel agencies	Entertainment, museums, libraries	Ski lodge operators	Health spas	Cruises	Single purpose consumer durables
Output (at basic prices)														
Characteristic commodities														
Accommodation: paid														
: imputed														
Food services														
Transportation:														
Passenger rail														
Passenger bus (long distance)														
Taxi														
Passenger air														
Passenger water														
Car rental														
Travel agents/organisers margins														
Entertainment, museums, libraries**														
Skiing														
Health spas														
Cruises														
Single purpose conumer durables														
Total output of characteristic tourism commodities														
All other commodities purchased by visitors														
of which:														
Retail margins														
Wholesale margins														
Transportation margins														
Fuel														
Clothing														
Food														
Beer, wine, liquor														
Tobacco products														
Convention fees														
Financial services and insurance														
All other goods and services														
Total output at basic prices														
Intermediate inputs (at purchasers' prices)														
Value Added (at basic values)														
Other variables														
Gross fixed capital formation														
Net capital stock, end of period														
Tourism promotion bureaux														

* Net treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 9 (cont'd.). **Production account of characteristic tourism industries: net basis***
At prices of previous period

	Retail margins	Wholesale margins	Transport margins	Fuel	Clothing	Food	Beer, wine, liquor	Tobacco products	Conventions	Financial services, insurance	Ownership of dwellings	All other industries	Total domestic supply
Output (at basic prices)													
Characteristic commodities													
Accommodation: paid													
: imputed													
Food services													
Transportation:													
Passenger rail													
Passenger bus (long distance)													
Taxi													
Passenger air													
Passenger water													
Car rental													
Travel agents/organisers margins													
Entertainment, museums, libraries**													
Skiing													
Health spas													
Cruises													
Single purpose consumer durables													
Total output of characteristic tourism commodities													
All other commodities purchased by visitors													
of which:													
Retail margins													
Wholesale margins													
Transportation margins													
Fuel													
Clothing													
Food													
Beer, wine, liquor													
Tobacco products													
Convention fees													
Financial services and insurance													
All other goods and services													
Total output at basic prices													
Intermediate inputs (at purchasers' prices)													
Value Added (at basic values)													
Other variables													
Gross fixed capital formation													
Net capital stock, end of period													
Tourism promotion bureaux													

* Net treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 9A. **Production account of characteristic tourism industries: gross basis***
At prices of previous period

	Characteristic tourism industries													
	Hotels	Restaurants	Passenger rail	Passenger bus intercity	Taxi	Passenger air	Passenger water	Car rental	Travel agencies	Entertainment, museums, libraries	Ski lodge operators	Health spas	Cruises	Single purpose consumer durables
Output (at basic prices)														
Characteristic commodities														
Accommodation: paid														
: imputed														
Food services														
Transportation:														
Passenger rail														
Passenger bus (long distance)														
Taxi														
Passenger air														
Passenger water														
Car rental														
Package tours														
Entertainment, museums, libraries**														
Skiing														
Health spas														
Cruises														
Single purpose conumer durables														
Total output of characteristic tourism commodities														
All other commodities purchased by visitors														
of which:														
Retail margins														
Wholesale margins														
Transportation margins														
Fuel														
Clothing														
Food														
Beer, wine, liquor														
Tobacco products														
Convention fees														
Financial services and insurance														
All other goods and services														
Total output at basic prices														
Intermediate inputs (at purchasers' prices)														
Value Added (at basic values)														
Other variables														
Gross fixed capital formation														
Net capital stock, end of period														
Tourism promotion bureaux														

* Gross treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 9A (cont'd.). **Production account of characteristic tourism industries: gross basis***
At prices of previous period

	Retail margins	Wholesale margins	Transport margins	Fuel	Clothing	Food	Beer, wine, liquor	Tobacco products	Convention	Financial services, insurance	Ownership of dwellings	All other industries	Total domestic supply
Output (at basic													
Characteristic													
Accommodation:													
Food services													
Transportation:													
Passenger rail													
Passenger bus (long													
Taxi													
Passenger air													
Passenger													
Car rental													
Package													
Entertainment, museums,													
Skiing													
Health spas													
Cruises													
Single purpose consumer													
Total output of													
tourism commodities													
All other commodities purchased by													
of which:													
Retail margins													
Wholesale													
Transportation													
Fuel													
Clothing													
Food													
Beer, wine,													
Tobacco													
Convention													
Financial services and													
All other goods and													
Total output at basic													
Intermediate inputs (at purchasers'													
Value Added (at basic													
Other													
Gross fixed capital													
Net capital stock, end of													
Tourism promotion													

* Gross treatment of package tours. ** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 10. **Tourism supply and demand by type of commodity and by type of visitor: net basis,* at purchasers' prices**
At prices of previous period

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Supply (at basic values)			Net taxes on products **	VAT	Margins***	Total supply at purchasers' prices	Total domestic supply (7-2)	Total domestic use at purchasers' prices (14+15)	Domestic supply acquired by type of visitor, at purchasers' prices				Total domestic tourism demand (10+11+12+13)	All other domestic use	Tourism use as percent of domestic supply ((14/8)*100	Non-resident supply acquired by:			Total non-resident supply to residents (17+18+19)
	Domestic output	Imports	Total supply							Non-residents	Residents:						Households	Business	Govern-ment	
											Households	Business****	Govern-ment****							
Characteristic commodities																				
Accommodation: paid																				
: imputed																				
Food services																				
Transportation:																				
passenger rail																				
passenger bus (long distance)																				
taxi																				
passenger air																				
passenger water																				
Car rental																				
Travel agents/organisers margins																				
Entertainment, museums, libraries*****																				
Skiing																				
Health spas																				
Cruises																				
Single purpose consumer durables																				
Total output of characteristic tourism commodities																				
All other commodities purchased by visitors																				
of which:																				
Retail margins																				
Wholesale margins																				
Transportation margins																				
Fuel																				
Clothing																				
Food																				
Beer, wine, liquor																				
Tobacco products																				
Convention fees																				
Financial services and insurance																				
All other goods and services																				
Total economy																				

* Net treatment of package tours. ** Excludes VAT. *** Trade and transport margins.
**** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. ***** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 10A. **Tourism supply and demand by type of commodity and by type of visitor: gross basis,* at purchasers' prices**
At prices of previous period

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Supply (at basic values)			Net taxes on products **	VAT	Margins***	Total supply at purchasers' prices	Total domestic supply (7-2)	Total domestic use at purchasers' prices (14+15)	Domestic supply acquired by type of visitor, at purchasers' prices				Total domestic tourism demand (10+11+12+13)	All other domestic use	Tourism use as percent of domestic supply ((14/8)*100	Non-resident supply acquired by:			Total non-resident supply to residents (17+18+19)
	Domestic output	Imports	Total supply							Non-residents	Residents:						Households	Business	Govern-ment	
											Households	Business****	Govern-ment****							
Characteristic commodities																				
Accommodation: paid																				
: imputed																				
Food services																				
Transportation:																				
passenger rail																				
passenger bus (long distance)																				
taxi																				
passenger air																				
passenger water																				
Car rental																				
Package tours																				
Entertainment, museums, libraries*****																				
Skiing																				
Health spas																				
Cruises																				
Single purpose consumer durables																				
Total output of characteristic tourism commodities																				
All other commodities purchased by visitors																				
of which:																				
Retail margins																				
Wholesale margins																				
Transportation margins																				
Fuel																				
Clothing																				
Food																				
Beer, wine, liquor																				
Tobacco products																				
Convention fees																				
Financial services and insurance																				
All other goods and services																				
Total economy																				

* Gross treatment of package tours. ** Excludes VAT. *** Trade and transport margins.
**** As intermediate consumption. If data cannot be obtained separately, these items can be reported together. ***** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 11. **Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: net basis***

At prices of previous period

	1	2	3	4	5	6	7
	Total domestic supply	Tourism consumption				Total tourism demand (2+3+4+5)	Tourism ratio (1) (6/1)
		Non-residents	Residents:				
			Households	Business**	Government**		
Output (at basic values)							
Characteristic industries							
Accommodation: paid							
Ownership of dwellings: imputed rent							
Food services							
Transportation:							
Passenger rail							
Passenger bus (long distance)							
Taxi							
Passenger air							
Passenger water							
Car rental							
Travel agents/organisers margins							
Entertainment, museums, libraries***							
Skiing							
Health spas							
Cruises							
Single purpose conumer durables							
Total output of characteristic tourism industries							
All other industries							
of which:							
Retail margins							
Wholesale margins							
Transportation margins							
Fuel							
Clothing							
Food							
Beer, wine, liquor							
Tobacco products							
Convention fees							
Financial services and insurance							
Total output at basic prices							

* Net treatment of package tours. ** As intermediate consumption. If data cannot be obtained separately, these items can be reported together.
*** Includes tourism information bureaux.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 11A. **Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: gross basis***

At prices of previous period

	1	2	3	4	5	6	7
	Total domestic supply	Tourism consumption				Total tourism demand (2+3+4+5)	Tourism ratio (1) (6/1)
		Non-residents	Residents:				
			Households	Business**	Government**		
Output (at basic values)							
Characteristic industries							
Accommodation: paid							
Ownership of dwellings: imputed rent							
Food services							
Transportation:							
Passenger rail							
Passenger bus (long distance)							
Taxi							
Passenger air							
Passenger water							
Car rental							
Travel agents/organisers margins							
Entertainment, museums, libraries***							
Skiing							
Health spas							
Cruises							
Single purpose conumer durables							
Total output of characteristic tourism industries							
All other industries							
of which:							
Retail margins							
Wholesale margins							
Transportation margins							
Fuel							
Clothing							
Food							
Beer, wine, liquor							
Tobacco products							
Convention fees							
Financial services and insurance							
Total output at basic prices							

* Gross treatment of package tours. ** As intermediate consumption. If data cannot be obtained separately, these items can be reported together.
*** Includes tourism information bureaux.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 12. **Tourism value added of characteristic tourism and other industries: net basis***
At prices of previous period

	Output (at basic prices)	Intermediate consumption (at purchasers' prices)	Value added (at basic prices)	Tourism ratio(1)	Tourism value added(1) (TVA)
Output (at basic values)					
Characteristic industries					
Accommodation: paid					
Ownership of dwellings: imputed rent					
Food services					
Transportation:					
Passenger rail					
Passenger bus (long distance)					
Taxi					
Passenger air					
Passenger water					
Car rental					
Travel agents/organisers margins					
Entertainment, museums, libraries**					
Skiing					
Health spas					
Cruises					
Single purpose consumer durables					
Total output of characteristic tourism industries					
All other industries					
of which:					
Retail margins					
Wholesale margins					
Transportation margins					
Fuel					
Clothing					
Food					
Beer, wine, liquor					
Tobacco products					
Convention fees					
Financial services and insurance					

* Net treatment of package tours. ** Includes tourism information bureaux.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 12A. **Tourism value added of characteristic tourism and other industries: gross basis***
At prices of previous period

	Output (at basic prices)	Intermediate consumption (at purchasers' prices)	Value added (at basic prices)	Tourism ratio(1)	Tourism value added(1) (TVA)
Output (at basic values)					
Characteristic industries					
Accommodation: paid					
Ownership of dwellings: imputed rent					
Food services					
Transportation:					
Passenger rail					
Passenger bus (long distance)					
Taxi					
Passenger air					
Passenger water					
Car rental					
Travel agents/organisers margins					
Entertainment, museums, libraries**					
Skiing					
Health spas					
Cruises					
Single purpose consumer durables					
Total output of characteristic tourism industries					
All other industries					
of which:					
Retail margins					
Wholesale margins					
Transportation margins					
Fuel					
Clothing					
Food					
Beer, wine, liquor					
Tobacco products					
Convention fees					
Financial services and insurance					

* Gross treatment of package tours. ** Includes tourism information bureaux.
1. An important variation of the tourism ratio is the tourism value-added ratio (see Chapter 6).
Source: OECD Tourism Committee.

Table 13. **Characteristic tourism industries' gross capital acquisition**

Industry	Produced non-financial fixed capital formation						Non-produced non-financial assets			Total non-financial capital acquisition
	Dwellings	Non-dwelling construction	Mobile equipment	Computer and other electronic equipment	Other	Total	Land	Other non-produced non-financial assets	Total non-produced non-financial assets	
Accommodation: paid										
Ownership of dwellings*										
Food services										
Transportation:										
Passenger rail										
Passenger bus (long distance)										
Taxi										
Passenger air										
Services to air transport										
Passenger water										
Car rental										
Travel agents										
Entertainment, museums, libraries**										
Ski lodges										
Health spas										
Cruises										
Total										

* Should only include second homes and time-share units. If unavailable, leave blank.
** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Table 14. **Characteristic tourism industries' gross capital stock**

Industry	Net produced non-financial fixed capital stock							Non-produced non-financial assets			Total non-financial capital stock
	Dwellings	Non-dwelling construction	Mobile equipment	Computer and other electronic equipment	Other	Total	Capacity utilisation	Land	Other non-produced non-financial assets	Total non-produced non-financial capital stock	
Accommodation: paid											
Ownership of dwellings*											
Food services											
Transportation:											
Passenger rail											
Passenger bus (long distance)											
Taxi											
Passenger air											
Services to air transport											
Passenger water											
Car rental											
Travel agents											
Entertainment, museums, libraries**											
Ski lodges											
Health spas											
Cruises											
Total											

* Should only include second homes and time-share units. If unavailable, leave blank.
** Includes tourism information bureaux.
Source: OECD Tourism Committee.

Chapter 6

DERIVING TOURISM VALUE ADDED (TVA) ESTIMATES THROUGH A TSA

The derivation of tourism value added is central to the development of a TSA. Tourism suffers from a lack of credibility because it is not a "standard" industry and its economic role has proved difficult to measure. Consequently, in the absence of an objective methodology for measuring tourism's value added in comparison with that of other standard industries, there is no way to assess its economic significance. This chapter indicates how the basic information assembled to construct a TSA can be used to derive tourism value added (TVA).

In both the 1968 and the 1993 versions of the national accounts, the input/output tables, and specifically the supply and use tables, represent an essential element in the measurement of economic activity. These tables measure domestic production (the "make" matrix) and imports, and show how this supply (of imports and domestic production) is used. The tables are presented in the same way: industry by commodity.

In the ***make matrix***, each industry's output is indicated against the commodity(ies) it produces. As noted above, the primary production of an economic unit determines the industry to which it is classified. Thus, for restaurants, the primary product will be meal services, but there may be secondary (and probably tertiary) production which cannot be separated from the primary production processes.

For the ***import matrix***, imports are classified to each industry, or to final demand, depending on their use. Taken together, the make and import matrices constitute total supply. As far as tourism is concerned, imports are of lesser importance as most of the commodities purchased by visitors are services (which are not traded internationally to the same extent as goods), although these too can be imported (*e.g.* air transport).

For the ***use matrix***, each industry's commodity inputs are identified, together with the primary inputs [of labour and returns to capital and entrepreneurship (or the factors of production)] which together with the *net taxes on production: other* amount to an industry's value added [or industry gross (domestic) product]. The sum of all industries' value added (plus net taxes on products) will provide the economy's GDP. (In some countries, the derivation of GDP may involve additional calculations, in cases where some output is sold directly by the factors of production to final demand without involving an industry.)

The same result can be derived from the commodity approach. Each commodity is either used as an input to another industry or is part of final demand. The sum of final demand (at purchasers' prices) for all commodities (less imports) will equal the sum of the value added of all industries. The sum of each commodity's supply will equal the sum of its use. Similarly, the total inputs (intermediate and primary) for each industry will equal the sum of each industry's output. As a result, there is a balance for each commodity and for each industry.

Text Table 1. **Simplied make and use matrices: version 1**

Make matrix

	Industry					
Commodity	Restaurants	Hotels	Other		Total supply	Coverage ratio
Meals	50	20			70	71.43
Accommodation		100			100	100.00
Laundry service			25		25	
Food			50		50	
Electricity			30		30	
Total output	**50**	**120**	**105**		**275**	
Specialisation ratio	100.00	83.33				

Use matrix

	Industry				Households		Total tourism use	GDP sum of incomes	GDP final demand	Total use	Tourism ratio	Tourism net ratio
Commodity	Restaurants	Hotels	Other									
			Tourism	Non-tourism	Tourism	Non-tourism						
Meals			10	15	25	20	35		45	70	50%	50%
Accommodation			25	10	60	5	85		65	100	85%	80%
Laundry service	5	10				10			10	25	0	
Food	25	5				20			20	50	0	
Electricity	5	10				15			15	30	0	
Total intermediate usage [1]	**35**	**25**	**60**						**155**			
Compensation of labour	10	55	30					95				
Gross operating surplus	5	30	5					40				
Net indirect taxes		10	10					20				
Value added	15	95	45					**155**				
Total use	**50**	**120**	**105**							**275**		

1. Total intermediate usage of “other” industry equals tourism and non-tourism inputs.

The use matrix is divided into four quadrants. The first quadrant records each industry's intermediate commodity inputs. The second records the final demand (if any) for each commodity. The third quadrant measures each industry's value added, representing the difference between gross output and intermediate inputs. The fourth quadrant may be empty, although some countries may record some aspect of final demand for primary inputs which are not recorded as inputs into an industry.

Text Table 1 shows a very simplified version of "make and use" matrices. The use matrix has been modified slightly to show the tourism dimension, which is not identified separately in the standard national accounts' presentation. Thus, tourism demand is shown as two extra columns. One shows tourism demand inputs separately from non-tourism demand inputs as part of the input structure of the non-tourism industries. The other extra column is shown as an additional vector in household demand to show tourism expenditure separately from non-tourism expenditure.

The top part of the table presents a 3*5 make matrix, *i.e.* there are three industries and five commodities. The three industries are: restaurants, hotels and "other" (which produces everything else in the economy). The five commodities are: meals, accommodation, laundry services, food and electricity. In the representation shown here, restaurants produce one commodity: meals (50), for a total output of 50. Hotels produce two commodities, 20 meals and 100 accommodation, for a total output of 120. "Other" industries produce 25 laundry services, 50 food and 30 electricity, a total output of 105. The total supply of each commodity is shown on the right, *e.g.* total meals is 70, representing the sum of 50 (produced by restaurants) and 20 (by hotels). Gross output is 275.

The ***coverage ratio*** is shown on the far right-hand side and represents the percentage of the commodity's total output attributable to its principal producer. Thus, the coverage ratio for "meals" by its primary producer (restaurants) is 71.43% (50/70*100). The coverage ratio for accommodation is 100% since all the output of this commodity is produced by its primary producer (hotels).

At the bottom of the make matrix is the ***specialisation ratio*** of the two major tourism industries. The specialisation ratio for restaurants is 100%, which represents the proportion of the industry's primary output (meals) to its total output (that is, 50/50*100). For hotels, the specialisation ratio is 83.33%, *i.e.* the primary product is accommodation (100) and total output for the industry is 120, thus we have 100/120*100.

The lower part of Text Table 1 shows the use matrix. The use matrix has the same industry and commodity dimensions as the make matrix but, in addition, it shows the amounts of each commodity's output that is purchased for final demand, as well as showing the amount of each industry's output that represents returns to the factors of production. Thus, total use for *each commodity* is equal to total supply (as shown in the column "total use": each commodity's total use is the same as its total supply in the make matrix) while *each industry's* total use (of commodities as well as labour, capital and entrepreneurship) is equal to its total output in the make matrix. (Compare the line "total use" for each industry with the counterpart line "total output" in the make matrix).

In the use matrix, the inputs for the restaurant industry are shown as five laundry services, 25 food and five electricity (for a total of 35 intermediate inputs) and ten for labour, five for operating surplus and zero indirect taxes, to give a value added (industry GDP) of 15. The sum of intermediate inputs and returns to the factors of production equals the sum of the industry's output (50). For hotels, the inputs are ten for laundry services, five for food and ten for electricity (for a total of 25 intermediate inputs) and 55 for labour, 30 for operating surplus and ten for indirect taxes for a total value added of 95. The sum of the intermediate inputs and the industry's value added equals the total of the industry's output (120). For "other industries", their commodity inputs are divided into those that were used for tourism purposes and those that were not. Of a total of 25 for meals, ten were

acquired as tourism and 15 as non-tourism, and, of a total of 35 in accommodation, 25 were for tourism and ten for non-tourism purposes. The sum of these intermediate inputs for "other industries" amounts to 60. The value added for these industries [gross output (105) less intermediate inputs (60)] is 45, which comprises 30 for labour, five for operating surplus and ten in indirect taxes.

In this example, final demand has been simplified to Personal Final Consumption Expenditure (PFCE), whereas government final consumption expenditures, gross fixed capital formation (GFCF), change in inventories and exports would normally be included. (This is not to say that GFCF represents part of tourism demand but rather to point out the categories of final use. GFCF for tourism industries has been discussed in Chapter 3.)

PFCE has been broken down in the same way as for intermediate consumption: expenditure for tourism and for non-tourism purposes. Thus, for meals, 25 were tourism demand and 20 non-tourism demand. Similarly, for accommodation services, 60 were tourism and five non-tourism.

GDP is shown in three ways. The column "GDP: final demand" sums tourism and non-tourism expenditures by households to provide a total of 155 (45+65+10+20+15), which is the same as the sum of the value added of the three industries shown in the line "value added (GDP)" (15+95+45=155) which is also equal to the sum of the returns to the factors of production 95+40+20=155 (shown in the column "GDP: sum of incomes").

Before we explore how these elements can be used to analyse the tourism industry, it is worth examining certain issues related to the data.

First, as noted above, tourism expenditure is not limited to final demand. If it were, none of the intermediate inputs by "other" industries would be regarded as tourism outlays. Thus, of the 35 of tourism expenditure on meals, the ten on intermediate consumption would be excluded, as would 25 of accommodation. Accordingly, a tourism-to-GDP ratio that relies solely on final demand will ignore a certain (probably not insignificant) amount of tourism demand. Related to this is the fact that TVA and tourism demand are not the same thing, as will be examined further below.

Second, although no GFCF is shown in this example, it would not be included as part of tourism demand even though it is clearly a key variable in exploring tourism's overall importance in the economy.

Third, the data coming out of this framework are set within the structure of the economy as a whole. Accordingly, when examining various scenarios (future demand, tax changes, etc.), the impact on other industries can also be analysed within a complete and comprehensive framework. This enables the use of analytical constructs such as impact models or computer generalised equilibrium models (CGEs). Consequently, if additional aircraft are likely to be ordered, the impact of that purchase on the rest of the economy can be determined. Similarly, with respect to the construction of new hotels or airport facilities, the likely impacts on supplying industries, leakages (to imports), and effects on labour demand (and possible effects on its price), etc., can be analysed.

With this in view, it is worth indicating the different ways in which these data would appear (and be analysed) from a TEA vs. a TSA perspective.

Text Table 2 shows how the data presented in the make and use matrices would appear in the TEA.

Text Table 2. **Tourism data using Tourism Economic Accounts: version 1**

Simplified TEA Table 1

Tourism characteristic commodity	Total supply	Tourism demand	Tourism ratio
Meals	70	35	50%
Accommodation	100	85	85%

Simplified TEA Table 2

Tourism characteristic industry	Industry gross output	Intermediate inputs	Gross value added	Tourism ratio	Tourism value added
Restaurants	50	35	15	50%	7.50
Hotels	120	25	95	85%	80.75

Net ratio approach

	1	2	3	4	5	6	7	8
Tourism characteristic industry	Industry gross output	Gross value added	Net ratio (col.2/col.1)	Total commodity supply	Tourism demand	Tourism ratio	Net ratio (col.6 *col.3)	TVA (col.1*col.7)
Restaurants	50	15	30%	70	35	50%	15%	7.50
Hotels	120	95	79%	100	85	85%	67%	80.75

The first range sets out a simplified Table 1 from the TEA. It shows the total characteristic commodity supply (in this instance, meals and accommodation) and the total amount of this supply that is purchased by visitors. For the purposes of this example, it is not necessary to identify the type of visitor. The simple tourism ratio is derived as a supplement, as the proportion of tourism demand to total supply. Thus, the total supply of meals is 70 of which 35 is tourism demand, resulting in a tourism ratio of 50%. The same applies for accommodation: total supply is 100, of which 85 is tourism demand, producing a tourism ratio of 85%.

The second range of Text Table 2 presents a simplified version of Table 2 of the TEA. The two characteristic tourism industries (restaurants and hotels) are shown, with their total output, intermediate inputs and industry gross value added. (For the purposes of this exposition, there is no need to disaggregate the components of gross value added.) Accordingly, the restaurant industry is shown to have 50 in gross output, 35 as intermediate inputs and a gross value added of 15. Hotels have a gross output of 120, intermediate inputs of 25 and a gross value added of 95. As a supplement to this presentation, the tourism ratio from Table 1 is brought forward and applied to the industry's gross value added to give an implied tourism industry gross value added. The resulting figures are: 7.50 for restaurants and 80.75 for hotels, a total TVA of 88.25. As noted above, the assumption underlying the use of this ratio is that the specialisation ratio and coverage ratios are very high (close to 100%). Where this assumption does not hold, the derivation of the industry TVA is less valid. See below on the use of the tourism value added ratio.

The last range of Text Table 2 presents an alternative methodology for calculating industry TVA: the "net ratio" approach. In this approach, the ratio between the industry gross value added and its gross output is applied to the tourism ratio of the commodity. (In this way, the use of the "net ratio" relies on a similar assumption to that of the use of the tourism ratio; *i.e.* the specialisation and coverage ratios of the primary producing industries are high because this approach implies that the ratio of gross value added to gross output is a very large proportion of the characteristic tourism commodity for the primary industry and that this ratio either holds true for all other industries producing the commodity or it is not significant.)

Text Table 3. **Simplified make and use matrices: version 2**

Make matrix

	Industry					
Commodity	Restaurants	Hotels	Other		Total supply	Coverage ratio
Meals	50	20			70	71.43
Accommodation		100			100	100.00
Alcohol margins	25	15	100		140	n.a.
Laundry service			25		25	n.a.
Food			50		50	n.a.
Electricity			30		30	n.a.
Total output	**75**	**135**	**205**		**415**	
Specialisation ratio	66.67	74.07				

Use matrix

	Industry											
			Other		Households		Total tourism use	GDP sum of income	GDP final demand	Total use	Tourism ratio	Tourism net ratio
Commodity	Restaurants	Hotels	Tourism	Non-tourism	Tourism	Non-tourism						
Meals			10	15	25	20	35		45	70	50%	
Accommodation			25	10	60	5	85		65	100	85%	
Alcohol margins			5	5	10	120	15		130	140	10.71%	
Laundry service	5	10				10			10	25	0	
Food	25	5				20			20	50	0	
Electricity	5	10				15			15	30	0	
Total intermediate usage [1]	**35**	**25**	**60**						**285**			
Compensation of labour	25	70	80					175				
Gross operating surplus	10	30	45					85				
Net indirect taxes	5	10	10					25				
Value added (GDP)	40	110	135					285				
Total use	**75**	**135**	**205**							**415**		

1. Total intermediate usage of “other” industry equals tourism and non-tourism inputs.

Applying the net ratio approach produces exactly the same results for the industries' TVA in these examples. This may not always be the case, as will be shown below.

Let us now slightly complicate the presentation by introducing alcohol margins as shown in Text Table 3, which is a slight modification of Text Table 1. Alcohol margins follow the same concept as retail margins – they are the industry's "mark up" on alcoholic drinks just as retail margins are the output of the retailer; the good sold has not been changed by the hotel or bar. The restaurant industry produces 25 and the hotel industry 15, while other industries produce 100 of alcohol margins (mostly in bars and taverns). Thus, the major part of the output is not produced by these tourism industries. On the demand side, 15 is demanded by visitors (five intermediate and ten final), with 125 demanded by non-visitors (five for intermediate usage and 120 for final demand by households). (Whether alcohol margins represent a characteristic tourism commodity depends on the interpretation of the significance of tourism demand as a proportion of the commodity's supply. It also raises the question as to whether the 15 purchased by visitors would be a significantly large enough proportion of total tourism demand for it to constitute a characteristic tourism commodity. In the TSA tables, alcohol margins are not presented as a characteristic commodity but are shown in a separate line under "all other commodities purchased by visitors".)

The total supply of meals and accommodation remains unchanged at 70 and 100, respectively, and their tourism demand remains unchanged at 35 and 85. Consequently, in Text Table 4 (a slight modification of Text Table 2), the tourism ratios for the commodities meals and accommodation remain 50% and 85%, respectively.

Text Table 4. **Tourism data using Tourism Economic Accounts: version 2**

Simplified TEA Table 1

Tourism characteristic commodity	Total supply	Tourism demand	Tourism ratio
Meals	70	35	50%
Accommodation	100	85	85%

Simplified TEA Table 2

Tourism characteristic industry	Industry gross output	Intermediate inputs	Gross value added	Tourism ratio	Tourism value added
Restaurants	75	35	40	50%	20.00
Hotels	135	25	110	85%	93.50

Net ratio approach

	1	2	3	4	5	6	7	8
Tourism characteristic industry	Industry gross output	Gross value added	Net ratio (col.2/col.1)	Total commodity supply	Tourism demand	Tourism ratio	Net ratio (col.6 *col.3)	TVA (col.1*col.7)/100
Restaurants	75	40	53%	70	35	50%	27%	19.88
Hotels	135	110	79%	100	85	85%	67%	90.65

The story changes in the second range. The restaurant industry's gross output is now shown as 75 (up from 50), intermediate inputs are unchanged so that gross value added rises to 40. Hotels now have a gross output of 135, intermediate inputs remain at 25, with the result that gross value added increases to 110. As the tourism ratios from Text Table 3 are the same as before, the resulting TVA are: 20 for restaurants and 93.5 for hotels, for a total TVA of 113.5.

Applying the net ratio approach in the third range of Text Table 4 produces the same results as for the tourism ratio for restaurants, although for hotels the value is lower.

What result would the TSA have given? Answering this question requires looking once again at Text Table 3.

Text Table 3 shows that hotels produce three commodities sold to visitors: meals, accommodation and alcohol margins. In contrast with the TEA, the data in this presentation allow a production function to be derived for each of the three commodities enabling a better link with the inputs of each of these outputs and providing a more accurate TVA. Deriving the production functions, however, requires certain assumptions.

The basic methodology underlying this approach is as follows:

$$TVA_{ij} = (GO_{ij} - II_{ij}) * TS_{ij}$$

Where: TVAij = Tourism value added for the ith commodity of the jth industry.

Goij = Gross output of the ith commodity of the jth industry.

Iiij = Intermediate inputs for the ith commodity of the jth industry.

Tsij = Tourism share of the output of the ith commodity of the jth industry.

Thus, the TVA for any industry's output of a tourism commodity is determined by the inputs that are used in the production of that commodity, multiplied by the proportion of the total output acquired by visitors. For the most part, this latter variable is assumed to be the same for all industries that produce the commodity unless assumptions are made or unless industry-based information indicates that certain industries do not sell any (or a specifically different proportion) of their output to visitors. The underlying basis for this assumption is that most information from the demand side, rather than being derived from the supplying industries, will originate in surveys of visitor expenditure on commodities. As this is the most likely source of information, it can be assumed that the industries sold their tourism commodity to visitors in proportion to the amount of total supply they produced (proportionality across commodities and industries being the assumption usually applied in impact models). However, there may be instances where the output of certain tourism commodities is held not to have been acquired by visitors; this is the case, for example, for meals served by companies to their employees. Similarly, other information from the supplying industries may allow for adjustments in the share allocated to tourism. Some industries may be able to indicate the proportion of their output that might be sold to visitors. Hotels, for example, may have a reasonable basis for estimating the share of their meals sold to visitors. In any event, it is probable that hotels sell a higher proportion of their meals to visitors than do other meal-providing establishments since they have a "captive audience".

From the above notation, other assumptions may flow. For example, as indicated above, hotels produce three commodities which have different input structures. To derive a TVA, it is necessary to separate out the different input structures. The following provides a means of achieving this.

In the case of restaurants, the TVA for meals can be constructed as follows:

$$TVAmr = (GOmr - II\ mr) * TSmr$$

Where: TVAmr = Tourism value added for meals for the restaurant industry.

Gomr = Gross output of meals for the restaurant industry.

Iimr = Intermediate inputs for meals for the restaurant industry.

TSmr = Tourism share of meals sold by restaurants.

However, as not all the industry's output is meals, some assumptions need to be made. It is assumed here that some of the inputs to the industry are used solely for the provision of meals, while others have to be pro-rated to account for inputs into other commodities produced. Accordingly, it is assumed that all food inputs (25) are for the provision of meals, and that the "tourism" inputs of electricity (5) and laundry services (5) are proportional to the value of the production of the tourism characteristic commodity (in this instance, meals) by the industry. Meals account for two-thirds of the industry's output. Therefore, two-thirds of these two commodity inputs are used in the production of meals. The following derivation of the restaurant industry's TVA results (from Text Table 2):

$$\begin{aligned} TVAmr &= (50 - (25 + (2/3*5) + (2/3*5))) * 50\% \\ &= (50 - 31.67) * 50\% \\ &= 18.33 * 0.5 \\ &= 9.17 \end{aligned}$$

where 50% represents the tourism ratio of the total supply of meals ((10 +25)/70*100). It is assumed that this ratio applies equally to all industries producing meals.

The derivation of the hotel industry's TVA for meals is based on this calculation. All food inputs are assumed to be used in the production of meals while the other inputs are assumed to be in direct proportion to the value of the output of meals by the industry, *i.e.* 20/135 of the inputs of electricity and laundry services. Consequently, the TVA for meals for the hotel industry is derived as:

$$\begin{aligned} TVAmh &= (GO\ mh - IImh) * TSmh \\ &= (20 - (5 + (20/135*10) + (20/135*10))) * 50\% \\ &= (20 - 8) * 0.5 \\ &= 6 \end{aligned}$$

The derivation of TVA for accommodation for hotels is thus:

$$\begin{aligned} TVAah &= (GOah - IIah) * TSah \\ &= (100 - (100/135*10) + (100/135 *10)) * 85\% \\ &= (100 - 14.8) * 0.85 \\ &= 85.2 * 0.85 \\ &= 72.42 \end{aligned}$$

TVA for alcohol margins for restaurants is derived as:

$$\begin{aligned} TVAalr &= (GOalr - IIalr) * TSalr \\ &= (25 - (1/3*5) + (1/3*5)) * 15/140 \\ &= (25 - 3.3) * 0.107 \\ &= 2.32 \end{aligned}$$

TVA for alcohol margins for the hotel industry is:

$$\begin{aligned} TVAalh &= (GOalh - IIalh) * TSalh \\ &= (15 - (15/135*10) + (15/135*10)) * 15/140 \\ &= (15 - 2.2) * 0.107 \\ &= 12.8 * 0.107 \\ &= 1.37 \end{aligned}$$

The TVA of the restaurant industry is thus: 9.17 + 2.32 = 11.49; and that for the hotel industry: 6.0 + 72.42 + 1.37 = 79.79 These results compare with the estimates from the TEA of 20 for restaurants, using the tourism ratio approach and the net ratio approach, and 93.5 for hotels using the tourism ratio and 91.67 using the tourism net ratio.

From the above, it can seen that the TVA is the amount of a tourism industry's value added that is attributable to tourism demand. It should be evident that merely taking tourism expenditures in final demand for GDP will not produce an acceptable result. On the one hand, intermediate tourism consumption would be excluded. On the other hand, when a commodity is purchased in final demand it represents outputs from many different industries, some of which may have no bearing on the provision of tourism output to visitors (such as farmers' production of food) since there is no direct physical and economic visitor/producer relationship. Moreover, even if tourism intermediate consumption expenditures were to be included, the same issue would arise: the gross sales of a commodity do not equal the value added of the industry to which that commodity is primary. And, for credibility in analysing tourism, comparability with other industries is essential.

Use of the techniques proposed in the OECD's TSA is not without problems. There is no direct observable means to verify the results (if there were, there would be no need for a TSA); it has to be understood that the results are based on assumptions which are not testable but which are considered reasonable. However, the OECD considers the TSA proposal to provide the best method currently available for removing as many non-tourism variables as possible. Should better approaches be developed, the TSA will be modified accordingly.

An alternative to the tourism ratio and the tourism net ratio: the tourism value added ratio

The use of the tourism ratio to derive the composition of value added is appropriate only if an industry has a specialisation ratio of 100% or if the tourism share of each commodity produced by the industry is the same as the tourism ratio.

Using the notation shown above, we have:

$$TVAij = (GOij - IIij) * TSij$$

Where: Goij = Output of the ith commodity from the jth industry.

Iiij = Intermediate inputs for the ith commodity of the jth industry.

Tsij = Tourism share of the output of the ith commodity by the jth industry (which, in most cases, will be the same as the tourism ratio for commodity i).

We also have:

$$VAj = CEj + GOSj + TPOj$$

Where: Cej = Tourism compensation of employees for the jth industry.

GOSj = Tourism gross operating surplus for the jth industry.

TPOj = Taxes less subsidies on production: other for the jth industry.

Vaj = Value added of the jth industry.

We want to estimate: TCEj, TGOSj and TTPOj, so that TVAj = TCEj + TGOSj + TTPOj

Where: TCEj = Tourism compensation of employees for the jth industry.

TGOSj = Tourism gross operating surplus for the jth industry.

TTPOj = Tourism taxes less subsidies on production: other for the jth industry.

If we assume that: TCEj = CEj * TRp;

TGOSj = GOSj * TRp

TTPOj = TPOj * TRp

Where TRp represents the tourism ratio of commodity p for which industry j is primary.

Then we have: TVAj = (CEj + GOSj + TPOj) * TRp = VAj * TRp.

However, $TVAj = \sum_i TVAij = \sum_i (GOij - IIij) * TSij$.

Hence, $VAj * TRp = \sum_i (GOij - IIij) * TSij$.

However, $VAj = \sum_i (GOij - IIij)$ since $\sum_i GOij = GOj$ and $\sum_i IIij = IIj$

Where: Goj = Total output by the jth industry.

Iij = All intermediate inputs for the jth industry.

Therefore: $\sum_i (GOij - IIij) * TRp = \sum_i (GOij - IIij) * TSij$.

The last identity tells us that deriving the components of TVA for industry j by applying the tourism ratio to the components of value added for that industry will work if TSij equals TRp for each commodity i produced by that industry. In particular, the use of the tourism ratio will work for industries which produce only one commodity (*i.e.* with a specialisation ratio of 100%) with a tourism share (TSij) that is the same as the tourism ratio for that commodity (TRi) (which is not the case for many commodities).

However, since most, if not all, industries do not have a specialisation ratio close or equal to 100% and produce two or more commodities with very different tourism shares, it is very unlikely that the tourism ratio will produce estimates of the tourism components of value added that sum to an industry's TVA. For these reasons, the tourism ratio is not recommended for estimating the tourism shares of an industry's value added components, that is, the components of TVA for that industry.

Using Text Table 3 to illustrate why the tourism ratio can be improved upon, we have for the hotel industry:

VAh = 110.

TRp = 85% since accommodation is the commodity for which the hotel industry is primary.

This means that: TVAh = VAh * TRp = 110 * .85 = 93.5.

But TVAh = 6 + 72.42 + 1.37 = 79.79, where TS for meals is 50%, TS for accommodation is 85% and TS for alcohol margins is 10.71%.

In this example, using the tourism ratio to derive the tourism shares of the components of VAh for the hotels industry yields estimates which do not add up to TVAh (*i.e.* 79.79), as should have been the case. When the tourism shares of the commodities produced by an industry are different, the use of the tourism ratio will overestimate the components of TVA, as is the case for the example of the hotel industry.

Furthermore, while the tourism net ratio constitutes a more appropriate ratio for estimating the tourism shares of the value added components for an industry, it should only be used when all intermediate inputs in the derivation of TVAij are pro-rated to the proportion of the output of the ith commodity by industry j to that industry's total output.

Indeed, the tourism net ratio is defined as the ratio of tourism demand for all commodities produced by an industry to that industry's total output.

Accordingly, define $TNRj = \sum_i Tsij * Goij / GOj$ as the tourism net ratio for the jth industry.

As before, we want to estimate TCEj, TGOSj and TTPOj, so that:

TVAj = TCEj + TGOSj + TTPOj.

If we assume that:

TCEj = CEj * TNRj

TGOSj = GOSj * TNRj

TTPOj = TPOj * TNRj

Where: VAj = CEj + GOSj + TPOj,

Then we have: TVAj = (CEj + GOSj + TPOj) * TNRj = VAj * TNRj

or: $TVAij = VAj * \sum_i TSij * GOij/GOj$

However: $TVAj = \sum_i TVAij = \sum_i (GOij - IIij) * TSij.$

Therefore: $VAj * \sum_i TSij * GOij/GOj = \sum_i (GOij - IIij) * TSij.$

This means that: $\sum_i (IIij * TSij) = (\sum_i GOij * TSij) * (1 - VAj/GOj)$

or: $\sum_i (IIij * TSij) = (\sum_i GOij * TSij) * (GOj - VAj)/GOj$

However: IIj = GOj – VAj.

Hence: $\sum_i (IIij * TSij) = (\sum_i GOij * TSij) * IIj/GOj$

or: $\sum_i [IIij * TSij] = \sum_i [(IIj * GOij/GOj) * TSij].$

The last identity tells us that deriving the components of an industry's TVA by applying the tourism net ratio to the components of value added for that industry will work if IIij = (IIj) * GOij/GOj, that is, if IIij used in the derivation of TVAij is obtained by multiplying each intermediate input in IIj by the ratio GOij/GOj. In other words, the tourism net ratio will work for industries where proportionality across commodities is assumed for each intermediate input in the derivation of TVA.

Therefore, for industries where one or more intermediate inputs are pro-rated to 1 or 0 in IIij in order to derive TVAij, the use of the tourism net ratio is not recommended, as the estimates obtained by applying the ratio to the industry's components of value added will not add to TVAj.

In particular, this is the case for the hotel industry, where all food inputs are pro-rated to 1 in the derivation of TVA for meals, and to 0 in the calculation of TVA for accommodation and alcohol margins (see above).

Using Text Table 3 to illustrate why the tourism net ratio does not work, we have for the hotel industry:

VAh = 110

TNRh = (20 * .5 + 100 * .85 + 15 * .1071)/135 = .7156

This means that: TVAh = VAh * TNRh = 110 * .7156 = 78.72.

But: TVAh = 6 + 72.42 + 1.37 = 79.79 as indicated above.

Therefore, using the tourism net ratio to derive the tourism shares of the components of VAh for the hotel industry produces estimates that do not add to up TVAh (*i.e.* 79.79), as should have been the case.

That being said, the use of the *tourism value added ratio* (TVAj/VAj) instead of the tourism ratio and tourism net ratio is recommended for estimating the shares of compensation of employees, gross operating surplus and net taxes on production that are attributable to tourism. Of the three ratios, the tourism value added ratio is the only one that produces estimates of the tourism components of value added for an industry that always sum to that industry's TVA.

Defining:

CEj = Tourism compensation of employees for the jth industry.

GOSj = Tourism gross operating surplus for the jth industry.

TPOj = Taxes less subsidies on production: other for the jth industry.

VAj = Value added of the jth industry.

Where: VAj = CEj + GOSj + TPOj

and

TVAj = Tourism value added for the jth industry.

TCEj = Tourism compensation of employees for the jth industry.

TGOSj = Tourism gross operating surplus for the jth industry.

TTPOj = Tourism taxes less subsidies on production: other for the jth industry.

Where: TCEj, TGOSj and TTPOj are unknown and TVAj/VAj as the tourism value added ratio.

If we define TCEj, TGOSj and TTPOj as:

TCEj = CEj * TVAj/Vaj

TGOSj = GOSj * TVAj/Vaj

TTPOj = TPOj * TVAj/VAj

We obtain: TCEj + TGOSj + TTPOj = (CEj + GOSj + TPOj) * TVAj/Vaj

= VAj * TVAj/VAj = TVAj.

While the tourism value added ratio (TVAj/VAj) is not perfect since it assumes that the proportion of each component in TVA for an industry is the same as in the industry's value added, it is easy to calculate, does not require additional information in the TSA and is based on an acceptable assumption (note that the same assumption is made when using the tourism ratio or tourism net ratio). Also, the tourism value added ratio, when applied to each component of value added for an industry, provides estimates which always add up to the TVA of that industry, which may not be the case when using the tourism ratio or the tourism net ratio.

APPENDIX A

DIRECT VS. INDIRECT VS. INDUCED TOURISM DEMAND

There has been considerable debate about direct vs. indirect measures of tourism demand. The TSA addresses the former, although the latter can also be estimated from the structure of the TSA. *Direct* tourism demand represents the purchases of goods and services by, or on behalf of, visitors, that is, expenditures made before, during and after a trip and which expenditures are related to the trip itself. To obtain a direct measure of tourism's role in the economy, there needs to be a direct relationship (physical and economic) between the visitor and the producer of the good or service acquired by the visitor in his/her capacity as a visitor. In similar fashion, direct employment measures are related to this direct relationship between the visitor and tourism expenditure. The TSA uses this definition of direct tourism demand to capture these relationships and the resulting TVA. Tourism employment is based on these direct purchases. Thus, for example, the value added from an airline ticket purchased by a visitor is part of direct TVA. Tourism employment to meet this demand is based on direct tourism expenditure.

Indirect tourism demand flows from two aspects of direct tourism. First, indirect tourism demand is the demand generated by the *producer* (of a characteristic tourism commodity) that results from the production of a good or service sold directly to a visitor. Thus, for example, when a visitor buys a meal, the direct demand is the cost of the meal. The restaurateur's TVA is the difference between the income from the meal and the intermediate costs (such as the purchase of food, fuel, etc.) that go into producing the meal. Indirect tourism demand is generated for the food manufacturer, the transporter, the electricity company, etc., that provide the necessary inputs required to make the meal. The production of these inputs constitutes parts of the manufacturing, transport and electricity industries and is not considered as part of the tourism industry because there is no direct physical and economic relationship between the producer and the visitor. In this way, the value added of different industries is differentiated in the same way as the gross output of the manufacturing industry includes purchases (inputs) from other industries (such as accounting or raw materials) while its value added excludes these inputs.

Determining these indirect effects is an important part of economic analysis since it allows the identification of such elements as the effect on employment in different industries, the tax revenue that might be realised, leakages to imports, the price pressures that might ensue in particular markets or in the economy as a whole, potential exchange rate effects, etc. The TSA provides the means to undertake these calculations, but does not calculate them directly.

The second aspect of indirect tourism demand is the acquisition of *fixed capital* by a producer of a characteristic tourism commodity, such as an airline buying an aircraft. As discussed above, fixed capital purchases are not included in the generation of TVA. However, capital is an essential element in the production of most tourism commodities. Providing air passenger services without an aircraft or accommodation services (other than camp sites) without a building would be difficult. Consequently, a TSA that ignored these indirect aspects of tourism demand, and hence, its impact on the broader economy, would be incomplete. This element of indirect demand is included in the TSA but excluded from the calculation of TVA.

Induced demand represents the demand created by producers of commodities who sell to sellers of commodities to visitors. Thus, induced demand is the additional output by a farmer or by an oil refiner to meet the transporter's increased demand that is required to meet the food manufacturer's demand to meet the restaurateur's needs for food resulting from tourism demand. In this sense, the concept of induced demand used here differs from the Keynesian notion of induced demand. This latter notion represents the impact on the

economy of the expenditures that would result from the additional income to, for example, the employees of an hotel that would be prompted by extra output of that hotel.

Although direct demand and capital acquisition are measured in the TSA, the other measures of indirect and induced demand are not. However, these latter can be calculated from the TSA as it is embedded in a supply and use table which is the basic building block for the creation of the (impact) model which would be necessary to derive these estimates. However, it should be noted that such models pose a number of problems, among which the assumptions of full utilisation of resources and linear rates of change.

APPENDIX B

PRACTICAL IMPLEMENTATION AND POSSIBLE DATA SOURCES

Countries' statistical systems have varying strengths and weaknesses. Compiling the TSA may prove a challenge for many statistical agencies, although some of the following information may assist in the compilation process.

Step 1. It may be useful to create an inventory of all available information of potential relevance for the TSA. To achieve this, the compiler should examine what is required for the TSA tables and determine what information is currently available. Information used in the construction of the TEA is a very useful starting point. As noted above, the TSA builds on the TEA, and many of the data used for the TEA will be useful in the construction of the TSA.

The TSA is rooted in the national accounts. Accordingly, the supply and use tables will serve as the basic building block for Tables 1, 2 and 3. These tables should be examined to determine the industry and commodity detail that would best approximate that needed to complete the TSA. Such information may prove to be more readily available than is apparent from the published data – industry and commodity worksheets may be a very valuable source of information. Moreover, as most national accounts' data are drawn from industry surveys, examining these data sources may provide additional information.

The majority of the data from the national accounts are likely to cover the supply side as far as the production account is concerned. The national accounts may also provide information on gross capital acquisition (although such data may be at the division level).

Price indices for the derivation of volume measures may be obtained from the national accounts but may also be available from other sources. However, it should be noted that volume measures are not relevant at the outset of the TSA compilation process since they represent change over time; the TSA will first involve the construction of data for one year. Tables 9 to 14 are volume measures, preferably at prices of the previous year, but if these are not available, constant price measures are an acceptable substitute. Some of the commodity information may be readily available (especially for countries with volume estimates of their supply and use tables). Where commodity detail is not available, close proxies may be used. However, general price deflators (such as the GDP deflator or the consumer price index) should only be used as a last resort.

The derivation of tables on ***volume measures*** is not a priority at this stage, although it remains a goal. To that end, when undertaking price data collections, it may be worthwhile indicating the type of information required for the TSA. Improved price data for the TSA creates an important by-product: given that tourism primarily involves service delivery, and that data on services (in both current and constant prices) for the national accounts tends to be scarce, any improvement in the data that feed into the TSA will also improve the national accounts.

As far as information on the demand for tourism commodities is concerned, this is likely to be less readily available in many countries. Some information may be available from the balance of payments and there may have been surveys conducted in the past which could serve as a basis for current information.

The CPI may be a useful area to explore as the underlying data are frequently taken from a household expenditure survey which may provide some information on the types of commodities acquired by visitors. Even data that are not from the reference year used in the TSA may be useful as a starting point – projections can be made based on price information and other data (such as in volume changes) from the national accounts.

Data for Table 6 may be available from surveys of visitors (at borders, at airports, in their homes) and also from balance of payments surveys.[At present, the balance of payments data provide control totals only for most of non-resident visitor expenditure in the domestic economy and by residents abroad. Greater detail is required for the derivation of TVA (at least as far as exports are concerned)]. Additional information may be available from customs/immigration on numbers of non-resident visitors. Government records may provide data on museums, galleries, etc., in terms of numbers of visitors and costs incurred.

Information on employment may be available from the national accounts, especially if the national accounts show productivity estimates based on hours of employment or FTEs. Additional information may be drawn from labour force surveys, establishment surveys or, where other sources are insufficiently detailed or are unavailable, the population census may provide information. Consistency checks will need to be undertaken with data on employment used in the estimation of the national accounts.

Data for Tables 7 and 8 may be available from the perpetual inventory method (PIM) through the calculation of consumption of fixed capital for the national accounts. However, it is probable that the PIM will not provide the detail required for tourism industries. In that case, supplementary information (through additional surveys) may be necessary for the generation of flows (in Table 7). The derivation of capital stock estimates for Table 8 is more problematical, although for countries with a PIM some of the data on produced capital should be available. If data are not readily available, it may take many years before adequate detail is built up or may entail carrying out specific surveys. Estimates of non-produced, non-financial assets may be particularly difficult to derive. While they are part of the national accounts' framework, they are not very well developed in most countries. Special surveys may be required, or information may be available from non-statistical sources (such as industry associations, annual reports, or, in the case of land, from municipal sources).

Step 2. These data should be placed into the TSA framework to indicate: *i)* data gaps; and *ii)* where the available data require adjustments to make them comparable. If it is not possible to make the data comparable from the outset, this should be noted so that the information can be developed to obtain the correct basis, in addition to indicating that no conclusions should be drawn from the non-comparable data.

In some instances, it may be possible to use data developed for a purpose other than the TSA and to modify or impute information. This may require the use of large databases, especially for imputation of package tours. Familiarity with software able to manipulate large databases would be useful. However, for much of the work on the TSA, use of spreadsheets may be all that is required at the outset (depending on what is available).

Step 3. The next stage of the process depends on the extent to which the inventory has revealed shortcomings in the available data. For the most part, the information may need to be supplemented by additional surveys on both the supply and demand sides (these data are likely to be most difficult to obtain in countries where there has been no systematic collection). Even so, some indicators of the usefulness of the data may be possible. Similarly, where it is not possible to use existing data in any systematic manner, it may be that the very dearth of information could be brought to the attention of the interested agencies (government or industry bodies) with a view to raising their awareness of the benefits of a TSA and seeking their support in securing funds to conduct surveys to provide the information needed. Identifying where the data are inadequate is an essential part of any undertaking of this nature. It is important that (potential) users be kept informed of the developments and potential benefits of the TSA as well as any data shortcomings. This latter point must be kept in mind, given that the TSA is designed to overcome the credibility problem from which tourism suffers. To oversell the TSA or underplay any weaknesses may prove counter-productive.

Step 4. Establishing priorities is important. This will need to be done in conjunction with the national authorities as well as with the OECD's work plan. However, it is clear that the first five tables, and probably the sixth, are the most important. Within these, priorities will need to be set. It is suggested that the employment table may be the easiest table to start with, although proportioning employment to the various tourism industries will require a ratio (whether the tourism ratio, the net tourism ratio or the tourism value added ratio), requiring information on both supply of and demand for tourism commodities. These data are needed for Tables 1 and 2. Table 3 will be derived from Tables 1 and 2, and Table 4 will be derived from the first three tables. Accordingly, priority will probably need to be given to developing estimates of tourism demand as well as improving estimates of tourism supply.

As tourism is a demand-based concept, improving demand data is an essential element in the development of a TSA. Most countries have some estimates of tourism exports (tourism imports are less important at this stage) in the balance of payments. However, the data are usually very highly aggregated. These data will need to be disaggregated for the TSA as commodity detail is necessary to obtain TVA by industry. Developing estimates of domestic tourism demand is probably both more important and more difficult for most countries (domestic tourism is more important than exports for most countries). Hence, improving the coverage of domestic tourism demand is very important. Short of a household expenditure survey, however, this can be very difficult. Business expenditure on tourism may be equally elusive, with the likelihood that the commodities needed to identify tourism demand are probably either unavailable from business records or are classified in such a way that to attempt to separate "entertainment" on tourism from non-tourism may prove a difficult task. However, certain industries (such as air transport) may be assumed to have nearly all passenger transport as tourism demand. Accordingly, these data could serve as a starting point. Similar countries (neighbours) may find that their consumption patterns are similar and it may be possible to use other countries' data sources as proxies for tourism patterns.

While better tourism demand-side estimates are essential, supply-side estimates also need to be improved. (This will often have the added advantage of improving the estimates that go into the construction of the national accounts.) Many countries are finding it difficult to provide data below the two-digit level in the TEA. It is important that these data be improved, at least to the three-digit level, as the two-digit level is too highly aggregated. Since there are usually only a few domestic airline companies, data taken from the annual reports of these companies may serve as a starting point. The same may be true for rail passenger and long-distance bus transport. Hotels and restaurants are too numerous for this method to be used, but there may be industry associations or similar bodies which provide information (or estimates) on their respective industry's inputs and outputs.

If reasonably detailed estimates of some of these industries (accommodation, meals services and passenger transport by air, rail and bus) can be constructed, a considerable headstart will have been gained since the above-mentioned industries generally account for over three-quarters of tourism demand.

Step 5. As data sources improve, reports should be published in order to keep users informed of developments and enable them to use the information as it becomes available. One of the strengths of the TSA is that it can be developed incrementally. As the information builds up, so does the analytical capability – but each table is valuable in its own right.

The information required for Table 6 (on visitor characteristics) is not central to the calculation of other variables (such as TVA). However, it does provide a visitor profile which may prove to be a very useful tourism promotion tool. Obtaining the data may be difficult, but the exercise could be undertaken in conjunction with tourism demand data (for Table 2), *i.e.* in departure lounges of air- and seaports, at other border points, in people's homes.

APPENDIX C

DERIVING TOURISM VALUE ADDED

Worksheet 1. **Tourism individual consumption of general government and non-profit institutions serving households**

Example: Museums

	Individual consumption of government or NPISHs	Tourism ratio [1]	"Tourism individual consumption"
Output[2]	x		
Intermediate inputs	x		
Value added	x		
Compensation of employees	x		
Consumption of fixed capital	x		
Net taxes on production: other	x		

1. Represents the number of visitors as a percentage of the total number of people who go to museums or paying customers or similar measure. Drawn from household surveys, surveys of museums, etc.
2. Output is usually the sum of the costs of inputs.

Source: OECD Tourism Committee.

Worksheet 2. **Deriving tourism value added**[1]

Example: Hotel industry's production of meal services

	Commodities produced by jth industry	Total intermediate inputs into jth industry	Direct inputs to jth commodity	Divide remaining intermediate inputs by total output to derive ratio of tourism inputs	Sum "tourism" intermediate inputs	Derive TVA by deducting inter-mediate inputs from tourism output	Derive TVA by multiplying characteristic industry VA by tourism ratio	Derive components of TVA by pro-rating TVA across components
	1	2	3	4	5	6	7	8
Commodity								
Output	x			x				
Meal services	x					x		
Accommodation	x							
Total output								
Intermediate inputs								
Cleaning		x		x	x	x		
Laundry		x		x	x	x		
Food		x	x	_	x	x		
Electricity		x		x	x	x		
Rent		x		x	x	x		
Value added						x	x	
Compensation of employees		x						x
Gross operating surplus		x						x
Net taxes on production: other		x						x
Tourism ratio		x					x	x

1. TVAij = (Goij - Iij) * TR. The tourism value added ratio may also be used (see Chapter 6).
Source: OECD Tourism Committee.

Worksheet 3. **Deriving tourism value added**[1]
In constant prices

Example: Hotel industry's production of meal services

	Commodities produced by jth industry	Total intermediate inputs into jth industry	Direct inputs to jth commodity	Divide remaining intermediate inputs by total output to derive ratio of tourism inputs	Apply deflators to derive constant prices	Sum "tourism" intermediate inputs	Derive TVA by deducting inter-mediate inputs from tourism output	Derive TVA by multiplying characteristic industry VA by tourism ratio
	1	2	3	4	5	6	7	8
Commodity								
Output	x			x				
Meal services	x				x		x	
Accommodation	x				x			
Total output					x			
Intermediate inputs					x			
Cleaning		x		x	x	x	x	
Laundry		x		x	x	x	x	
Food		x	x	_	x	x	x	
Electricity		x		x	x	x	x	
Rent		x		x	x	x	x	
Value added							x	x
Compensation of employees		x						
Gross operating surplus		x						
Net taxes on production: other		x						
Tourism ratio		x						x

1. TVAij = (Goij - IIij) * TR.
Source: OECD Tourism Committee.

APPENDIX D

LINKS BETWEEN TEA AND TSA TABLES

What are the shortcomings of the TEA? Why develop a TSA? One of the most important attributes any analytical framework for tourism must meet is the test of credibility. At present, because there are issues surrounding tourism which are still open to question (such as what should be included as tourism expenditure), any measure of tourism suffers.

What is tourism value added (TVA), *i.e.* what is the value added created in the producing industries as a result of tourism demand? A TSA must be able to provide a structure within which such questions can be answered with sufficient authority to overcome concerns about the usefulness of any measure of tourism's economic role. This is especially important as TVA is not directly observable. A TSA must offer an analytical framework that is sufficiently well developed and articulated that it can provide answers that are robust enough to allay these concerns. As will become evident from its structure, the TSA will be able to offer more comprehensive answers to these questions than the TEA.

While the TEA represents an important step in establishing tourism as an identifiable economic phenomenon, several areas require further development in order to better identify tourism's role in the economy. Some of these problems are well known, others less so. To illustrate, a brief review of the tables may be appropriate.

Table 1 of the TEA provides data on the supply and use of characteristic tourism commodities (such as meals in restaurants, accommodation in hotels, and various types of transport). Total domestic supply is shown, with some imports, where appropriate. Demand for these commodities is identified by type of visitor – household, business and government, non-resident – and organisers of package tours. To balance the table, demand for these commodities by the rest of the economy is shown. A simple concept emerges from this table: the commodity's tourism ratio, the proportion of any given commodity's supply acquired for tourism purposes.

Table 2 of the TEA is industry-based, and identifies the gross output, intermediate inputs and value added for each industry. The value added is disaggregated into compensation of employees, gross (and net) operating surplus, consumption of fixed capital and indirect taxes less subsidies. The industry dimension is similar to the commodity dimension in Table 1. The correlation between commodity supply and use and industry value added is sufficiently strong that a commodity's "tourism ratio" can be applied to the characteristic tourism industry to approximate the industry's value added attributable to tourism. (Alternative measures, the tourism net ratio and the tourism value added ratio, can also be derived. These concepts are explored further in the section on tourism value added.) Initial attempts to use the TEA for analytical purposes and to derive TVA are included in OECD (1996), *OECD Tourism Statistics: Design and Application for Policy*. However, the results need to be interpreted with caution because there is no clear cut link between the tourism demand (by commodity) and the unit/industry producing the output. For example, commodities that are produced by a characteristic tourism industry may also be produced by other industries (and sold to visitors), while some output of characteristic tourism industries are not characteristic of tourism demand. Consequently, estimating TVA for each industry that produces tourism commodities is not possible unless a number of simplifying assumptions are used, some of which are probably invalid. While several simplifying assumptions are also necessary for a TSA, their basis is more legitimate.

Whereas Tables 1 and 2 of the TEA provide information on commodities and industries considered to be "characteristic" of tourism, Table 3 of the TEA provides information on all commodities purchased by type of visitor. However useful this information might be, the table is of limited analytical use as the data are not directly linked to the other tables.

Table 4 of the TEA provides information on total gross fixed capital formation using the same industry breakdown as Table 2. No information on asset type is provided. The TSA picks up and further elaborates the information required for Table 4 of the TEA.

Table 5 provides employment information, providing numbers in employment using the same industry dimension as Table 2. It separates employees from non-employees (*i.e.* proprietors), and shows numbers of hours worked.

While these tables are interlinked to a certain extent (especially as Table 1 provides a very similar commodity detail to the industry detail in Tables 2, 4 and 5) and provide useful information, they are not sufficiently integrated with each other (and the rest of the economy) to do more than serve as indicators of tourism's role in the economy. The TEA do not provide an adequate link between characteristic tourism output, characteristic tourism industries, tourism demand and the relationship between tourism demand and the production of characteristic tourism supply. Consequently, while TVA is probably the key measure in which analysts of tourism are interested, the TEA were not designed to go that far. A TSA is based on national accounts' supply and use tables. Consequently, it is better able to derive the contribution to GDP of "characteristic tourism industries" produced by tourism demand.

A TSA will help to identify, *inter alia*, inputs and outputs of the various characteristic tourism industries. This will allow output to be equated with demand. Although some simplifying assumptions will still be necessary, they are integral to the use of input-output tables.

APPENDIX E

SINGLE-PURPOSE TOURISM CONSUMER DURABLES

Single-purpose tourism consumer durables are those durables that are by their nature almost completely used for tourism purposes. The list is very short as few items meet this criterion. They may be purchased before, during or after a trip. If purchased during a trip they need to be identified separately from all other purchases. The reason for this is that, because all of these items are regarded as tourism items, the supply side will be the source of the information (where identifiable). If they are not separately identified in the demand data, this could lead to a double counting of tourism demand as these purchases will be added to tourism demand independently of the demand data, given that most acquisitions will not have been made while the visitor was travelling. They will, therefore, be a "net addition" to any tourism expenditure, therefore such expenditure while on a trip will need to be removed. The following is the list of single-purpose tourism consumer durables.

Appendix Table E1. **List of single-purpose tourism consumer durables**

CPC code[1]	Description
27160	Tents and camping goods
27180	Sleeping bags
29220	Luggage and travel sets for personal toilet, sewing or shoe or clothes cleaning
49113	Motor homes
49622	Trailers and semi-trailers of the caravan type for camping (*e.g.* travel trailers, tent trailers, etc.)

Note: Expenditure on these items should be included in the TSA, regardless of when they were purchased.
1. The CPC code includes items other than those shown in the table.

APPENDIX F

CONCORDANCE BETWEEN ISIC AND CPC AND THE TSA

The following is an *indicative* list of the industries (International Standard Industry Classification, Rev.3) and commodities (Central Product Classification, Version 1.0) that will serve as a concordance with the industries and commodities used in the TSA. There is almost no limit to the variety of commodities that visitors can buy: no list will cover all the possibilities. There are several instances where the industry or commodity detail requested in the TSA is greater than that provided in either the ISIC or the CPC. In such instances, countries will need to develop special surveys (and definitions) or rely on other sources of information to obtain the detail required.

It should be emphasised, however, that each country may have industries or products that are important within its own economy but which do not appear on this list. In these cases, countries should include the industry or product with a note to indicate that it has been included and to which industry or commodity it has been assigned. Similarly, countries may find that the list covers industries or commodities that are not significant for tourism in their country. Not all aspects reported here are statistically important for all countries.

Appendix Table F1. **Industry concordance**

Industry	ISIC code	Description
Accommodation: paid	5510	1. Hotels, camping sites, etc. 2. Sleeping car when separately operated
	(part of) 7010	Real estate activities with own or leased property (when renting second homes or time-share units)
Accommodation: imputed	(part of) 7010	Real estate activities with own or leased property (when imputing rent on owned second home or time share unit)
Food services	5520	1. Restaurants, cafes, other eating places 2. Dining car operations where separately operated
Transport:		
Passenger rail	(part of) 6010	Transport via railways (for passenger, non-commuting transport)
	(part of) 6021	1. Urban or suburban passenger transport (excluding commuters)
Passenger bus	6021	2. Scheduled highway passenger transport
Taxi	(part of) 6022	Other non-scheduled transport by road
Passenger air	(part of) 6210	Scheduled air transportation (excluding freight)
	(part of) 6220	Non-scheduled air transport (excluding freight)
Passenger water	(part of) 6110	Sea and coastal water transport (excluding freight and cruises)
Car rental	7111	Renting of land transport equipment (without operator)
Travel agencies	6304	Activities of travel agencies and tour operators; tourist assistance activities, n.e.c.
Entertainment	7499	4. Agency activities for engagement in entertainment or sports activities
	9211	2. Motion picture and video distribution
	9212	Motion picture projection
	9214	Dramatic art, music and other arts activities
	9219	Other entertainment activities, n.e.c.
	9233	Botanical and zoological gardens and nature reserve activities
	(part of) 9241	Sporting activities (excluding ski lodges)
	(part of) 9241	Ski lodges
Museums	9232	Museum activities and preservation of historical sites and buildings
Libraries	9231	Library and archives activities
Education	8030	Higher education
	8090	Adult and other education
Health spas	(part of) 9309	Other health activities
Single-purpose consumer durables:		
Sleeping bags	(part of) 1721	Manufacture of made-up textile articles, except apparel
Tents	(part of)1721	Manufacture of made-up textile articles, except apparel
Luggage	(part of) 1912	Manufacture of luggage, handbags and the like, saddlery and harness
Motor homes	(part of) 3410	Manufacture of motor vehicles
Trailers	(part of) 3420	2. Manufacture of bodies; trailers, semi-trailers; trailer parts

Appendix Table F1 (cont'd.). **Industry concordance**

Industry	ISIC code	Description
Retail trade	5020	2. Maintenance and repair of motor vehicles
	5050	Retail sale of automotive fuel
	5211	Retail sale in non-specialised stores with food, beverages, or tobacco predominating
	5219	Other retail sale in non-specialised stores
	5220	Retail of food, beverage or tobacco in specialised stores
	5231	1. Retail sale of pharmaceutical and medical goods, cosmetic and toilet articles
	5232	Retail sale of textile, clothing. Footwear and leather goods
	5239	Other retail sale in specialised stores
	5252	Retail sale via stalls and markets
Wholesale trade	5122	Wholesale of food, beverages and tobacco
	5131	Wholesale of textiles, clothing and footwear
	5139	Wholesale of other household goods
	5190	Other wholesale
Fuel	2320	Manufacture of refined petroleum products
Clothing, footwear	1810	Manufacture of wearing apparel, except for fur
	1820	Dressing and dyeing of fur; manufacture of articles of fur
	1920	Manufacture of clothing
Food	1511	Production, processing and preservation of meat and meat products
	1512	Processing and preserving of fish and fish products
	1513	Processing and preserving of fruit and vegetables
	1520	Manufacture of diary products
	1541	Manufacture of bakery products
	1543	Manufacture of cocoa, chocolate and sugar confectionery
	1544	Manufacture of macaroni, noodles, couscous and similar farinaceous products
	1554	Manufacture of soft drinks; production of mineral waters
Beer, wine, liquor	1551	Distilling, rectifying and blending of spirits; ethyl alcohol production from fermented materials
	1552	Manufacture of wine
	1553	Manufacture of malt liquors and malt
Tobacco	1600	Manufacture of tobacco products
Conventions	(part of) 7499	Other business activities, n.e.c.
	(part of) 9112	Activities of professional organisations
	(part of) 9199	Activities of other membership organisations, n.e.c.
Financial services	(part of) 6519	Other monetary intermediation
	(part of) 6719	Activities auxiliary to financial intermediation, n.e.c.
Insurance	(part of) 6603	Non-life insurance

Appendix Table F2. **Commodities**

Commodity	CPC code	Description
Accommodation	631	Lodging services (excluding part of 63199, *Other lodging services n.e.c.*)
Food services	632	Food serving services
	633	Beverage serving services for consumption on the premises
Transport:		
Rail passenger	64111	Interurban railway transport services of passengers
Bus passenger	(part of) 64211	Urban and suburban scheduled road transport services of passengers
	64212	Urban and suburban special purpose scheduled road transport services of passengers
	64213	Interurban scheduled road transport services of passengers
	64214	Interurban special purpose scheduled road transport services of passengers
	(part of) 64219	Other scheduled
	64222	Rental services of passenger car with operator
	64223	Rental services with buses and coaches with operator
	(part of) 64229	Other non-scheduled road transport services of passengers n.e.c.
Taxi	64221	Taxi services
Air passenger	661	Air transport services of passengers
Water passenger	(part of) 6511	Coastal and transoceanic water transport services of passengers (excluding cruises)
	6521	Inland water transport services of passengers
Car rental	73111	Leasing or rental services concerning cars and light vans without operators
Travel agency	678	Travel agency, tour operator and tourist guide services
Single-purpose consumer durables	27160	Tents and camping goods
	27180	Sleeping bags
	29220	Luggage and travel sets for personal toilet, sewing or shoe or clothes cleaning
Motor homes	49113	Trailers and semi-trailers of caravan type for camping (*e.g.* 49622 travel trailers, tent trailers, etc.)
Convention fees	85970	Trade fair and exhibition organisation services
Entertainment	(part of) 96121	Motion picture, video tape and television programme production services
	(part of) 96141	Motion picture, video tape and television programme distribution services
	96151	Motion picture projection services
	962	Performing arts and other live entertainment even presentation and promotion services
	96310	Services of performing
	965	Sports and recreational sports services (excluding skiing)
	969	Other amusement and recreational services
Museums	964	Museum and preservation services
Libraries	8451	Library services
Health spas	(part of) 972	Beauty and physical well-being services
Skiing	(part of) 965	Sports and recreational sports services
Cruises	(part of) 6511	Coastal and transoceanic water transport services of passengers

Appendix Table F2 (cont'd.). **Commodities**

Commodity	CPC code	Description
Retail margins	(part of) 6212	Non-specialised store retail trade services, of food, beverages and tobacco
	(part of) 6213	Non-specialised store retail trade services, of textiles, clothing and footwear
	(part of) 6215	Non-specialised store retail trade services, of miscellaneous consumer goods
	(part of) 62175	Non-specialised store retail trade services, of perfumery articles, cosmetic articles and toilet soaps
	(part of) 62181	Non-specialised store retail trade services, of motor vehicles, motorcycles, snowmobiles and related parts and accessories
	(part of) 62191	Non-specialised store retail trade services, of solid, liquid and gaseous fuels and related products
	(part of) 6222	Specialised store retail trade services, of food, beverages and tobacco
	(part of) 6223	Specialised store retail trade services, of textiles, clothing and footwear
	(part of) 6225	Specialised store retail trade services, of miscellaneous consumer goods
	(part of) 62275	Specialised store retail trade services, of perfumery articles, cosmetic articles and toilet soaps
	(part of) 62281	Specialised store retail trade services, of motor vehicles, motorcycles, snowmobiles and related parts and accessories
	(part of) 62291	Specialised store retail trade services, of solid, liquid and gaseous fuels and related products
Wholesale margins	(part of) 6112	Wholesale trade services, except on a fee or contract basis, of food, beverages and tobacco
	(part of) 6113	Wholesale trade services, except on a fee or contract basis, of textiles, clothing and footwear
	(part of) 6115	Wholesale trade services, except on a fee or contract basis, of miscellaneous consumer goods
	(part of) 61175	Wholesale trade services, except on a fee or contract basis, of perfumery articles, cosmetic articles and toilet soaps
	(part of) 61181	Wholesale trade services, except on a fee or contract basis, of motor vehicles, motorcycles, snowmobiles, and related parts and accessories
	(part of) 6119	Wholesale trade services, except on a fee or contract basis, of other products
Transport margins	(part of) 6412	Railway transport services of freight
	(part of) 6423	Road transport of services of freight
	(part of) 6511	Coastal and transoceanic water transport services of freight
	(part of) 6522	Inland water transport services of freight
	(part of) 622	Air transport services of freight
Maintenance and repair of motor vehicles	87141	Maintenance and repair of motor vehicles
Fuel	33310	Motor spirit
	334	Petroleum gases and other hydrocarbons, except natural gas
Clothing	282	Wearing apparel, except for fur apparel
	283	Tanned or dressed furs, skins of artificial furs
Footwear	293	Footwear, with outer and uppers of rubber, plastic, leather, etc.
	294	Sports footwear
	295	Other footwear
Footwear	Division 21	Meat, fish, fruit, vegetables, oils and fats

Appendix Table F2 (cont'd.). **Commodities**

Commodity	CPC code	Description
Spirits	2413	Undenatured ethyl alcohol of alcoholic strength by volume of less than 80% volume; spirits, liqueurs and other spirituous beverages
Wine	242	Wines
Beer	243	Malt liquors and malt
Soft drinks; bottled mineral water	244	Soft drinks; bottled; mineral water
Tobacco products	250	Tobacco products
Financial services	71100 71552	Financial services (except investment banking, insurance services and pension services) Foreign exchange services
Insurance services	7132	Accident and health insurance

APPENDIX G

TREATMENT OF SECOND HOMES

The purpose of this appendix is to describe how the production and related production activities of second homes for tourism purposes should be treated in the TSA.

Definition of second homes used for tourism purposes

"Second homes used for tourism purposes are second homes used wholly (or partly) by the owner and which can be made available to third parties for holidays, leisure and business activities."

As this definition shows, a distinction needs to be made between second homes used only or partly by the owner and where the second home is rented directly or indirectly to third parties. This distinction has to be made because, due to the nature of renting, different activities are affected. The breakdown is based on the criterion of commercial use. Where a second home is used by its owner (Case 1), the output is attributed to *7010 Real estate activities with own or leased property* (in the same manner as primary residences). In the absence of any paid rental income, all the output of the second home is assumed to be consumed by the owner, as second homes, like primary residences, are assumed to be permanently producing services, regardless of the presence of the owner in the building. When there is rental income (Case 2), the time of the use by the third party needs to be deducted from the total for the period in order to ensure that there is no double counting. When the second home is rented to third parties, the rental income is attributed to *5510 Hotels; camping sites and other short stay accommodation*. Therefore, wherever possible, this distinction should be made. (It is also a helpful distinction for those users who wish to use the TSA for monetary transactions only.) In addition, when an agent is used to rent the second home (Case 3), the fee paid to the agent is attributed to *7020 Real estate on a fee or contract basis*.

We can therefore identify three possibilities:

- Case 1: The most prevalent case is where the second home is used only by the owner (whether or not he/she is physically present).
- Case 2: The second case is where the owner rents it directly to third parties as well as using it for himself/herself part of the time.
- Case 3: The third case is where the owner rents it to third parties through an agent as well as using the second home for himself/herself part of the time.

Drawing a distinction among these three types is not always very easy.

If an owner never stays in his/her "second home" but rents it permanently to third parties, this service should be fully classified under accommodation services.

The following examples may help in understanding how these different flows are to be measured. It shows different activities, depending on the kind of use: X is the owner of a second home for tourism purposes, Y is a visitor and Z is an agency.

Appendix Table G1. **Treatment of second homes**

Case 1

Transactions (SNA93)	Comments	Activity classification (ISIC Rev. 3)	Amount
Production of housing services (imputed)	X uses his second home exclusively for himself (monthly imputed rent 3 500)[1)] valued at the rental that a tenant would pay for the same accommodation	7010 Real estate activities with own or leased property	12 x 3 500 = 42 000

Case 2

Transactions (SNA93)	Comments	Activity classification (ISIC Rev. 3)	Amount
Production of housing services (imputed and effective)	X uses his second home for himself occasionally (monthly imputed rent 3 500)[1)] and rents it to Y for one month (4 000)	7010 Real estate activities with own or leased property	12 x 3 500 = 42 000 minus 4 000 = 38 000 (net)
		5510 Hotels; camping sites and other short stay accommodation	4 000

Case 3

Transactions (SNA93)	Comments	Activity classification (ISIC Rev. 3)	Amount
Production of housing services (imputed, effective, margin)	X uses his second home for himself occasionally (monthly imputed rent (3 500)[1)] and rents it to Y through Z for one month (4 400)	7010 Real estate activities with own or leased property	12 x 3 500 = 42 000 minus 4 000 = 38 000 (net)
		5510 Hotels; camping sites and other short stay accommodation	4 000
		7020 Real estate on a fee or contract basis	400 (margin)

1. In the absence of paid rental income, all the output of the second home is assumed to be consumed by the owner; second homes, like primary residences, are assumed to be permanently producing services, regardless of the presence of the owner in the building.

APPENDIX H

APPLICATION OF THE TOURISM RATIO TO TOURISM EMPLOYMENT

Assume that an hotel produces 100 in accommodation services, that it only produces accommodation services and that all of the output is sold to visitors. Total employment is ten. The specialisation ratio is 100% (as there is only one output), so that the tourism employment ratio is also 100% as all the output is sold to visitors: the tourism employment ratio is the specialisation ratio times tourism ratio applied to the level of employment in the industry/establishment. In this example, tourism employment is ten as all the employment is to meet tourism demand.

Elaborating on the first example, the hotel opens a restaurant which sells 150 in meal services. Half the meals' output is sold to visitors. It hires five new staff members to meet this demand, while retaining the ten for accommodation services. We know that five new staff have been hired and that half of the output is sold to visitors, the tourism employment ratio is then 12.5, comprising ten from the accommodation services and 2.5 from meal services. As half of the output of the latter is sold to visitors, it can be assumed that half the employment is to meet tourism demand (however, note the concerns on this point below). However, if we did not know that this were the case, what would the situation be? If the two elements of the hotel's business were operated as separate establishments, the information should be available (as the information collected is usually from the establishment). However, if the reporting unit did not disaggregate the employment (while being able to identify the accommodation and meals services separately), the usual option is to pro-rate the employment between the two activities on the basis of either their value added or their output. Assuming the pro-ration is done on output, employment would be allocated as 100/250*15 (= 6) to accommodation services and 150/250*15 (= 9) to meal services. If, on the other hand, the pro-ration were done on the basis of value added, and assuming that accommodation services had a value added of 90 and meals of 60, the result would be somewhat different. Employment allocated to accommodation services would now be 90/150*15 = 9, and to meals services it would be 60/150*15 = 6. While these results are closer to the "real" numbers, there is no *a priori* way of knowing which is likely to be better since it depends on the mix of inputs for each commodity produced and their respective share in total output.

The foregoing indicates that the results should be interpreted with caution. Firstly, the derivation of tourism employment, as with any derived or "modelled" estimate, is not an exact science. The data, especially at an early stage of development, must be seen as providing good indicators, not precise results. Secondly, in any exercise of this nature, be it for tourism or for any model (including the input/output tables), assumptions need to be made, and the reasonableness of these assumptions will affect the results. One of the main assumptions in any work of this nature is that inputs are proportional to outputs, and, frequently in dynamic models, that a change in output prompts a proportional change in inputs. This may not be a valid assumption in cases where: *i)* an industry is operating below the desired level of capacity utilisation (output may be increased by using labour more efficiently, for example); and *ii)* the specialisation ratio is significantly less than 100%. In this latter case, because there are different production functions for different products, a change in output of one product may not (necessarily) prompt a change in all inputs equally.

Despite the problems involved in using a tourism (or similar) ratio to derive an estimate of tourism employment, it should be noted that these assumptions, while not necessarily being fully valid, are in most cases reasonable and can serve as a valuable starting point for analysis.

APPENDIX I

UNITED STATES' POSITION ON THE OECD MANUAL ON TOURISM SATELLITE ACCOUNTS

The United States recognises that the OECD Manual on Tourism Satellite Accounts provide a conceptual framework that countries can use to develop their own tourism satellite accounts, and that this framework is linked to gross domestic product and the core national accounts as defined by the System of National Accounts, 1993 (SNA93).

To provide a comprehensive measure of tourism, the United States recommends that the framework be expanded. Conceptually, tourism should include the value of all goods and services used or purchased by visitors, and consists largely of transport services, lodging and food. For some of these goods and services, however, visitors may not make explicit purchase: for example, use of vacation homes. Similarly, no market purchase is made when transport provided by personal motor vehicles is substituted for car rental or use of public transport. Although these kinds of services are difficult to measure, and in some cases represent an extension of the production boundaries outlined in SNA93, satellite accounts are designed to encompass just such extensions of the conventional production boundaries (SNA93, 21.18). These extensions allow satellite accounts to better depict activities not adequately covered in the central framework of the SNA.

In developing the OECD's TSA, a decision was made to focus on a common set of core tourism activities that most nations could reasonably be expected to be able to produce: those included within the central framework of SNA93 but not separately identified as tourism activities. However, the United States recommends that in countries where difficult-to-measure services are significant, countries should be encouraged to extend their satellite accounts to include these services and the tourism-related portion of investment made in assets such as motor vehicles. These countries should provide estimates including and excluding these services to show changes in the production boundary and to allow international comparisons across common items that are included within the central framework of the SNA.

Note by the OECD Secretariat

It should be noted that if the production and consumption boundary of SNA93 is extended to consider particular issues specific to tourism, any resulting aggregates which measure the economic size of tourism, and in particular tourism value added (TVA), are not directly comparable with the value-added estimates of non-tourism industries or with overall economic measures such as GDP.

PART II

OECD MANUAL ON TOURISM SATELLITE ACCOUNTS: EMPLOYMENT MODULE

Chapter 7

THE RATIONALE FOR AN EMPLOYMENT MODULE

The primary objective of the employment module is to provide a statistical framework and methodological guidelines to establish the level and some characteristics of employment[8] in the tourism industry. This is mainly undertaken from a ***supply-side perspective***, with only employment in a set of selected characteristic tourism industries being taken into account.[9]

These guidelines should be consistent with the concepts and definitions followed in other areas of socio-economic and tourism statistics and are intended to be simple and flexible to enable adoption and adaptation.

In particular, this work aims to establish a link with the OECD Tourism Satellite Account (TSA).[10] Therefore, to the extent possible, the concepts and definitions of the *System of National Accounts* (SNA93) are used. The employment tables presented in Chapter 11 can be seen as a possible extension to the TSA.[11] However, the employment module should be able to stand on its own, *i.e.* employment should not be viewed simply as a factor in the production process (TSA), but rather as a social phenomenon. This broader view of employment does not fit in with the core tables of the TSA.[12]

The introduction of the two methodologies should lead in time to the generation of internationally comparable statistics on employment in the tourism industry. This will not be an easy task, because comparability of data on employment in general is hampered by differences in methods and definitions across countries. Even at the national level, employment statistics and data sources often provide different and fragmented results.

The collection of data on employment has two major goals:

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8. In addition to the term "employment", the terms "labour" and "human resources" are used interchangeably in this text.

9. In comparison with an industry such as "manufacturing", in national accounting terms there is no such thing as the "tourism industry". As tourism is a demand-side concept, in principal the terminology "tourism-related" or "characteristic tourism industries" should be used. However, for convenience's sake, the terms "tourism industry" or "tourism industries" are sometimes used in the text in the sense of tourism-related or characteristic tourism industries.

10. The TSA provides a description of that part of economic life known as "tourism", using the concepts, definitions and classifications of the national accounts (SNA 93).

11. See the possibility of combining economic and social data through Social Accounting Matrices (SAM) and Systems of Economic and Social Matrices and Extensions (SESAME) in SNA93.

12. The situation can also occur that a TSA has not yet been developed. In that case, the employment module will need to stand on its own.

- First, data can be used to describe and analyse the current employment situation in characteristic tourism industries in terms of, *inter alia*, numbers employed or jobs, socio-demographic characteristics of the labour force, labour conditions, mobility, labour structures, productivity, labour cost, job qualifications and skills, recruitment strategies and education and training provisions.

- Second, collected data can be used to analyse or predict the impact of (changes in) tourism flows and expenditures on employment levels and structures in the different industries related to tourism. This entails linking the supply side to the demand side of tourism. Such a linkage can be provided by the TSA.

Data on employment should provide valid, good quality and useful information for socio-economic and tourism policy makers in areas such as labour force and tourism planning, as well as for individual businesses or regions for benchmarking purposes. Examples include:[13] 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.

A core of this information should be supplied on a regular basis (time series), and possibly also through (short-term) indicators. Data should also provide insights into the economic importance of the tourism industry and its potential to create new employment.

The employment module does not present a comprehensive system of labour accounts or a social accounting matrix for the tourism industry (Tourism Social Accounting Matrix – TSAM). This would be aiming too high at the present stage. Rather, a selection is made from among the possible objects of description and a set of key employment variables is presented. A step-by-step process for elaborating and improving the module is proposed. The ultimate objective would be to construct an integrated employment system as a TSAM linked to the TSA with, for example, "the job or full-time equivalent" as the basis and benchmark for this framework. However, at this point in time, very few countries would be able to comply with the requirements for constructing such a comprehensive and complex system. This represents a priority area for improvement, especially as "jobs"[14] and related topics, such as hours of work, earnings and labour cost, are the variables which determine the link with the TSA.

Chapter 7 presents the objectives of the employment module and underlines the importance of the employment aspect for the tourism industry. Chapters 8 and 9 describe the conceptual framework and propose a methodology for defining and measuring tourism-related employment. On the basis of this methodology, Chapter 10 sets out the process for linking demand and supply of tourism and creates a statistical framework which connects the Tourism Satellite Accounts with the employment module. Chapter 11 introduces the fourteen inter-related tables and briefly explains their function. Finally, Chapter 12 indicates areas where improvements can be made and advocates the need for strengthening international co-operation in this area of work.

13. In the case of policy, there are three phases in which data can be used: *i)* the orientation phase (*e.g.* undesirable employment conditions); *ii)* the policy formulation phase (*e.g.* which alternatives or which instruments can be used); and *iii)* the evaluation phase (were the goals attained?).

14. Wages and salaries of employees is an important issue in relation to the compensation of employees. This item of compensation, however, is linked to the jobs for which this compensation is paid.

Importance of the employment aspect for the tourism industry

The OECD Tourism Committee first attempted to define the contribution of tourism labour markets to OECD Member country economies in the 1980s. Although little importance was attached to tourism in labour market policies at that time, there were signs that the industry had a strong potential to generate employment. The results of this study were incomplete in that they pertained only to the hotel industry labour market. It was not possible to analyse and draw conclusions on the complete range of jobs directly and indirectly linked to tourism. This is due to the fact that, while tourism is a heterogeneous industry representing a wide variety of types and sizes of businesses, it is not an industry in the traditional sense of the word and does not fit the standard criteria for national accounts.[15]

However, tourism is playing an increasingly important role in the economy of many of the OECD countries, contributing to their economic growth and job creation, and providing employment and income. Because tourism industries are seen as growth sectors and continue to be considered as labour-intensive with low entry possibilities, policy makers tend to view the development of tourism as a way to tackle unemployment and underemployment. This is especially the case for persons at the bottom of the labour market, such as unemployed youth, the long-term unemployed, the less-skilled, ethnic minority groups and, to some degree, women (re-entering the labour market).

In addition to the above arguments, the focus on employment in the tourism industry is reinforced by the fact that the tourism industry has matured into a consumer market through increasing global and national competition, market turbulence and changes in consumer demand. This requires paying increased attention, not only to quality in products and services, but also to quality in human resources – one of the major assets of this industry. This interest in human resources is taking two different directions.

First, increasing (global) competition entails greater emphasis on productivity through cost reduction and efficiency in business operations. Even in a labour-intensive industry such as tourism, this factor is leading to a growing elimination of human labour through strategies such as the use of (communication and information) technology, standardisation of products and services (*e.g.* job deskilling) and outsourcing. In addition, the rhythm of demand in the tourism industry varies according to seasons, working days and even different times of the day. The response to these fluctuations in demand, in conjunction with the weight of labour costs, has given rise to strong growth in numerical and functional flexibility in tourism-related employment, with relatively high proportions of seasonal and part-time workers.

The tourism-related industries are at the forefront of the current transition phase which is affecting labour markets in general. Labour markets are no longer homogeneous markets with clear-cut and steady jobs, they are becoming highly multiform markets with new flexible labour structures and work organisations. This transition is driven not only by globalisation, technological developments and changes in the organisation of work,[16] but also by new directions in tourism, such as super-segmentation of demand, and flexibility in supply and distribution.

15. See OECD (1995).

16. These three aspects play an important role in employment developments in general; they are intimately linked. By reducing costs and increasing the speed of communication, the new information technologies have played a major role in the globalisation of production and financial markets. In turn, globalisation, by intensifying competition, has spurred technological diffusion and the adoption of new forms of work organisation in both developed and developing countries. See ILO (1999).

Second, in order to compete and adapt to new market environments, it is essential for tourism-related industries to invest in the quality of staff and managers. Although human resources are the most valuable asset of these industries, paradoxically, the will to invest in education and training in some of the major branches (*e.g.* food and beverages, and accommodation) is relatively low compared with other industries. However, upgrading human resources and techniques, as well as improving management skills, are basic requirements for the further development of the industry. Too often, human resource planning is based on short-term thinking. This applies especially to small and medium-sized enterprises (SMEs), which still constitute a large share of the tourism industry.

Tourism is about people. Visitors are people, subject to changes in their behaviour, demands and decision making. Changes are difficult to predict and anticipate. Tourism products and services are also about people. The tourism industry is 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 (Baum, 1995). People are clearly central to the effective operation and further development of the industry. 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. Therefore, employment and human resource issues should be key topics for research in the tourism industry.

This growing attention to human resources, however, highlights the danger of circulating questionable data and stereotypes. This is reinforced by the lack of complete and reliable statistical data on employment in characteristic tourism industries. This lack of data can be explained by the diverse nature of tourism and by the problems involved in collecting reliable data for these industries.[17] Statistics should play an important role in uncovering these stereotypes and in monitoring developments. A statistical instrument is needed to measure and describe tourism-related employment in a more consistent way. International co-operation and co-ordination can stimulate the development of such an instrument.

17. See, for example, Bar-On (1989).

Chapter 8

CONCEPTUAL FRAMEWORK

Employment is a comprehensive, complex and dynamic phenomenon, closely related to other socio-economic aspects such as the production process, income distribution, education, living conditions, welfare and demographics. Relevant components of employment include:

- Unpaid labour.
- Unemployment.
- Employment or paid labour.
- Supply of paid labour.
- Demand for paid labour.
- Labour market.
- Wages, income and labour cost.
- Governments, unions, representative organisations and other institutions, such as employment agencies.

Employment, whether paid or unpaid, has to be viewed from different perspectives. First, employment has an important social context; for example, people derive social status through employment. Social status is strongly determined by level of income and employment provides opportunities for social contacts. These aspects relate to employment as a *social phenomenon*.

Second, employment is related to the process of producing goods and services. The volume of production, for example, is closely linked to the amount and quality of labour used. This point of view considers employment as a *production factor*.

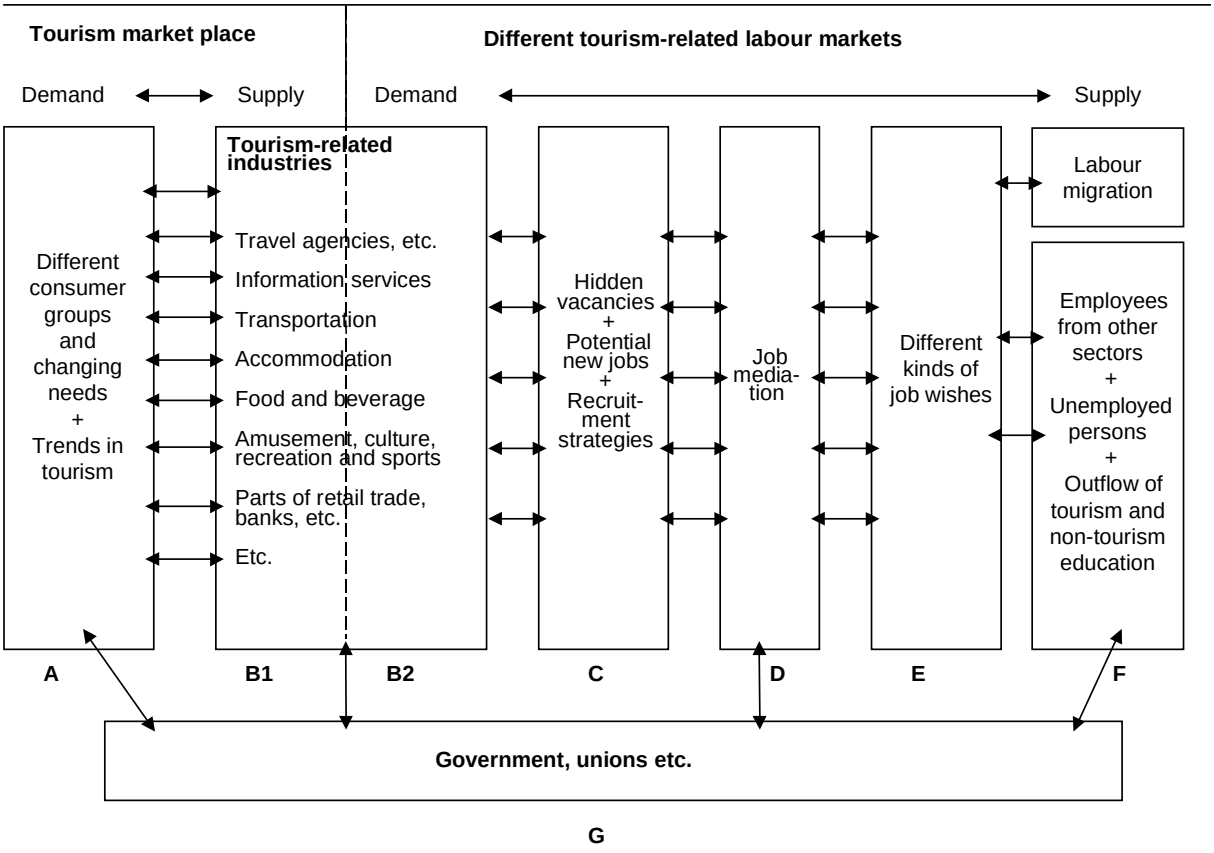
Third, employment can be seen as a *tradeable product on the (labour) market* in the context of demand and supply, *i.e.* the labour cost for employers, on the one side, and income for employees, on the other. This can be of importance for labour negotiations or developments in labour markets in general. The second and third perspectives perceive employment mainly as *paid* labour.

In this module, the focus is also on *paid labour*. Although unpaid labour (*e.g.* voluntary work, housekeeping, etc.) should not be neglected, limiting the analysis to paid labour reflects the way in which most employment data are collected. It is also in line with the way employment is used in the national accounts, *i.e.* as a production factor.

The demand-side definition of "tourism" fits this context, *i.e. the activities of persons travelling to and staying in places outside their usual environment* (column ***A*** in Figure 1). So, "tourism" refers

to all activities of visitors, covering both same-day as well as overnight travellers.[18] Visitors use a variety of products and services to travel to and stay in places outside their usual environment. To provide for these tourism products and services, all kinds of *enterprises and organisations* on the supply side need to employ inputs, such as capital, materials and labour (***B***).

Figure 1. **Framework of tourism-related labour markets**



The enterprises and organisations in the various tourism industries differ greatly in the ways they provide these products and services to visitors and the ways in which they react to changes in the market place. Besides fluctuations in demand, this will depend on all kinds of factors such as: the products or services they provide; the way these products and services are produced; the use of technology; economic strategy and performance; competition and size and ownership (***B1***); and, in addition, the availability of qualified labour; labour cost; labour conditions and productivity (***B2***).

To hire the necessary labour, employers have to look (***C-D***) at the *supply side of labour markets* (***E-F***), where people with varying levels of skills and experience and with different expectations and wishes are available. As there is no equilibrium between demand and supply of labour, this leads to *(hidden)*[19] *vacancies (**C**),* on the one side, and unemployment and underemployment,[20] on the other.

18. See the definitions and boundaries provided in United Nations and WTO-OMT (1994).

19. Hidden vacancies often occur if there is a shortage of supply on the labour market.

20. Underemployment means that people have a job, but that they work fewer hours than they would like.

So, the ***demand side*** of labour markets consists of jobs and (hidden) vacancies. Relevant aspects are, for example, the number of jobs, hours of work (full-time/part-time; paid and actual hours of work), overtime, wage categories, job requirements and working conditions. Employers usually try to optimise the ratio of labour to capital. The ratio can be influenced by changes in the level of wages. In the same way, changes in the level of wages between different labour categories can lead to substitution between these categories.

Employers will use different *recruitment strategies (**C**)* and different types of *job mediation* (***D***) to fill their vacancies. The vacancies have a wide variety of job requirements and conditions, such as education levels, skills, experience, hours of work and salary.

Part of the value added of the production process goes to pay the wages of employees and the income of employers and family members. Relevant aspects are, for example, type of wages (*e.g.* minimum wages, collective agreements and piece-wages), wage or income components and related labour conditions (*e.g.* shift work or hazardous circumstances).

On the ***supply side*** of labour markets, a distinction can be made between the employed and the unemployed. For the employed (*paid labour)*, relevant aspects are the number of people employed, distinguished by socio-demographic variables like age, gender, labour income, education level, motivation for working in a specific industry and the kind of household one belongs to. In addition to these aspects, there is also a dynamic component. Changes in the number of employed in industries, or changes in the number of unemployed, are the result of people moving in and out of the workforce and between industries.

The supply of labour is strongly determined by demographic trends, participation rates and the range of skills[21] available. In general terms, the supply of tourism-related labour can be divided into four groups: *i)* graduates with a tourism education; *ii)* graduates with no tourism education; *iii)* unemployed persons; and *iv)* employed people from other industries (***F***). These people will have different skills, experience and qualifications, as well as a variety of *expectations and wishes* (***E***). They will use all kinds of *job mediation* (***D***), such as advertisements, applications, schools, personal networks, public employment offices and employment agencies, to find a suitable job.

The supply of labour is also influenced by the extent of *inward and outward labour mobility.*[22] Critical labour shortages in the peak season of tourism are often filled by *immigrant seasonal workers*. Such workers are often used to occupy poorly paid, insecure and unpleasant jobs. Labour immigration will have an effect on the local labour market as well as on the labour market in the country the immigrant workers come from. For example, unemployment is exported back to the homeland at the end of the peak season. Employers use immigrant workers, as well as students and casual workers, to hold their costs (wages) down, especially in situations with growing competition and small economic margins. This also relates to the issue of *black or illegal labour.*[23] Black labour does not only affect the

21. Skill is often translated into the number of years of experience and the certificates and diplomas a person has obtained.

22. It is often difficult to measure inbound labour (frontier and immigrant workers). In some cases social insurance statistics or other administrative registrations can be used. Sometimes industry surveys provide data. Outgoing labour can usually be measured through general household or labour force surveys.

23. Other terms, such as informal labour, hidden activities and parallel economy are also used. Although research has been carried out on black labour, it does not allow accurate estimates of the volume of hours involved to be derived. The size of the black labour market strongly depends on the definition and methods used to measure the phenomenon. Fiscal (activities which are at odds with prevailing tax regulations), statistical (activities which should be, but are not, covered by official statistics),

economic process, it can also lead to a decrease in the supply of and demand for formal labour. One problem is that much of the black labour and informal economy goes unrecorded in the official statistics, so that this part of the tourism industry remains outside the picture.

The wider competition between companies and organisations for available skills within the workforce and for school-leavers can also influence the supply of labour. For example, where the supply of labour to tourism industries is not perfectly elastic, growing demand can raise costs and thereby reduce the competitiveness of these industries as well as the competitiveness of other industries which are competing for the same labour. Therefore, there can be a difference between gross and net employment effects as a result of an increase or decrease of tourism flows and expenditures.

The competitive advantage of countries in a global economy increasingly depends on the availability of skilled labour. This is also true for the tourism-related industries. Therefore, the structure of and focus on (public and private) educational and vocational training provisions are important issues. For labour market policies, it is also important to know the level of education and the degree of experience of the different groups of the workforce, on the one hand, and job requirements, on the other. Education levels can, for example, be linked to earnings and occupation.

Finally, the whole structure of supply and demand of labour is influenced by the policies enacted by a wide range of bodies, such as *governments, unions and employer's organisations (**G**)*. This may include not only fiscal policies, education and training provisions, employment creation and related incentives, employment protection measures and workplace conditions, but also infrastructure, investments, promotion and marketing. In addition, governments are often also major employers in tourism (museums, information services, transport and public-owned attractions). Policy makers view tourism as a potential agent of economic growth and development. The high ratio of labour to capital in many of its industries, the ease of entry into the market, lower per capita investments and rapidity of development, compared to other industries like manufacturing, make tourism particularly attractive to policy makers, especially in less developed regions and countries.

So, in its broadest sense, a labour market comprises the total working environment at sectoral, local, national and even transnational level. In the case of tourism, this working environment consists of all characteristic tourism industries, their personnel requirements, the skills needed and the working conditions; it also comprises those workers who are currently outside the workforce, whether because they are unemployed, temporarily unable to work because of illness or injury, or undertaking some kind of training or education. A labour market is a dynamic concept responding to a diversity of factors which cannot be treated as static and unchanging. Perfect labour markets, in the sense of well-oiled machines which balance demand and supply of labour, do not exist (Baum, 1995). Analysis and forecasts are further complicated by the fact that the tourism industry is characterised by a diversity of activities in different industries, bound only by their contribution to a common goal: meeting the needs of visitors. This diversity is expressed in differences – sometimes large differences – in the employment profiles of characteristic tourism industries and regions.

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economic market (a distinction between paid and unpaid labour) or juridical (illegal, like the distribution of drugs) are the criteria are most frequently used to define black labour. Various methods can be used to measure it, such as ratio-methods, comparison between different sources (*e.g.* black production and black income) and direct surveys. Countries sometimes use household surveys to detect the informal sector, using a set of criteria to define this sector. Estimates of black labour differ widely across countries. For example (as a percentage of GDP): the United Kingdom, 3%-15% (1979); Australia, around 10% (1979), Canada, 10%-15% (1980); the United States, 5%-28% (1979); and the Netherlands 5%-23% (1983). See, for example, van Eck and Kazemier (1989).

However, there is no single tourism-related labour market. The working environment of characteristic tourism industries consists of a conglomerate of sub-markets, which are distinguished in a regional and functional way. There is often little mobility between these sub-labour markets. The differences in these markets originate in differences in education, experience and skills, and the relatively reduced possibilities for employers to change job requirements. In this respect, jobs in the tourism industries vary from low-skilled to very high-skilled.

In this light, some specific features of tourism-related employment include (Baum, 1995):

- Often high levels of ***fluctuation in demand*** for its services and products. In combination with growing (global) competition and downward pressure on costs, employers react with strategies such as substitution of labour by technology, deskilling of tasks and outsourcing, but foremost with *numerical and functional flexibility* in their labour force. This need for flexibility is increasingly resulting in new multiform labour structures and work organisations, often leading to dual labour markets within companies, with core and peripheral workers, or primary and secondary jobs.[24] Core workers are mainly full-time, permanent employees who receive job security and relatively high earnings in return for performing a wide range of tasks that cut across traditional skill boundaries. These workers are often functionally flexible (multi-skilling). Characteristically, they are managerial and professional staff whose skills are in short supply in the external labour market. Employers are therefore keen to retain their services. Depending on the circumstances, several groups of peripheral workers can be situated around these core employees. First, there is a group of usually regular, but often seasonal, employees. Their jobs are less secure, they lack career prospects and they are often semi-skilled or unskilled. These jobs are often accessible to workers with a minimum of training and offer numerical flexibility to employers. Labour turnover is high. In addition to this first group of peripheral workers, there are other groups of numerically flexible workers, such as short-term and part-time workers, temporary or on-call workers and students. These workers often function as a reserve pool, to be hired and fired as the volume of demand rises and falls. If the fluctuation in demand is predictable (every weekend, for instance), then a job in tourism can be combined with other paid jobs ("moonlighting") or a complementary job in the off-season. This description accounts mainly for the medium-sized and bigger businesses in industries such as food and beverages, accommodation, recreation. In small firms, employers will often have a pool of friends and family upon which they can draw to meet peaks in demand.

- Many tourism-related industries are dominated by ***self-employment and small family firms.*** This concerns mainly industries with low entry levels such as accommodation, food and beverages, travel agencies, retail (*e.g.* souvenir shops) and recreation. These firms often compete with low prices and personalised service or work in niche markets, implying weakly developed management skills, use of family labour, *ad hoc* human resource planning and little or no access to new technologies. Because there are low levels of investment and little market stability, this group of businesses is rather unstable, with many births and deaths of firms. On the other hand, tourism-related industries also include large, often still traditionally public-owned, enterprises (*e.g.* transport, hotel and restaurant chains, amusement parks and tour operators). This group is characterised by the use of non-family labour, high levels of capital investment, division and specialisation of labour, a formal system of management and the separation of control and ownership. In general, there is a strong underlying trend in all (tourism-related) industries towards concentration into bigger businesses, either horizontally,

24. Elliot (1991).

vertically or both.[25] These bigger enterprises have the advantage of economies of scale and the possibility of internal division of labour and specialisation. For their employees, these businesses can offer better training facilities, career opportunities and labour conditions. Thus, in terms of size, ownership and structure of businesses, there is a considerable diversity in the tourism-related industries.

- Most tourism-related industries remain ***labour intensive,*** although the impact of (information and communication) technology is becoming more and more evident. However, the impact of these new technologies on employment is not easy to assess. On the one hand, new technologies can lead to the substitution of labour and therefore to fewer jobs. On the other hand, new technologies can lead to lower prices (higher productivity) and hence increased demand. Greater demand for products and services will lead to higher employment (*e.g.* travel agencies and fast-food restaurants). In terms of the quality of labour, new technologies tend to require higher skills, but can also lead to further deskilling of jobs (lower skills). Although new technologies do not necessarily lead to the need for "higher" skills, they do lead to a need for "different" skills, especially in the context of more flexibility and new organisations of work.[26] The fact that most tourism industries are constrained by their *service characteristics* (*i.e.* production and consumption are inseparable) means that products and services often cannot be stored. These service characteristics make it difficult to improve productivity and value added through higher output at lower costs without decreasing the quality of services offered and losing competitiveness.

- Some of the major tourism-related industries (*e.g.* accommodation, food and beverages) are dominated by an ***image of poor labour conditions***, such as low pay, low skills and long, irregular working hours. This can lead to high labour turnover and instability in the labour force. This picture accounts especially for the "low side" of tourism labour markets. Increased competition, combined with the service characteristics of these industries, however, often make it difficult to offer more attractive wages and labour conditions. On the other hand, these labour conditions respond to the needs of certain categories of the labour force. That having been said, it should be emphasised that the tourism industry is a sizeable and heterogeneous industry, offering large numbers of well-paid and desirable jobs.

- Despite the importance of the human factor in characteristic tourism industries, little attention appears to be given to ***training and education***. This is especially true for small firms, where labour conditions such as seasonal work, high proportions of part-time workers, high labour turnover and poor or limited career opportunities, do not invite employers or employees to invest in training and education.[27] When training is offered, it is often a short-term expedient, designed to teach staff how to do their current job better, and no more. In operational terms, however, knowledge, experience, motivation and social skills are essential to quality in services, for both large and small enterprises. Other problems include the lack of an educated labour force and inefficiencies in tourism-related training and education.

Thus, the range of industries, the size of businesses, their ownership, the markets they serve and the impact of seasonality illustrate some of the factors which contribute to determining the range of tasks undertaken, the number of people employed and the skills required in characteristic tourism industries. These factors are driven by range of complex interactions determined not only by demand and supply of labour, but also by other aspects such as: the *culture and history* of the industry or

25. This is more valid for the developed than the developing countries. Countries which are at the leading edge of these developments include, for example, Japan and the United States.

26. This is a general trend in most industries, for developed and developing countries alike (ILO, 1999).

27. ILO (1999).

region (*e.g.* developed vs. developing countries), the *economic system* (*e.g.* free market vs. planned economy) and *economic factors*, which influence the demand for products and services and the price that will be paid for them.

Chapter 9

METHODOLOGY: CONCEPTS AND DEFINITIONS

Three major issues arise in relation to the methodology: *i)* the supply side of tourism has to be defined; *ii)* employment has to be defined; *iii)* the key variables of tourism-related employment have to be selected and defined.

Since one of the objectives of this exercise is to link the employment module with the TSA, national accounts' (SNA93) concepts (the basis of the TSA) are used to the extent possible. This accounts for the linking variables, such as jobs, total hours of work, full-time equivalents and compensation of employees. Otherwise, the definitions and classifications of the International Labour Office (ILO) are used. For an individual country, much depends on the employment data sources available, and the concepts and definitions used in the compilation of the data. In many cases, these will not fully comply with international concepts and definitions.

A demand- and supply-side definition of tourism

Tourism-related employment is mostly approached from a demand-side perspective. However, defining tourism from a *demand-side perspective*[28] will provide only crude estimates of the number of jobs or the total labour-volume of the employment generated by tourism. This can, for example, be done by translating expenditures in or output of an industry into number of jobs, using a labour coefficient or ratio.[29]

A simple example follows. On the basis of collected statistical data, the total expenditure of visitors using travel agencies in region X is USD 40 million in year Y, that is, after deduction of taxes, VAT and imports. Total employment in that industry in region X is 100 jobs (not necessarily the number of people employed). From this, a labour coefficient[30] can be derived for travel agencies in region X in year Y, that is: 2.5 (40 million/100 = USD 400 000 per job). This labour coefficient can be used in a number of different ways. For example, it can be used to predict that an increase in expenditure by visitors using travel agencies in region X by USD 1 million, again, after deduction of taxes, etc., will provide 2.5 new jobs. Using, for example, input-output tables, the *indirect employment* effects of such an increase in tourism expenditure can also be estimated.

28. The expenditures made by, or on behalf of, the visitor before, during and after the trip. See Chapter 1.

29. Even if one starts from the demand side, the labour coefficient originates from the supply side. In this sense, the two perspectives are interlinked. Coefficients are sometimes used to distribute full-time/part-time and male/female ratios over the estimated number of jobs.

30. See, for example, Hansen and Jensen (1996).

Text Table 1. **Selection of characteristic tourism industries (refer to the TSA)**

❒ 55	Hotels and restaurants, of which: **551 Hotels, camp sites and other commercial accommodation** **552 Restaurants, bars and canteens**
❒ 60	Land transport, of which: **601 Railways** **602 Other land transport** (6021 Other scheduled passenger land transport) (6022 Other non-scheduled passenger land transport, including taxis)
❒ 61	Water transport, of which: **611 Sea and coastal water transport** **612 Inland water transport**
❒ 62	Air transport, of which: **621 Scheduled air transport** **622 Non-scheduled air transport**
❒ **6304**	**Travel agencies, tour operators and tour guides**
❒ **7711**	**Car rental**
❒ 92	Recreational, cultural and sporting facilities, of which: **921 Motion picture, radio, television and other entertainment activities** (9212 Motion picture projection) (9214 Dramatic arts, music and other arts activities) (9219 Other entertainment activities, n.e.c.) **923 Libraries, archives, museums and other cultural activities** (9232 Museum activities and preservation of historical sites and buildings) (9233 Botanical and zoological gardens and nature reserves activities) **924 Sporting and other recreational activities** (9241 Sporting activities) (9249 Other recreational activities)
❒	**Other tourism-related industries, *e.g.* retail of tourism commodities, financial services, etc. (see TSA)**

In addition to its methodological deficiencies, this method cannot tell us anything about the composition of employment in travel agencies in region X. For example, the gender, age or nationality of those occupying these 2.5 jobs is unknown. We cannot even say how many people will be employed due to the creation of these 2.5 new jobs. That would depend, for example, on the full-time/part-time ratio, the availability of skilled labour and the timeframe in which the expenditures are made. So, to say something about the composition of tourism-related employment, a ***supply-side approach*** is always needed. This entails defining tourism from the classification of enterprises and organisations that offer products and services to visitors. For this, the ISIC classification, *i.e.* the main economic activity of an enterprise or organisation on the basis of the International Standard Classification of Industry (ISIC, Rev. 3), can be used.

From an employment perspective, this approach differs fundamentally from other possible approaches, such as a description based on occupations using the International Standard Classification of Occupations (ISCO-68 or ISCO-88) (see Appendix 1).

However, because tourism cuts through and merges into a variety of industries, it is difficult to define the production boundaries of tourism from a supply-side perspective. Here the results of the TSA can be very helpful. The TSA relates tourism consumption on the demand side to the supply side, providing some indication of which producing industries are important for tourism. Therefore, the

boundary of the "tourism industry" chosen for the TSA is followed to the greatest extent possible (Text Table 1). For the arguments underlying the selection of the industries, the reader is referred to the TSA. Matching the selection of industries between the employment module and the TSA is important for creating the appropriate linkage between the two statistical information systems at a later stage. It also means that, for the time being, only direct employment is considered. Indirect and induced employment are left aside,[31] although some information can be derived using the tables of the TSA.

However, some clarification is needed. In the TSA, some specific tourism activities are mentioned. Among these activities:

- Ski lodges should be included in the group of recreation, etc., (924),[32] or presented separately (as a possible "of which" group or class).
- Health spas should be included in the group of hotels, etc., (551),[33] or be presented separately (also possible class 8519: other human health activities).
- Cruises and ferries should be included in the groups sea and coastal water transport or inland water transport or presented separately (as a possible "of which" group or class).
- Rental of accommodation, like second homes, is not taken into account (see ISIC 70: real estate activities). This group would appear to be of little importance in terms of employment. The SNA indicates that there is no labour input into the production of the services of owner-occupied dwellings. Therefore, owner-occupiers of dwellings are not considered as (self-) employed persons.
- Fuel (505), clothing, food, beer, etc. (of which 522 and 523), conventions (7499) and financial services/insurance (of which 651) should be included in the group "Other tourism-related industries". It is, however, important to indicate which industries, such as retail, financial services, etc., are included in this generic group. If possible, these industries should be presented separately as an "of which" group. For example, conventions can be important for business tourism (possible as a separate class 7499: other business activities n.e.c.).
- The remaining activities mentioned in the TSA can be classified in the appropriate group or class (see Text Table 1).

Due to the limitations of (official) employment statistics in many countries, the classification of industries is, for the time being, restricted to the three-digit level of the ISIC classification, with the exception of travel agencies and tour operators and car rentals. In the future, this classification could be elaborated to a four-digit level (see, for example, the classes in brackets). This would enable a better definition of the tourism industry.[34] For reasons of comparison, however, it must be possible to aggregate to the three-digit level.

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31. The terms "indirect" and "induced" are used differently here than in the TSA. Refer to Appendix A of the TSA.

32. See the WTO Standard International Classification of Tourism Activities (SICTA) in United Nations and WTO-OMT (1994).

33. Refer to the SICTA.

34. This depends on the availability of statistical data in a country. Two pilot surveys conducted by the OECD in 1997 and 1998 show that it will not be easy to collect reliable employment data at a four-digit or more detailed level of the ISIC classification.

Depending on the situation in a given country, the selection of industries can, of course, be elaborated or adjusted with other (sub-)industries. For example, important industries can be highlighted as "of which" groups or classes. However, it is important that the connection with the TSA is ensured. This applies also to countries wishing to present the data at a four-digit or more detailed level. The availability of reliable statistical data is an essential precondition.

It must be made very clear that employment in the selected tourism industries, seen from a supply-side perspective, is not the same as ***total employment generated by the expenditure of visitors.*** First, the selected tourism industries can also provide products and services to non-visitors. Second, visitors spend their money not only on products and services of the selected tourism-related industries, but also on products and services from a variety of other industries.

Definition of employment

Employment and related topics are comprehensive, complex and dynamic social phenomena. It would not be possible to set up a statistical information system that describes these phenomena in all their facets. It is necessary to make a selection of the most relevant objects of description.

This module focuses only on *paid labour*, *i.e.* employment (employees and the self-employed) in or the workforce of characteristic tourism industries (***B2*** in the framework presented in Figure 1). This is in line with the both the SNA and the TSA, which view employment as a production factor. In addition, the International Labour Office (ILO) definitions of the labour force and the economically active population[35] are strongly related to the production of goods and services. Contrary to the current SNA, however, for the time being no effort has been made to estimate black or illegal labour.

Even when the analysis is limited to paid labour, the system remains rather extensive. Further limitations have to be made concerning the objects of description and their characteristics. A major outline is the way labour is utilised (Figure 2). This means leaving aside aspects such as (hidden) vacancies, underemployment, recruitment strategies, job mediation, unionisation and education and training provisions. These variables can be added in a later phase of development.

The "employed" comprise all persons above a specified age, who during a specified period, either a week or one day, were in one of the following categories: *i)* paid employment; or *ii)* self employment.[36]

Paid employment (employees) describes:

- *At work:* persons who, during the reference period, performed some work for wage or salary, in cash or in kind.
- *With a job but not at work:* persons who, having already worked in their present job, were temporarily not at work during the reference period, but have a formal attachment to their job.[37]

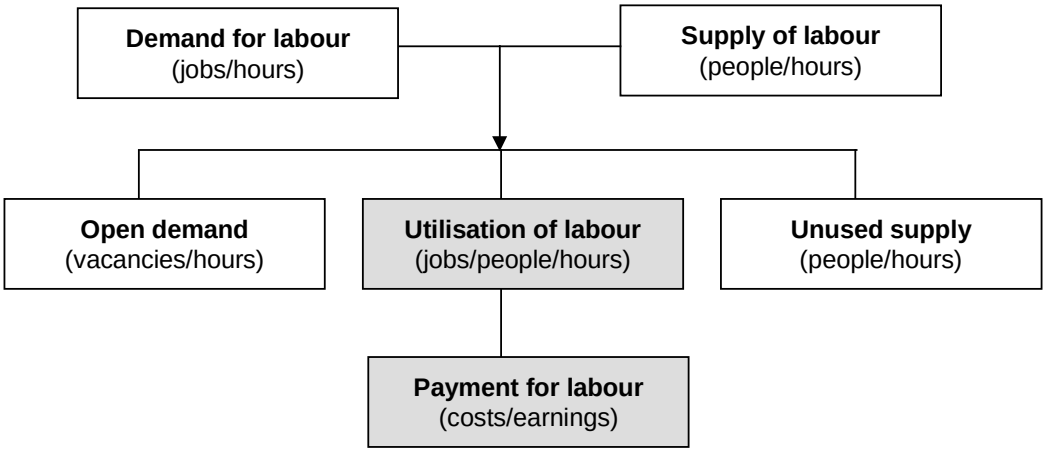
35. The economically active population comprises all persons of either sex and over a certain age, who furnish the supply of labour for the production of economic goods and services as defined by the United Nations systems of national accounts and balances, during a specified time-reference period. See ILO, Thirteenth International Conference of Labour Statisticians, Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, 1983, Geneva.

36. For further details, refer to the definitions of the International Labour Office (ILO).

Self-employment comprises:

- *At work:* persons who, during the reference period, performed some work for profit or family gain, in cash or in kind.
- *With an enterprise but not at work:* persons with an enterprise, which may be a business enterprise, a farm or a service undertaking, who were temporarily not at work during the reference period for any specific reason.

Figure 2. **The utilisation of labour**



An employee is thus characterised by some kind of employer-employee relationship. There is an agreement, which can be either formal or informal, between an enterprise and a person, whereby the person works for the enterprise in return for remuneration in cash or in kind. The self-employed, on the other hand, are persons who are sole owners or joint owners of the unincorporated enterprises in which they work.

Self-employment can be divided into two groups: those with and those without paid employees of their own. Those with paid employees are described as employers and those without paid employees are described as *own-account workers*. An *out-worker* is an own-account worker who is under some kind of formal or informal contract to supply goods or services to a particular enterprise.

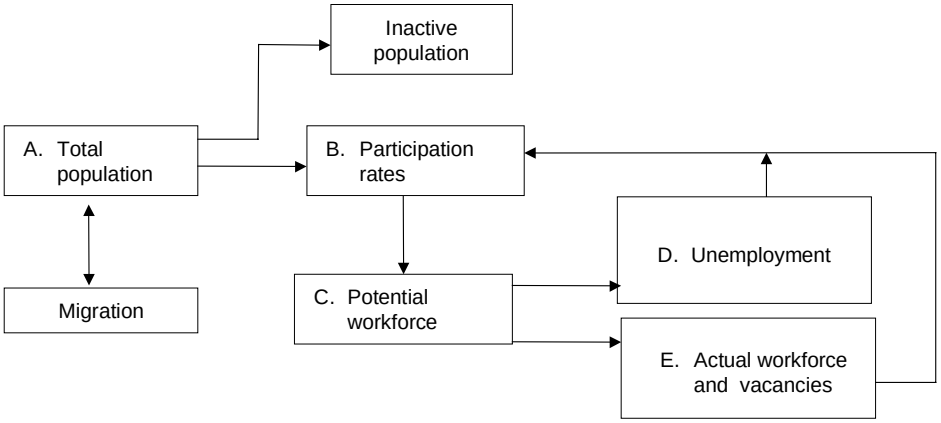
Figure 3 provides a picture of the concepts relating to employment. The volume of the *potential labour force* (***C***),[38] *i.e.* the total labour supply (employed + unemployed), depends on the *participation*

37. In the SNA, persons who are not paid under such an agreement, being either laid off or absent on training, are not considered to be employed. Persons who have a formal job attachment; that is, they continue to receive wages of some kind, they have an assurance of return to work and they are without an obligation to accept other jobs, are considered to be employees. This covers, for example, persons temporarily absent from work through illness, injury, holiday or vacation, strike or lockout, educational or training leave, parental leave, reduction in economic activity and suspension of work due to reasons such as bad weather, mechanical breakdown or shortage of materials.

38. In terms of the ILO: the usually or currently active population.

rate (***B***) of the *population* (***A***) of a region or country. This is influenced, for example, by the age structure of the population and the rate of unemployment, which can discourage people from looking for a job. The demand for labour consists of the *actual labour force plus (hidden) vacancies* (***E***). The demand for labour and the potential labour force together determine the *rate of unemployment* (***D***).[39]

Figure 3. **General concepts relating to employment**



Employment can be expressed as *employed persons*, as *jobs* and as *labour volumes* expressed in *hours of work* or in *full-time equivalent (FTE)*. Work means any activity which contributes to the production of goods and services within the production boundary. In that framework, labour markets can be characterised by the demand for and the supply of labour. Establishments need people to perform labour on the various posts within a firm. These posts can be vacant (vacancies) or filled (jobs). If a job is filled, people perform work in return for payment or profit. This may be for a defined period or until further notice. Payment for labour leads to an income for those employed and to costs for the establishment. If a person is the proprietor of an unincorporated enterprise, he/she is classified as self-employed. Some employed people will also have a job on the side.[40] These second, third, etc., jobs may either successively follow one another within the reference period or, as is the case when someone holds an evening job as well as a daytime job, may run in parallel. This means: jobs + jobs on the side > employed persons. Employed persons who have more than one job are usually classified to their principal activity. Finally, a situation can occur where two or more persons fill a post ("duo" jobs). Since this situation is rare, in statistical terms these jobs should be split up and treated as two part-time jobs.

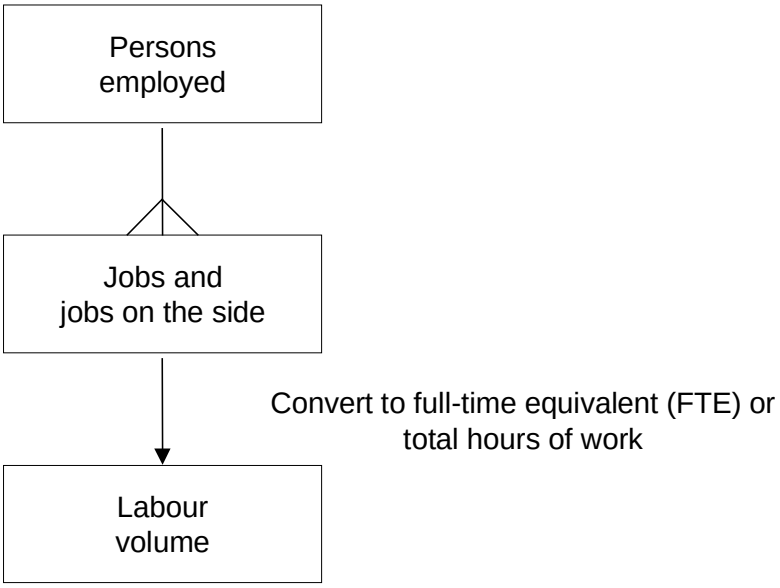
Jobs plus jobs on the side result in the total number of jobs. Jobs, however, differ in size, they can be full- or part-time. Therefore, to obtain an indication of the amount of labour performed during a specific period, a year for instance, the number of hours worked is needed. If all jobs are converted to full-time equivalent (FTE) or to annual total hours worked, the labour volume of an industry can be

39. Besides unemployment, underemployment can also be distinguished. Underemployment means that a persons has a job but would prefer to work more hours than the actual number of hours worked. Other situations can be a desire to work fewer hours or to change jobs.

40. In some countries, registration is limited to the second job. Also the way in which second, third, etc., jobs are classified can differ across countries.

derived. So, where employment is realised, a description can be given of the people employed, the number of jobs and the amount (hours of work) and type of labour performed (Figure 4).

Figure 4. **Different objects of employment**



Employment is not a clearly defined concept and major differences exist across countries. These include:

- The *treatment of groups* such as the armed forces, members of religious orders, seasonal workers, persons engaged in part-time economic activities (*e.g.* jobs of four hours or less) or contributing family workers, particularly women, who assist in family enterprises. In certain countries, all or some of these groups are included among the economically active, while in other countries, they are classified as inactive. Groups such as contributing family workers, students and casual workers are often seen as marginal for the total employment situation of a country, but can be important employment groups for tourism-related industries.

- It is often not clear which groups belong to employees, self-employed (*e.g.* contributing family workers and out-workers) or inactive population (*e.g.* students and apprentices).

- In most countries, the statistics of the economically active population relate only to persons above and/or below a specific *age limit*, while in some there is no such age provision in the definition.

- The *minimum duration of work*. Most countries use a minimum of one hour of work per week to classify people among the employed, although others use a minimum of four or more hours of work.

- The *reference period* can also be an important factor. In some countries, data on the economically active refer to the actual position of each individual on the day or week of the

census, while in others, the data recorded refer to the usual position of each person, generally without reference to any given period of time.

- The *periodicity of surveying.* This can, for instance, be monthly, quarterly or yearly. In the case of tourism, the periodicity of the survey can limit the possibilities for indicating seasonal employment.

- The way in which *border and immigrant workers* (those who work only for part of the year in the resident country but have their residence in another country) are treated. Often information on these groups is lacking, especially in the relation to inbound labour. Administrative or social insurance registries can sometimes be used.

- The growing number of people who work through *employment agencies*, especially if this is on a short-term basis. These people are often registered in the business service industry and not in the industry in which they actually work. This leads not only to an underestimation of the number of people working in tourism-related industries, but also to problems with the calculation of labour costs (now an intermediate consumption of that industry) and differences between employment data derived from household surveys (the employee thinks he/she works in a tourism-related industry) or business-related surveys. It can also account, in some respect, for groups such as own-account workers and out-workers.

- In addition to the above-mentioned differences in definitions (periodicity, etc.), countries also differ in their *methods of surveying* and in the *data sources* used.

- Even within a country, there can be (great) differences among the surveys used to collect employment data. This means that either discrepancies between the different sources have to be clarified, or one source has to be chosen as the "best" source of information, or the data from the different sources have to be integrated and reconciled.

Because of these differences, it will be impossible to bring all countries totally into line. However, some common denominators can be found. In this module, the ***starting point*** for employment data in characteristic tourism industries is the following:

- (Jobs of) employed persons of 15 years and over. However, a category of "< 15 years" can be added to obtain an indication of child labour, if required.

- People who have worked for one hour or more during the accounting period (*e.g.* week).

- People on-call, students, apprentices and trainees, contributing family workers and members of producers' co-operatives should be included where possible.

- People who work through temporary agencies should, where possible, be classified separately and allocated to the appropriate industry if they work in one of the tourism-related industries. At the very least, their inclusion or exclusion should be clarified.

- (Following the SNA) the residence of the enterprise or institutional unit is the criterion for including or excluding (the jobs of) people employed.[41] This means that (the jobs of) people employed living in another country but working with an institutional unit which belongs to the resident economic territory should be included.[42] Vice versa, (the jobs of) people

41. This differs from the way in which the total population is defined.

42. If an institutional unit from another country is engaged in transactions for less than a year, this unit does not belong to the economic territory, so the jobs of this unit should not be counted. For example, the jobs of foreign short-term consultants and repairmen are not counted.

employed living in the resident country but who are working with an institutional unit which does not belong to the resident economic territory should be excluded. This is important, for example, for the way in which crews of ships and aircraft and in- and outgoing border and seasonal workers should be treated, whether resident or non-resident. This, of course, not only holds for people employed but also for related topics, such as hours of work, FTEs and compensation of employees.

- In addition to the main job, the second, third, etc., jobs held on the side in tourism-related industries should be counted. An open question is whether to include those people who have a job on the side in one of the selected tourism industries, but whose main job is in a non-tourism industry.

Differences in definitions, methods, etc., mean that it is important to know what the different countries' employment data actually represent. Tourism-related employment data should therefore always be accompanied by notes outlining which characteristic tourism industries are included and how employment is defined.

Selected key variables and their definitions

In the first phase of development of this module, the number of objects of description and their characteristics have to be limited. This is not only necessary because of the diversity of the elements, but also because problems relating to definitions and availability of data can be expected. Therefore, on practical grounds, only an overview of a core set of objects and their characteristics is presented (the elements in *italics* in Text Table 2). Some objects, for example, wages and hours of work, can also be a characteristic of another object. In a later phase of development, elaboration with new objects and (or) new characteristics is always possible.

Developments and changes in employment occur within a context which is described in the framework presented in Figure 1. ***Context variables*** of tourism-related employment can include aspects such as tourism demand, economic indicators, supply-side aspects of labour markets (*e.g.* unemployment and demographic developments), labour migration, the public sector and especially the structure of characteristic tourism industries (*e.g.* technology, size, structure, ownership, trends towards concentration, births/deaths and value added/margins). These context variables are not the main point of interest here. However, part of this context is provided through the connection with the TSA. Two aspects are of importance here:

- An indication of the general level of tourism-related employment in the selected characteristic tourism industries of a country. It should be made clear that this covers only part of the total employment generated by the expenditure of visitors. It is the effect of all the different expenditures of visitors, also outside the selected industries, on the one hand (leading to an underestimation of total tourism-generated employment) and the inclusion of people whose job is a result of the expenditure of non-visitors instead of visitors in the selected industries on the other (leading to an overestimation of total tourism-generated employment).

- A definition of the selected key variables.

Text Table 2. **A selection of objects and their characteristics of paid labour**
Selected variables in italics

1. Persons employed/jobs/hours of work/FTEs/earnings

Characteristics of the person
Gender
Age
Education (ISCED-76)

Characteristics of the job
Working scheme ((full-time/part-time)
Status in employment (ISCE)
Seniority

Characteristics of the establishment
Economic activity (ISIC)
Size of establishment
Region of establishment

2. Labour cost (ISCLC)
Economic activity (ISIC)
Paid hours of work
Hours actually worked
Components

Additional characteristics of objects:

3. Employed persons
Nationality/Place of birth
Occupation (ISCO-68 or 88)
Kind of household
Place of residence
Motives

4. Jobs/FTEs
Wages in classes
Hours of work in classes

5. Hours of work

Hours paid
Hours actually worked
Normal hours of work
Size of establishment
Region of establishment
Occupation (ISCO-68 or 88)

6. Wages/income/earnings
Hours paid
Hours actually worked (*e.g.* overtime)
Wage and income components
Size of establishment
Region of establishment

Other possible objects (not used here):

7. Job/vacancies
Characteristic of the job
Characteristics of the establishment

8. Occupation (ISCO-68 or 88)
Characteristics of a person
Characteristics of a job
Characteristics of the establishment

9. Collective agreements and labour conditions

10. Employment agencies (job mediation)

11. Employment legislation

12. Strikes

13. Transitions
Mobility/Turnover
Motives
Characteristics of a person/household

(14. Unpaid labour)

The general level of tourism-related employment in characteristic tourism industries

This can be expressed in:

- The number of ***jobs*** (including second, third, etc., jobs) and the number of ***persons employed*** in the selected industries. A distinction should be made between (jobs of) employees and (jobs of) the self-employed. Data should be presented as annual averages. This can be best calculated on the basis of twelve months or quarterly data (points in time). Data that refer to a single date in a year provide only a second-best option.
- The average annual number of jobs can be converted to ***full-time equivalent (FTE).*** Because jobs can differ in the number of hours worked (*e.g.* full-time/part-time), this is a better

indication for labour inputs in the production process as well as providing better possibilities for comparison between industries. In general, FTEs can be derived by dividing the total annual hours worked by industry or job group by the average annual number of hours worked in full-time jobs within that industry or job group. For the further calculation of FTEs, refer to Chapter 10.

- An indication of ***growth or decline*** of tourism-related employment in these industries over the years. Depending on the data available, this should be done for jobs, FTEs and people employed. It can be the difference between either two annual averages or two points in time. If possible (also SNA indication), changes of establishments from one ISIC group or class to another should be taken into account. Only then can comparability over time be achieved (see section on further methodological considerations below).

- For ***comparison,*** the number of jobs, FTEs and the number of people employed in the ***total labour force of a country***. Additional comparisons could be made with other groups of industries, for example: other non-tourism market activities, total market activities and non-market activities.

If data are available, a further distinction can be made for:

- ***Seasonal employment***. For example, instead of one (average) employment figure (jobs, FTEs or people employed) per year, data for *every month* of the year (point in time) can be presented. Often these figures are only available for (jobs of) employees. In practice, this does not pose a problem because this group is the most affected by seasonal labour. However, many countries will be unable to supply data on a monthly basis. A feasible, although second-best, option is to present data (average or point in time) on a quarterly basis.

- The number of employed persons that have ***a job on the side*** (only the second job is counted here) in all other industries ("moonlighting").

To obtain an indication of the general level of employment in *characteristic tourism industries*, the number of *jobs or FTEs* as well as the number of *people employed* are taken into account. The link with the TSA has to be made through the number of jobs, if possible, converted to *full-time equivalents.* However, the total number of *hours of work* (see below) in a year remains the best indication of labour inputs. Through "people employed", a better relationship can be made with socio-demographic characteristics such as age, gender, nationality, etc. The relationship between the two objects of description is:

Total number of jobs = total number of people employed + jobs on the side.

Selected key variables of tourism-related employment

The following variables are selected:

a) **Gender (of people employed).**

b) **Age (of people employed):** 15-24; 25-34; 35-44; 45-54; 55+. If needed, an extra category of "< 15" can be added to provide an indication of child labour.

c) **Education level (of people employed):** Highest completed level of general education at school. Since education systems differ across countries, there is no unambiguous definition. As a first step, countries should use their own classification system. However, in a second step,

where possible, a translation should be made to the international accepted Standard Classification of Education (ISCED-76). As a starting point, four levels of education are distinguished:

- No or little schooling: no schooling, education preceding the first level and first level (ISCED X, 0 and 1).
- Primary: first stage and second stage (ISCED 2 and 3).
- Secondary: third level first stage, leading to an award not equivalent to a first university degree (ISCED 5).
- Tertiary and university: third level first stage, leading to a first university degree or equivalent qualification and third level second stage (ISCED 6 and 7).

d) **Nationality (of people employed):** This variable distinguishes between nationals and non-nationals. Definitions can vary across countries. Some counties use place of residence, others use place of birth.

e) **Status in employment (of jobs):** The International Classification of Status in Employment (ICSE)[43] classifies jobs with respect to the type of explicit or implicit employment contract the person has with other persons or organisations. The main ICSE groups are employers, employees, own-account workers, members of producers' co-operatives and contributing family workers. These groups are not easily comparable across countries. Because of these differences, the only distinction here is made between (paid) employees and the self-employed (employers and other non-employees).[44] The self-employed should include: employers, own-account workers and (un)paid contributing family workers. They are the sole owners or joint owners of the unincorporated enterprises in which they work. The remuneration of self-employment is directly dependent on the (potential) profits derived from the goods and services produced. Since returns for hours worked cannot unambiguously be distinguished from other elements of such mixed income (*e.g.* returns to capital or entrepreneurship), this aspect is not separately identified in the national accounts (SNA93). An employee is characterised by a contract of employment (or employer-employee relationship), whether formal or informal, whereby he/she works for an enterprise in return for remuneration in cash or in kind.[45] Employees should, if possible, also include apprentices, on-call workers, students and people who work through temporary employment agencies (presented separately if possible). Out-workers[46] are self-employed if their income is a function of the value of the outputs from some process of production for which they are responsible, however much or little work was put in. If there is an explicit agreement that the

43. See Fifteenth International Conference of Labour Statisticians 1993, Resolution concerning the International Classification of Status in Employment. Although the classification was improved in 1993, there is still much international discussion. The resolution notes "… further thought should be given to the conceptual basis of the ICSE".

44. People are often classified only on the basis of their principal activity.

45. This could be, for example, wages, salaries, payment by commission from sales, by piece-rates, bonuses or in kind payments such as food, housing and training. Students and apprentices are counted as employees when there is some kind of formal or informal commitment whereby they contribute some of their labour as an input into an enterprise's process of production in return for remuneration and/or education services.

46. An out-worker is a person who agrees to work for a particular enterprise or to supply a certain quantity of goods or services to a particular enterprise by prior arrangement or contract with that enterprise, but whose place of work is not within that enterprise.

out-worker is remunerated on the basis of work done for an enterprise, then an out-worker should be classified as an employee.

f) **Working scheme (of jobs):** Distinguishes between full- and part-time jobs on the basis of the average or normal hours of work per week or reference period, excluding overtime, annual leave, holidays, sick leave and time spent in travelling from home to work and vice versa. Part-time work is defined here as working equal or less than half of the average or normal hours worked per week for that group.[47] In making comparisons, it should be noted that the data are influenced by the number of days worked per week and by regulations and customs regarding working on Saturdays and Sundays. Sometimes the distinction between part-time and full-time is left to the respondent. In practice, however, a set number of hours per "normal" week, for example 35 hours a week, is usually chosen. In that case, a full-time job is defined as working equal or more than 35 hours a week, and a part-time job as working less than 35 hours a week.[48]

g) **Average seniority (of jobs):** Average seniority in months, based on the period when the person started working in his current job. This information is valuable to identify areas where turnover of labour is rapid or otherwise. In most cases, only data on the main job is available.

h) **Average hours of work (of jobs):** In the case of hours of work, a distinction can be made between:

- *Normal or usual hours of work, i.e.* the hours of work fixed by or in pursuance of laws or regulations, collective agreements, contracts or arbitral awards. Where there is no agreement or contract, then the average of the last four weeks or other period could be taken as the normal hours of work for a typical week. This is especially important for the self-employed.
- *Hours actually worked, i.e.* the aggregate number of hours actually worked during the accounting period, including hours worked during normal periods of work, overtime, training on the job, time corresponding to short periods of rest and idle time spent at the place of work waiting or standing by,[49] but excluding time for main meal breaks, commuting between home and place of work and hours paid for but not worked, such as annual leave, paid sick leave, paid public holidays and strikes. Therefore, hours overtime = hours actually worked – normal hours of work.[50]

47. A group can be an establishment, ISIC group or occupational group, possibly distinguishing between male and female.

48. Differences should be made, for example, between job groups, employee and self-employment or possibly male and female.

49. For example, due to temporary lack of work, machinery breakdowns or accidents. But also, work on preparing the site, repair and maintenance work and the making of invoices, reports, etc.

50. The concept of hours actually worked should be used for the linkage with the TSA. This should also include the hours actually worked on the second, or third, etc., job or business. To be exact, the hours of work of people outside the economic territory, but working for an institutional unit which has its centre of economic interest in the economic territory, should be included. Vice versa, hours of work for institutional units which have no centre of economic interest within the economic territory should be excluded. On this basis, the average hours actually worked can also be derived, *i.e.* the aggregate hours actually worked by an industry or group, divided by the number of persons or jobs in that industry or group. This can be, for example, a weekly or a yearly (preferred) average. Sometimes only hours paid for (usually the basis for establishment surveys) is available as a second-best option. In that case, hours actually worked, at least for employees, can also be estimated by subtracting (estimates of)

– *Hours paid for*, *i.e.* the hours actually worked plus the hours paid for but not worked (*e.g.* paid annual leave, paid public holidays and paid sick leave).

i) **Average gross earnings (of employees):** An average, based on the total payments made to each employee in the accounting period, prior to taxation and other deductions (*e.g.* taxes, social contributions, union dues, etc.), but including overtime.[51] This variable includes: remuneration for time not worked (*e.g.* holidays), shift incentives, etc., cost-of-living allowances, the value of benefits in kind (if perceptible) and other regularly or irregularly paid bonuses and allowances. It excludes: reimbursement of travel, unfunded employee social benefits and payments for absent severance and termination pay. It can be an hourly, monthly or annual (preferred) average. This figure coincides more with *paid hours of work* than with hours actually worked. It should be made clear that this figure is not very reliable, but it can be used to provide an indication. In addition to differences between categories of employees, in some tourism-related industries, especially on the service side, extras can be given with overtime or through tips, free meals and accommodation. Some parts of these extra compensations, especially benefits in kind,[52] tips and irregular bonuses, are not always shown in the official statistics. This figure must be seen as a first step[53] towards a more comprehensive picture of earnings and labour cost in tourism-related industries. Ideally, more information should be collected.[54]

j) **Permanency of job (of employees):** Number of jobs of employees with a temporary job or a work contract of limited duration instead of a permanent job or a work contract of unlimited duration. This can be part-time or full-time. In many cases, only data on the main job will be available.

k) **Irregular working hours (of jobs of employees):** Number of jobs of employees who have either evening work, night work or who work on Saturdays or Sundays. This can be seen as an indication of unfavourable labour conditions. Probably, only data on the main job are available.

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hours paid for but not worked and adding (estimates of) hours worked but not paid for. Normal hours or usual hours of work can be used to determine the distinction between full-time and part-time. This can also be on a weekly or yearly (preferred) basis.

51. See ILO definitions.

52. It is often difficult to collect data or place a value on benefits in kind. For example, there can be a difference in the value as costs for the employer or the value for the employee. Therefore, many countries exclude this item from the definition of gross hourly or monthly wages. In the SNA, benefits in kind are valued at purchasers' prices or, when produced by the employer, at producers' prices.

53. There is a huge variety of wage concepts.

54. For example, *earnings* can include wages for normal time worked, including shift incentives, etc., payments for time not worked (*e.g.* holiday and sick leave), (premium) payments for overtime, social contributions for social security, pension schemes, etc., regular/irregular bonuses and gratuities and benefits in kind (*e.g.* food, housing and clothing). Normal or basic wages (including shift incentives and regular bonuses), overtime wages and other benefits should be separately identified. Further, net wages (after taxation and other deductions) can also be distinguished. In addition, there is a difference between employees and the self-employed (mixed income). *Labour cost* is the cost incurred by the employer in the employment of labour. Components of labour cost are, for example, direct wages and salaries, remuneration for time not worked, bonuses and gratuities, payments for food, drink, fuel, housing and vocational training, payments for payroll tax, payments for social security and welfare services, costs for recruitment, additional payments in respect to sickness and termination pay.

A set of tables is presented for the selected variables (see Chapter 11). All tables should distinguish between the selected industries and the total economy of a given country.

The production of these tables by individual countries can be limited by quality requirements, such as constraints due to sample size of surveys and confidentiality rules. This is one of the main reasons for using mainly one-dimensional tables and a three-digit level of the ISIC classification, at least for the time being. In addition to a set of employment tables, one table (Table 12) makes the connection with the TSA.

The linkage with the TSA is based on the number of jobs of employees and the self-employed converted into FTEs and, if possible, into hours of work. Compensation or gross annual earnings of employees is also an important linking variable.

Further methodological considerations

As stated above, the comparability of data on employment is hampered by differences in definitions, methods, etc., across countries. The available options are highly dependent on the specific situation in a given country. Therefore, it is important that the methodology and definitions used to compile data on tourism-related employment be fully described and comply as far as possible to the definitions proposed in this module. Any discrepancies should be clarified.

In addition, the following methodological considerations should be taken into account:

- Only existing *official employment data* should be used, even though this can limit the degree of coverage and detail, like the further distinction to a four-digit level of tourism-related industries, more detail in specific tourism characteristic variables or the use of multi-dimensional tables or cross-tabulations. The sample size, confidentiality rules and costs of surveying can *limit the degree of detail and coverage.*[55] In this module, at least, data should be presented at the three-digit level. Countries can progress to using to the four-digit level if that provides a better link with the TSA. In that case, however, for reasons of comparison, it is desirable to retain the connection with the three-digit level.

- Data can be expressed in different *time dimensions, i.e.* a certain point in time, an average of a period calculated on the basis of observations at different points in time (*e.g.* monthly or yearly average), and the sum of units counted over a certain period of time (volume data). Finally, data can also be expressed in changes or transitions.[56] Employment data, such as gender, age, education, nationality, situation in employment, permanency of job and irregular work, usually refer to a certain *point in time*. Sometimes data of different points in time, for example four quarters of the year, can be added together, allowing the calculation of a *quarterly or annual average*. In the same way, for reasons of reliability, data covering two or three years can be combined to provide more robust and reliable data set. In relation to the connection with the TSA, the main focus is on annual labour inputs. This is the end result over one year concerning the stream of demand and supply of labour related to the payments made as the sum of all wages and salaries. For jobs and FTEs, *annual averages,* and for hours of work and compensation of employees *annual totals,* are used.

55. This is also true for the occupational approach.

56. For example, longitudinal research.

- Another issue relating to employment data, especially if data from *establishment surveys* is used, is the way in which *year to year changes* (growth and decline of employment) are handled. Changes in the level of employment can occur because real changes are occurring, *i.e.* there are more or less jobs in tourism-related industries. However, changes can also occur because establishments change from one ISIC group to another. This can be caused by the fact that the main economic activity of the unit has changed (*e.g.* as sometimes arises with multinationals), or by the fact that an error in coding was made. It is questionable whether these last two effects have to be taken into account in examining the growth or decline in tourism-related employment. In fact, there should be two sets of employment data, *i.e.* data on successive points in time (*accurate levels*) and data on changes in employment *(accurate changes over time*). In the SNA, priority is given to changes over time by classifying an establishment in the same ISIC group for a longer period of time, starting with a base year. Although it is advisable to continue to apply the SNA method, in the long run using that approach does not necessarily coincide with the real world situation. It also has to be made clear that data on employment levels, presented on successive points in time, do not say anything about the creation of new jobs or the destruction of existing jobs. It is often postulated that SMEs in tourism industries create many new jobs. However, it is also probable that many existing jobs are destroyed within this group.

- A useful distinction can be made between employment in *small and medium-sized enterprises*, on the one hand, and employment in large enterprises, on the other. The availability of reliable data can pose problems. Table 14 of this employment module breaks down employment per group into size-class of establishments. In addition, the *percentages of births and deaths* of enterprises over one year, related to the total number of enterprises in that industry, are also taken into account. This information can be collected from business registers.

- Because of possible reliability problems and the availability of data, *regional employment data* is not asked for. For the same reasons, aspects such as *informal labour* are currently excluded from the module.

- In this module, for reliability reasons, the majority of the tables are one-dimensional. The size of the survey samples is often not sufficient to present detailed cross-tabulations in *multi-dimensional tables*. In general, it is true that the more data is disaggregated, the greater the likelihood that reliability problems will arise. This means that *minimum levels of quality*[57] have to be set. For the group of *employees*, more detailed data is usually available, and this will enable multi-dimensional tables to be set up for this group in the future. For example, the distinction between full-time and part-time for different age groups, gender or size of establishment or the distinction of wage classes for male and female. For the time being, this issue is left aside.

One of the main problems in the field of employment data is that there is often more than one source of information. Because basic surveys have their own specific objectives, they often differ in regard to the definitions, concepts and methods used and the time of surveying. This can lead to a fragmented overall picture or, for instance, to different levels of employment.

The simplest solution to this problem is to use only one source, *i.e.* the most reliable or broadly based source of information (preferably a household or labour force survey). In that case, however, often not all the required data can be obtained. A second option is to use different sources of information, providing clarification for any discrepancies between the sources. The best – but most

57. Often some minimum number of observations in a cell is used.

difficult – option is to integrate the available sources of information. This can mean that different data sources need to be combined or that one basic source is benchmarked against other sources. This could entail, for example, setting employment data of jobs of employees derived from a labour force survey against the data of jobs of employees obtained from an establishment survey. Or, the integration of employment levels calculated through the employment module and the estimates of the TSA made directly through the national accounts. Or, using distribution ratios derived from one source to disaggregate data from another source. Usually, this means that data from different sources have to be reconciled.

The process of adjustment can be directed towards:

- Identical employment data, such as number of people employed or number of jobs.
- Different types of inter-related employment data. For example:
  - Number of people employed + number of side jobs = number of jobs.
  - Number of jobs x average yearly wages = total annual earnings.
  - Number of normal hours of work + overtime = actually hours of work.

This process of statistical integration or reconciliation[58] entails four steps:

- *Harmonisation:* adjustments for differences in definitions, classifications, time of surveying and level of detail. This means that a set of core definitions has to be defined in advance.
- *Full or identical coverage:* adjustments for differences in coverage where different sources do not describe the total or same population, for example, employees only.
- *Minimisation of measurement errors:* corrections for measurement errors. Data from different sources are confronted with one another and measurement errors eliminated to the extent possible.
- *Balancing:* even once the three steps described above have been implemented, (small) differences will continue to exist between sources of information. Total reconciliation can be achieved through a mathematical balancing algorithm[59] (at least where the differences are not too big).

58. Leunis and Altena (1996) give a good example of this integration process, using the Dutch Labour Accounts as an example.

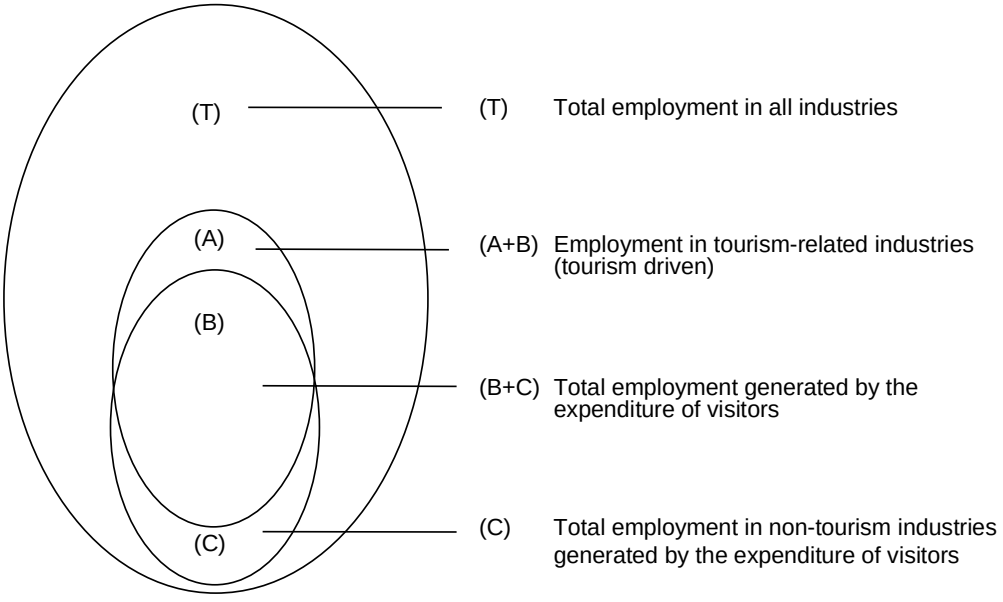
59. See, for example, the algorithm of Powell in Leunis and Altena (1996).

Chapter 10

LINKING TOURISM SUPPLY AND DEMAND

By their nature, expenditures on tourism, and hence tourism employment, encompass the outputs of almost every industry in the economy (***B+C*** in Figure 5). The major problem with a supply-side approach is the question of which characteristic tourism industries should be included. Only a few industries depend heavily on tourism (tourism driven: ***A+B*** in Figure 5), while many other industries in the economy depend, but only partly, on expenditures by visitors (*e.g.* retail, banks and communication: ***C*** in Figure 5). The degree of dependency can differ significantly by industry, by region and over time. On the other hand, the industries defined as comprising the "tourism industry" (***A+B*** in Figure 5), can cater to the needs of both non-visitors (***A*** in Figure 5) and visitors (***B*** in Figure 5). Therefore, often only a share of their employment can be associated with tourism.

Figure 5. **The boundaries of tourism-related employment and total employment generated by the expenditure of visitors**



Thus, employment in the tourism-related industries (***A+B*** in Figure 5) as defined in this module, does not match the total employment generated by the expenditures of visitors (***B+C*** in Figure 5).

To solve this problem, at least partly, a relationship has to be made between the supply and demand sides of tourism. In general terms, using expenditures of visitors (demand side) in the selected tourism industries and, for example, total output (supply side) of these industries**,** tourism ratios per industry can be calculated. These tourism ratios can then be used to allocate employment in the selected industries to tourism, excluding employment generated by expenditures of non-visitors (***A*** in Figure 5). These tourism ratios are derived in the TSA.

However, separating ***A*** from ***B***, *i.e.* excluding non-tourism employment from tourism employment, solves only one part of the problem. The size of tourism employment outside the selected industries (***C*** in Figure 5**)** remains unclear. Again, the TSA is a good source of information, since it provides insight into which industries are more important (***B*** in Figure 5) and which industries are less important (***C*** of Figure 5) for tourism, by relating tourism consumption on the demand side to tourism goods and services on the supply side.

Thus, a connection between the employment module and the TSA is valid for at least two reasons: *i)* demand and supply of tourism can be linked, providing results such as tourism ratios, but also first estimates of the levels of direct and indirect employment generated by tourism; and *ii)* insight can be gained into which industries are important for tourism. Therefore, as far as possible, the employment module follows the selected industries in the TSA.

There are other good reasons for linking the employment module to the TSA. The TSA, based on national accounting principles, uses employment data such as labour volumes, expressed in full-time equivalents (FTEs) and in hours of work, and compensation of employees. See, for example, the production account and the make and use matrix in the TSA (Chapter 6). It is important that the totals of the TSA and the employment module match as far as possible (*one-figure strategy*). This is especially the case where employment data for the TSA are supplied through the SNA and are not directly provided by the employment module. Different data describing the same phenomenon will only further confuse users. These totals for, for instance, the number of jobs or FTEs in tourism industries can then be used to link and benchmark other employment data, such as hours of work and compensation of employees, but also (the characteristics of) people employed and occupational groups.

Both the employment module and the TSA benefit from the connection. The scope of the TSA is extended by including a set of detailed employment tables which do not fit within the TSA. This gives policy makers a better overall picture of the tourism industry, as well as providing time-series and additional tools for analysis and forecasting. Tourism employment should be seen not only as a production factor, but also as a social phenomenon (*e.g.* people employed, profiles, labour conditions and motives).

The connection also provides the possibility for confronting and matching employment data from various sources, thus improving the quality and comparability of the information (*statistical integration*). It also applies to other topics derived from and used in the SNA, such as productivity, labour coefficients, full-time/part-time ratios and labour cost. On the other hand, the TSA provides the employment module with an economic context that offers opportunities for insights into the relationships between, for example, labour markets and other economic processes. Such a system produces data on elements such as productivity and indirect employment effects, but also permits further differentiation of, for example, labour income by gender, working scheme or other variables.

Most importantly, the TSA provides the employment module with a central frame of concepts, definitions and classifications. This not only reinforces the consistency of the total framework, it also provides possibilities for connections with other extensions of the TSA, such as the characteristics of visitors,[60] specific characteristics of tourism-related industries[61] or the distribution and use of income (*e.g. statistical co-ordination*).

Thus, the main idea behind the linkage between the TSA and the employment module is to create a statistical framework within which different sources of micro-data on employment can be integrated, through the module, into the more aggregated meso and macro data of the TSA. In a normal TSA, labour is treated as a single homogeneous factor of production with no detail on the composition of employment. An integrated framework can provide a tool allowing consistent time-series on a meso and macro level to be compiled, as well as consistent and integrated time-series on detailed labour data, where labour market analysis (*e.g.* people employed, households) is integrated into the TSA (*e.g.* industries and institutional units). The ultimate objective is to create a Tourism Social Accounting Matrix (TSAM),[62] in which monetary data is linked with non-monetary data, such as data on employment.

In addition to jobs and hours of work, the core set of data in the TSA consists of data on the compensation of employees and the mixed income of the self-employed as part of the value added and distribution of income. In an integrated framework, this set of data is amplified by breaking down the compensation for labour into the various types of employment. This can lead to cross-tabulations of, for example, wages and salaries by gender, education, occupation and type of household. An example is given below. The next step is to integrate other employment data from basic surveys in such a way that the main variables match the employment data in the TSA and the module (as a benchmark). These main variables are jobs or FTEs, hours of work and compensation for labour. To make this possible, it is essential to adjust the basic employment data derived from, for example, household, labour force or establishment surveys so that they match the concepts and definitions of the macro-data of the employment module and the TSA (*micro-macro linkage*). Some elements of this process are described in the following section.

The process

The process of integration, or micro-macro linkage, entails bringing basic employment data into line with the concepts, definitions and classifications described in this module. In this way, a link can be made with the TSA. A good starting point could be "the number of jobs".[63] The employment module can then be elaborated with other elements of employment, using the number of jobs as a benchmark for the totals of these other elements (Figure 6). In addition, inter-relationships between these elements can be determined, allowing linkages to be made between variables such as FTEs, compensation of employees, occupation and (the characteristics of) people employed. Examples of such inter-relationships include:

- Number of jobs – number of jobs on the side = number of people employed.
- Gross average hourly wage * total hours paid for = gross yearly earnings.

60. For example, tourism ratios could be calculated for different types of visitors.

61. See, for example, the connection through a central business register.

62. Or a System of Economic and Social Accounting Matrix (SESAME). See SNA93.

63. Related to FTEs and compensation for labour, which also enter the TSA.

- Number of jobs of employees * average yearly gross earnings of employees = total compensation of employees.

The integration process is not a straightforward exercise and can differ according to the variables. It is not possible to describe all the aspects of this process in detail. Much depends on the availability of employment data in a given country. This section discusses three of the main issues which need to be tackled.

The first question relates to the selection of the *industries* which make up the tourism industry from a supply-side perspective. This topic has already been discussed in detail. To link the employment module with the TSA, it is obvious that the selection of industries in the employment module must be in line with the industries chosen in the TSA. In the TSA, there is a step from tourism consumption to tourism products and services to (producing) tourism-related industries. The group of producing industries should be the basis for the industries selected in the employment module. An additional aspect is the *level of detail*. The level of detail, for example a three- or four-digit selection of the ISIC classification, should be identical in both the TSA and the module. Otherwise, results such as tourism ratios cannot be produced. However, users should be aware of the limitations of the available employment data (quality levels), which is the main reason for choosing a three-digit level in this module, at least for the time being.

A second question concerns which *variables* to use to make the first connection with the TSA. In general, the national accounts, 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, part of which goes to the income of employees and the self-employed. The national accounts use jobs or better FTEs and hours of work as indications for labour inputs. For the value added of production and the distribution of income, the compensation of employees and the mixed income of the self-employed are important items. For the number of jobs and FTEs, this is done in annual averages. Annual totals are used for compensation of employees and hours of work. The mixed income of the self-employed plus the operating surplus is treated as a balancing item.

Thus, the self-employed are treated differently from employees in the national accounts' process. The position of employees is characterised by wages and salaries as costs in the production process and earnings in the distribution of income, while the position of the self-employed is defined by a mixed income. It is difficult to unambiguously determine the share of this mixed income that can be attributed to income through capital and entrepreneurship, and the share that can be attributed to income related to hours of work. This latter aspect is hidden in the balancing item of the value added of mixed income and operating surplus.[64] This is not separately identified in the national accounts. So jobs, FTEs and hours of work should be derived for employees and the self-employed, while compensation or total gross earnings related to labour is only derived for employees.

A third question concerns how the link between the available basic sources of employment data, such as a labour force or establishment survey for example, and the employment module/TSA should be made. Taking as an example "the number of jobs", this involves following the steps outlined in the previous chapter to ensure harmonisation, full or identical coverage and minimisation of errors. The same process can be used for hours of work, compensation of employees or other variables.

64. The SNA suggests that the wages and salaries of the self-employed could be imputed on the basis of the average hourly wage of employees and the number of hours of work of the self-employed. Whether or not this is an attractive option is open to question, however. It would be wise to investigate other possibilities such as tax registrations.

Figure 6. **The connection between the employment module and the TSA**

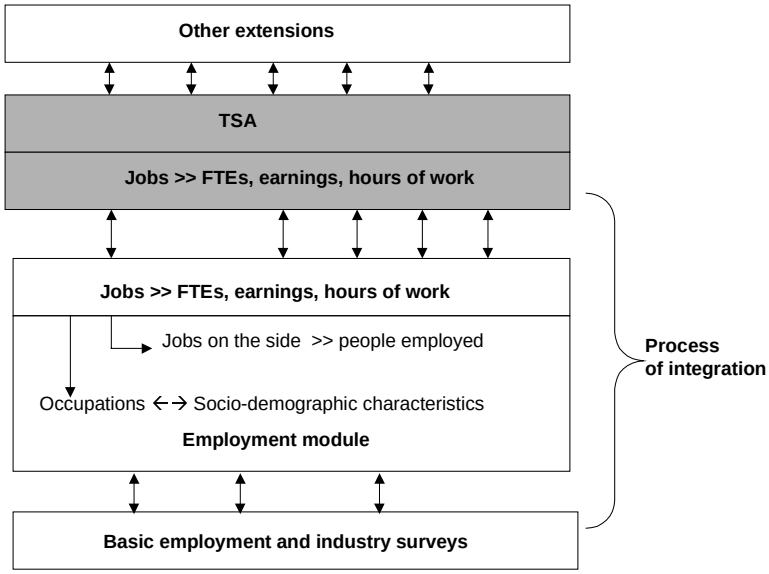
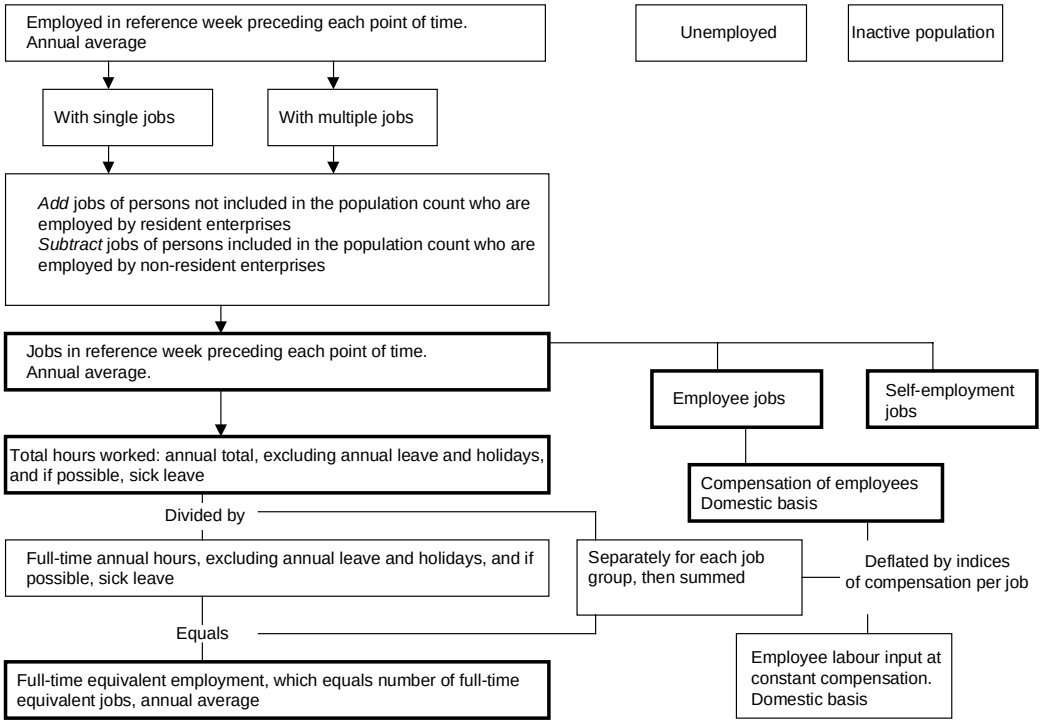


Figure 7. **Labour concepts of the System of National Accounts**[1]



Note: Boxes surrounded by thick lines related to the concepts of the SNA.
1. See SNA93, 1993, p. 408.

Since, in our example, the interest lies in the whole range of jobs, employees and self-employment, a household or labour force survey (LFS) has to be used as the basic source of information. If the interest lies, for example, in jobs or earnings of employees only, then an establishment survey or another reliable basic source could have been chosen instead of the labour force survey.

Other variants can be applied. It is possible, for example, to use two basic sources of information simultaneously, *e.g.* data on jobs of employees from a labour force survey and an establishment survey. In that case, the process of harmonisation, full or identical coverage and minimisation of errors has to be carried out for both surveys. At the end of this process, both sources have to be reconciled through a mathematical balancing method if the differences between the two sources are not too large. An alternative is to use one source as the central or basic source of information and benchmark this source against other available sources (for example, using the labour force survey as the basic source of information and benchmarking data against other sources such as an establishment survey or other "smaller" surveys to adjust for annual averages or seasonal effects). This latter alternative appears to be the most practical option. In general, for every variable, a different basic source could be chosen, depending on the sources of information available. In this sense, it is wise to start with an inventory of the available sources of information on tourism-related employment.

In our example, the main point of departure is the definitions and classifications for "the number of jobs" and related topics, such as working scheme (full-time/part-time) and status in employment (employees and self-employed), described in Chapter 9 on concepts and definitions. This is the goal to aim for. The employment data obtained from the basic sources of information, in this case the definitions and classifications specific to the LFS, need to be translated into, and brought into line with, the definitions and classifications of the employment module.

First, however, the LFS data relating to the selected tourism industries have to be selected on the basis of the ISIC classification.

The ***first step*** of the process, *i.e. harmonisation*, aims to remove differences in definitions, classifications and level of detail. In our example, this is done by bringing the LFS data into line with the definitions and classifications of the employment module. Possible questions and adjustments can include:

- The *main questions* are whether all the groups (people employed/jobs) covered by the data set fit the definitions and classifications of the employment module. Should some groups be excluded or should other groups be added? Are people employed/jobs assigned to the correct classification?

- In our example, the number of *jobs* has to be determined. However, the LFS is based on *people employed*. Therefore, adjustment has to be made by adding the second (and, if possible, third, etc.) jobs of employees and the self-employed to their main job (also in the LFS). In principal, only jobs on the side in the selected tourism industries should be added. The feasibility of this depends on whether the second, third, etc., job is assigned to a (proper) industry group or not. If one is interesting in obtaining a full indication of "moonlighting", irrespective of the industry in which it is taking place, then all jobs on the side are of interest.

- Jobs on the side in tourism-related industries of people whose main job is in an non-tourism industry should be included.

- If the LFS is based on people employed and jobs with a minimum of, for example, four hours of work per week or more, all jobs of one to fours hours of work should be added, if data are available (these should be obtained from another source of information or estimated).

- An *annual average* of the number of jobs has to be determined. This can be derived, if data are available, for the number of jobs for each month or quarter of the year (as a point in time). In this case, a simple annual average can be calculated by averaging the end-of-quarter or end-of-month figures. However, sometimes data are only available for a *single point in time*, based for example on a reference week. In this case, the first option is to use additional information to adjust the LFS data to an annual average,[65] for example by using establishment surveys for the (quarterly or monthly) number of jobs of employees. An alternative solution is to use estimates based on related data such as quarterly or monthly (changes in) output of characteristic tourism industries. If no additional data sources are available, then the point-of-time data is used to represent the average number of jobs per year. Of course, these can only provide an indication, especially when the moment of surveying falls outside the peak season for tourism. Therefore, the step from data on a single point or points in time does not simply involve averaging. Since tourism has a strong seasonal character, care needs to be taken in adjusting the data. Much depends on when and how frequently the available employment data are collected. Monthly data are preferable to quarterly data as they present a better picture of tourism.[66]

- If the connection with the TSA is made at the *four-digit level*, data from a three-digit level will sometimes have to be distributed over the four-digit classes.[67] This is only possible if distribution criterion from another source is available. This raises the question of the reliability of such adjustments. Data often has to be grouped[68] for reliability reasons; the question is how to merge the groups without too much information being lost.

- Is everybody who claims to be an employee or self-employed really an employee or self-employed? Do they fit the definitions and classifications of the employment module? Are these definitions applied in practice? Are, for example, contributing family workers, own-account workers and out-workers (partly) assigned to the class of the self-employed?

The ***second step*** is to achieve *full or identical coverage* by adjusting for differences in populations between the basic sources and the employment module. This is done by adding other categories of employees or the self-employed using data from other primary sources where necessary. Possible questions or adjustments include:

- The *main question* is are any groups left out which fit the definition of the employment module,[69] but which are not included in the basic source of information used?

- In our example, most categories will be included because the LFS gives a broad picture of employment. Much depends on the population definition and the way this definition is applied in practice.

- People above or below a certain age are sometimes excluded from the data set. The jobs of employed people aged 15 years and over should be included. If necessary, a category “child labour” can be added.

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65. Interpolation or extrapolation can also be used here.

66. Quarterly data can be adjusted for seasonal effects, for example, by using other data on a monthly basis.

67. Of course, this also accounts for the step from a two-digit to a three-digit classification.

68. This can be the effect of, for example, the sample size or confidentiality rules.

69. See Chapter 9.

- How are the jobs of workers for employment agencies treated? If they should be included, can they be assigned to the appropriate industry? The same holds true for groups like own-account workers, out-workers and casual workers. Are they included and if not, which sources of information are available on the jobs of these categories?

- Are the jobs of students, apprentices, trainees, etc., included if they have at least some kind of formal commitment? Are any data available on these groups?

- Have the jobs of inbound frontier and seasonal workers been added and, vice versa, have the jobs of outgoing frontier and seasonal workers been removed, from the data set?

- Should, for example, employment in swimming pools, museums, etc,. managed by governments or camping grounds run by farmers be included? Or, more generally, should employment generated by market activities of governmental agencies be included?[70] In any case, especially in the industries of "transport" and "recreation, cultural and sporting facilities", governmental activities should be included.

- Finally, in the case of *establishment surveys*, a threshold or cut-off method is often used. Are additional data sources available to estimate the number of jobs in the categories which have been left out?

The ***third step***, *minimisation of measurement errors*, involves an organised search for measurement errors (both systematic and non-systematic); a top-down analysis is usually the most effective. Some possibilities include benchmarking (totals) with other available sources; using interrelationships between variables, such as total number of jobs = total number of people employed + total number of jobs on the side; and comparing with data from previous periods. If problems with consistency are encountered, then one or more variables probably suffer from measurement errors (comprising sampling and/or non-sampling errors). The following summarises possible questions and adjustments:

- The *main question* is whether the data are internally and externally consistent when compared with other possible sources and identities?

- In our example with the LFS, comparisons of jobs of employees are usually only made with sources such as establishment surveys. For (the jobs of) the self-employed, the LFS is usually the unique source of information.

- Does the data set contain employed people who report being employees or self-employed but who work without pay or profit? This category should be excluded.

- Should black or illegal labour be included or excluded? Is it possible to detect this group in the LFS?

- Do the selected data relate to the selected tourism industries? Is the coding of the ISIC groups and classes correct?

- Are there errors in the observation of second jobs? Sometimes people report a main job, but also a job on the side with excessive hours of work. This could, for example, be simply a typing error.

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70. Market output is defined in the SNA as output that is sold at economically significant prices. Governmental activities, even if they are subsidised, can be included if their prices are considered to be economically significant from the point of view of cost and demand.

- Should adjustments be made for sampling errors or biases? For example, the underestimation of "smaller and irregular" jobs and the overestimation of "bigger and normal" jobs.
- Should adjustments be made for errors in observation, incorrect reporting or errors in editing?
- Are adjustments necessary for *comparability over time*, determining actual changes rather than actual levels (*e.g.* changes of establishments from one ISIC group or class to another)?

Text Table 3. **Adjustment to the definitions and classifications of the employment module/TSA**

	Characteristic tourism industries				
	Hotels, etc.	Transport	Travel agencies	Recreation	Etc., etc.
Number of jobs (full-time/part-time; employees/self-employed) based on the ***definitions and classifications used in the basic surveys*** (*e.g.* labour force or establishment surveys)	**……..**	**……..**	**……..**	**……..**	**……..**
Adjustments:					
• ***Harmonisation:*** adjusting for concepts, definitions and classifications. For example: • Step from people employed to jobs • Step to annual averages and totals • Step to the right level of detail	**+/-**	**+/-**	**+/-**	**+/-**	**+/-**
• ***Full or identical coverage:*** adjusting for differences in populations. For example: • Adding jobs of age groups not yet included • Treatment of students, apprentices, etc. • Adding jobs of people working through employment agencies	**+/-**	**+/-**	**+/-**	**+/-**	**+/-**
• ***Minimisation of measurement errors*** For example: • Erroneous coding of second, third, etc. jobs • Errors in observation and sample errors • Comparability over time	**+/-**	**+/-**	**+/-**	**+/-**	**+/-**
• *Balancing* (in the case of small discrepancies between two sources)	**+/-**	**+/-**	**+/-**	**+/-**	**+/-**
Number of jobs (full-time/part-time; employees/self-employed in the tourism-related industries) (in line with the ***definitions and classifications used in the employment module/TSA)***	**……..**	**……..**	**……..**	**……..**	**……..**

Note: The same adjustment process can be carried out for other connecting variables, such as hours of work, wages and salaries of employees or, in fact, any other variable.

If only one basic source of information is used, the adjusted data on the number of jobs of employees and the self-employed should now be consistent with the definitions and classifications used in the employment module. If more than one source has been used, for example using the LFS and an establishment survey to determine the number of jobs of employees, then a ***fourth step*** is necessary, *i.e. balancing.* In this step, the remaining discrepancies between different sources are eliminated using a mathematical balancing method, for example Powell's minimisation procedure.[71] Balancing should only be used if the discrepancies are fairly small. This step could also be used if employment data is derived separately through national accounts' procedures and through the employment module. Again, different sources of data should only be reconciled with this method if the discrepancies are not too large. A better approach is to set the TSA totals as target totals and reweigh the totals derived through the integration process of the employment module against the TSA totals. Otherwise, at least in the case of the compensation of employees, this could lead to the adjustment of GDP in the TSA.

Depending on the available employment data in a given country, the questions and adjustments can be elaborated or modified. A general outline is presented here using the number of jobs of employees and the self-employed as an example. The same process can be carried out for other connecting variables. The advantage of starting with "the number of jobs" is that the other variables, such as FTEs, hours of work, compensation and people employed, are closely linked with this variable.

Full-time equivalents and hours of work

Since jobs can be full-time or part-time, labour volumes in the SNA/TSA are mainly expressed in full-time equivalents (FTEs). FTEs provide a better concept than jobs for cross-industry comparisons. FTEs are not a head count of people employed, but they do provide an indication of the potential number of full-time jobs in an industry or job group. In general, the SNA indicates that FTEs should be calculated by dividing the total hours actually worked by the average annual hours actually worked in a full-time job. In the step from jobs to FTEs, the contribution of every job, small or big, is added to the (average) total of FTEs. Two employment categories should be distinguished: *i)* the self-employed, including contributing family workers, own-account workers and out-workers; and *ii)* employees including students, apprentices, etc., and those who work through employment agencies (see Chapter 9). However, methods for translating jobs into FTEs can differ.

For example, the simplest method is to take an already determined *full-time/part-time ratio* and recalculate the average annual number of jobs to obtain an average annual number of FTEs by multiplying the number of jobs by their part-time fraction.

If full-time/part-time ratios are not available, these ratios have to be estimated from the bottom up. An easy method is to set a standard number of hours for a "normal" full-time working week (or year) or take the contractual hours as an indication. Everybody who works equal to or more than this standard number of hours, say 35 hours a week, is a full-time worker, and anyone who works less is a part-timer. Full-time jobs count as one FTE while part-time jobs count as half an FTE.

These methods are rather crude. Since the length of a full-time job has changed through time and differs across industries, more sophisticated methods are preferable. The question is how to determine the weekly, or better the annual, average hours worked on a full-time job. Again, the starting point could be to set a standard number of hours, say 35 hours a week. With this "standard" for a normal full-time week or year, jobs can be classified as full-time or part-time. The average hours worked for

71. See also Round (1993).

full-time jobs can then be calculated. Dividing the total hours worked by the average for a full-time job, the annual average number of FTEs can be derived. In line with the SNA, the number of hours *actually* worked should be used, excluding annual leave, sick leave, holidays, strikes, etc. Averages are best based on *yearly* rather than weekly (contractual) working hours to allow differences in labour time to be better taken into account. Full-time equivalents should be calculated separately at the *lowest level* possible and then summed, by economic activity, by job group or by establishment. In the case of "normal" hours of work, much depends on the available data and the differences between types of work or even between gender.[72] For "average hours of a full-time job", the normal or contractual hours of work for that industry or job group can be used.

Text Table 4. **Translating jobs into FTEs: a simple example**
Total population of six workers

Hours of work	Full-time	Part-time
25		P
10		P
40	F	
15		P
45	F	
35	F	
170	3	3

Note: Set number of full-time hours is 35.
Method 1: With a full-time/part-time ratio of, for example, 0.80: 6 x 0.8 = 4.8 FTEs.
Method 2: 3 full-timers + 3 part-timers = 4.5 FTEs.
Method 3: The average for full-timers is 40 hours (40+45+35/3) = 170/40 = 4.3 FTEs.

The last method can be further fine-tuned by distinguishing between employees and the self-employed. For *employees*, a labour agreement can provide a good indication of a normal full-time week. In the case of the *self-employed*, however, working hours can vary widely. The hours involved are difficult to compare with the contractual hours of employees since the number of hours of work can be excessive. Overtime and additional unpaid working hours at home are not taken into account in the calculation of contractual employee hours. For the self-employed, all such hours will appear in surveys. An additional difference in interpretation could be that the self-employed engage in other activities while they are working. No reductions are made for this in the reporting of weekly working hours. The main question is whether a different standard for a normal full-time working week or year needs to be defined for the self-employed. Usually this is not done and the method described above is applied, whereby the normal full-time working week for the self-employed is set at the same number of hours as for employees. Sometimes the self-employed with excessively long weeks are excluded and all workers who work longer than the normal working week are counted as one FTE. Only for the self-employed working less than a normal week is the ratio calculated between total hours worked and the average hours worked for a full-time job in that group.

In practice, total hours of work and the annual average full-time hours may have to be estimated because information on, for example, sick leave and annual leave is not directly available. If information is available on the average working hours of the total group and the average working hours of a full-time job, for example the agreed hours of work for that group, then the ratio between

72. Differentiation by gender can be necessary if labour contracts for men differ substantially from contracts for women.

these two figures can be used to derive FTEs. This calculation should, of course, be done by economic activity or by job group.

In interpreting *changes* in labour volumes over the years based on FTEs, it should be borne in mind that these can result from either changes in the number of jobs or changes in the average hours worked (for a full-time job). Furthermore, it should be noted that different methods can lead to different results (see, for example, Text Table 4).

Although FTEs are mainly used as the estimate for labour inputs in the SNA/TSA, total annual hours of work remains the best measurement unit for examining *productivity*, the main issue in the SNA. This relates to the total annual hours *actually* worked. These data, at least for employees, can usually be obtained from (quarterly) establishment surveys. The annual total can be a simple sum of four quarters. However, as for "the number of jobs", the processes of harmonisation, full or identical coverage and minimisation of errors have to be carried out. Also, a relationship must be ensured with the population used to derive "the number of jobs".

If data are available on annual average hours worked, the total number of hours worked for each industry can be obtained by multiplying this figure by the number of people employed or jobs, depending on the basis of the average. The average hours worked equals the aggregate hours worked by a group divided by the number of persons or jobs in that group. However, it is not always possible to estimate the hours *actually* worked, because information on annual leave, holiday, sick leave and other specific elements of hours paid for but not worked, is not always available. In that case *paid hours worked for*, including overtime, is a second-best option. This is also true for the calculation of FTEs. FTE as a measurement unit relates better to the compensation of employees and the way in which employment statistics are collected. The relationship between the two concepts is as follows: total hours actually worked = total hours paid for – total hours paid for but not worked.

If the annual average number of jobs or FTEs is determined, then tourism ratios can be applied to derive the employment "actually" attributed to tourism, excluding the employment generated by non-visitors, for the selected tourism industries. In general, tourism ratios represent the share of GDP of the selected tourism industries that can be attributed to tourism consumption.[73] These ratios can be calculated for the selected industries and used to differentiate between different types of visitors, *e.g.* overnight or same-day visitors, inbound or domestic tourists or business tourists. The results should be in line with the estimates of the levels of direct employment derived from a demand-side approach.

Compensation of employees

Cost of labour and distribution of income are important elements of the SNA. This relates particularly to the compensation of employees and the mixed income of the self-employed. In addition to return to labour, *mixed income of the self-employed* contains return to capital and entrepreneurship. These elements cannot unambiguously separated out. The total item of mixed income and operating surplus[74] is, therefore, used as a balancing item in the accounts without further differentiation. The *compensation or the total annual gross earnings of employees* is, in general, defined as all payments made directly to workers in connection with work carried out, including payments for social contributions and other collective fees made on behalf of the employee by the employer. The main components are:

73. See the TSA for the calculation of tourism ratios.

74. This balancing item is defined as value added – compensation of employees – taxes + subsidies.

- *Wages and salaries:* This item covers payments, whether in cash or in kind, for normal time worked, overtime and additional payments such as time paid but not worked for (*e.g.* holidays), all regular/irregular bonuses, tips, incentive pay or commissions, allowances for travel or disagreeable or hazardous circumstances and benefits in kind (*e.g.* meals, drinks, housing and transport to and from work). These are gross concepts, *i.e.* before any deduction for income tax, social security, contributions to pension schemes, etc. Wages and salaries do *not include* reimbursements by employers of expenditures made by employees to take up their jobs or carry out their work (*e.g.* moving expenses or the purchase of special clothing should be treated as intermediate cost of production), or payments made to employees unrelated to the amount of work carried out (*e.g.* payments made to workers absent from work because of illness, injury, maternity leave, etc., and severance payments).

- *Employers' social contributions:* Benefits, in cash or in kind, received by workers in addition to their wages and salaries and which are intended to provide for needs arising from sickness, unemployment, accidents, retirement, etc. This supplementary labour income includes: employers' contributions to pension, retirement and social security schemes, medical services, day nurseries, housing, sports, grants, year-end bonuses and all other voluntary or compulsory contributions paid by workers and covered by employers. When employers provide these benefits themselves, the remuneration should be imputed.

Compensation of employees should be presented in annual totals. Again, this information can usually be obtained from (quarterly) establishment surveys. The annual total can be a simple sum of four quarters. Again, however, the processes of harmonisation, full or identical coverage and minimisation of errors have to be carried out. If an average is available for gross annual earnings per job, an annual total can be derived by multiplying the number of jobs in each job group by the average annual compensation for jobs in that group.

In relation to the interpretation of *changes* in the annual compensation of employees and the self-employed, this item can be broken down into changes in the number of hours paid for (volume component) and changes in the price of labour, say an average hourly wage (price component).

In addition to income distribution (not included in the TSA), the cost of labour is a main issue in the SNA. However, there is a difference between the compensation of employees and labour cost.[75] The compensation of employees describes the total annual earnings of employees in return for labour, while labour cost stipulates the total cost for the employer related to the utilisation of labour. Compensation of employees differs from labour cost in that it includes imputed employer contributions to unfunded social insurance schemes and excludes any taxes regarded as labour cost, together with the cost of training, welfare, recruitment and the provision of work clothing, etc.

Earnings, either as compensation of employees or as mixed income of the self-employed, are major items in the SNA. Unlike jobs, FTEs or hours of work, these items appear in the actual accounts as part as value added (*e.g.* the production account in the TSA) or in the distribution of income. Compensation of employees can be used as the starting point for the connection with more detailed labour data. Through a micro-macro linkage (see Chapter 10), cross-tabulations (based on FTEs) can be made. A good example would be wages and salaries of employees (paid labour), subdivided by variables such as gender, education, nationality and industry (Text Table 5). This opens up possibilities for analysis of, for example, the composition of labour income by gender, education and industry; the share of income for women by industry; and the weight of non-residents in the total compensation for employees.

75. In SNA93, illegal labour (cost) is also estimated.

Text Table 5. **Paid employment (based on FTEs), by gender, education, nationality and industry**
Fictitious data

	Hotels, etc	Transport	Travel agencies	Recreation, etc.	Total, tourism-related industries	Total, market industries	All industries
Compensation of employees, total *(Item in TSA*)	12.12	36.9	4.2	5.9	70.8	674.3	783.4
Resident, total	10.1	30.4	4.0	5.8	50.3	611.6	713.3
Male, low education	3.1	10.2	0.2	1.1	14.6	130.2	150.9
Male, middle education	2.3	8.3	1.1	1.8	13.5	190.0	210.6
Male, high education	0.5	2.4	0.1	0.5	3.5	60.1	70.3
Male, total	5.9	20.9	1.4	3.4	31.6	380.3	431.8
Female, low education	3.4	5.3	0.4	1.4	10.5	100.3	130.5
Female, middle	0.6	3.4	2.1	0.9	7.0	110.7	120.9
Female, high education	0.2	0.8	0.1	0.1	1.2	20.3	30.1
Female, total	4.2	9.5	2.6	2.4	18.7	231.3	281.5
Low education, total	6.5	15.5	0.6	2.5	25.1	230.5	281.4
Middle education, total	2.9	11.7	3.2	2.7	20.5	300.7	331.5
High education, total	0.7	3.2	0.2	0.6	4.7	80.4	100.4
Non-resident, total	2.1	6.5	0.2	0.1	8.9	62.7	70.1

In general terms, the following steps are required to compile this kind of data:

- Connect data from a household or labour force survey (*e.g.* education, age and other variables) with data from an establishment survey (*e.g.* jobs, wages and hours of work).
- The connection should be made on the basis of common variables (*e.g.* gender, age and industry). The most reliable source of information is used as the standard against which to reweigh. This is done on a cell-by-cell basis and results in a data set which comprises all the necessary variables.
- The new data set is then used to derive salaries and wages by type of employment. As a final step, the data is raised to the level of the totals of the TSA.

The same procedure can be used for other employment variables, as well as for variables such as type of household. It can also be used to break down the mixed income of the self-employed into its component parts. However, a problem arises here since income related to work done has to be separated from income related to capital and entrepreneurship. A rather crude method is to use wages of employees as an indication.

As a starting point for providing a more comprehensive picture of earnings and hours of work for *employees*, one could use (by industry):

- Average annual number of jobs.
- Average annual hours worked per job:
  - Average annual normal hours worked per job.
  - Average annual hours overtime per job.
  - Average annual hours paid for per job (***A***+***B***).

- Average gross hourly wage per job, including overtime (based on ***C***).
- Average gross yearly wage per job, including overtime (based on ***C***).
- Total compensation of employees (1 * 5).
- Labour cost.

These data can be further differentiated into full-time/part-time, male/female and occupational groups.

Concluding remarks

The connection between, or the integration of, the employment module and the TSA is especially important as it creates a central framework which provides not only a coherent set of definitions and classifications, but can also function as a benchmark against which other employment data can be compared, leading to a better overall picture and increased comparability. Once integration has been achieved, additional subdivisions can be introduced by linking the detailed sources of information to aggregated accounts data. This not only holds for "jobs" and related topics, but also for "people employed". Within household or labour force surveys, jobs and persons employed can usually be linked. This relationship can be used to incorporate data on people employed into the central framework of the employment module and the TSA. Persons employed and jobs can be further subdivided according to personal characteristics such as occupation, education, nationality and hours of work. A further step is to create a TSAM, in which monetary data can be reconciled with non-monetary data, using other sources of data. Each indicator is computed from the same fully consistent statistical system, resulting in identical macro totals and improving the GDP estimate.

However, the realisation of such a broad framework is still far away. The connection between the employment module and the TSA should not be seen as the only and perfect solution. The TSA has its deficiencies and limitations[76] as an input-output model or an accounting system.[77] The process of micro-macro linkages requires a number of decisions and assumptions; this can have a negative effect on the quality of the resulting data. It can be difficult to achieve consistent aggregation of the micro data for each cycle. If large differences between the original data and the totals of the TSA subsist, even after the process of harmonisation, etc., reweighting is not sufficient. Careful consideration has to be given to the concepts, definitions and populations used. A search for measurement errors has to be implemented and data should be rechecked, even on a micro-micro basis. The compilation of a TSA can be slow because of the availability of basic data and this can lead to problems of timeliness. Finally, setting up such a comprehensive system can be time-consuming, especially if one tries to integrate all available employment sources every time. Not everybody is convinced of the desirability of such a linkage, and much depends on the statistical situation in a given country. This indicates that it is highly desirable that the employment module should be able to stand on its own. For example, the supply of actual tourism-related employment data should not have to wait until such time as the TSA is complete. The data in the employment module can be updated and tuned as the results of a new TSA become available.

76. For example, technical production functions are linear, consumer behaviour is assumed to be homogeneous, there are no supply constraints and the interactive effects are ignored. See Commonwealth Department of Tourism (1994).

77. Or applied general equilibrium model.

Although linking demand and supply of tourism for employment purposes through a connection with the TSA is a very useful exercise, some issues related to this approach need to be highlighted:

- Even using a demand-side approach, it is often difficult to allocate expenditures of visitors to the various activities related to tourism. The availability of reliable data can cause problems. Moreover, the employment elements, such as labour coefficients, which are used in demand-side methods, are calculated on the basis of supply-side statistics. A supply-side approach is required to obtain greater insight into the determinants that influence the development of tourism-related employment. A TSA alone cannot provide these determinants.
- Tourism share ratios should be used with care. If output in an industry increases by 10%, this can, for instance, be the result of a decrease (rather than an increase) in tourism expenditure and a proportionally large increase in non-tourism expenditures in that industry. In such a situation, it would be incorrect to use a ratio for the tourism share of employment. Therefore ratios can only be used as indications, at least in terms of levels of employment. Applying tourism ratios to characteristics of people employed, such as gender, age, nationality and occupation, would not supply meaningful information.
- In the case of labour policies, it is less important to know exactly which part of employment in an industry is generated by the expenditures of visitors. In many cases, labour policies will be directed to the total labour market of that industry or to a specific job group, regardless of whether the employment results from the expenditures of visitors or non-visitors. On the other hand, if the impact or effects of tourism flows and related tourism expenditures have to be analysed, demand-side approaches, such as input/output tables and other accounting models, continue to be the best methods. Econometric models can provide useful alternatives (although often more complex).[78]
- In practice, input/output models are usually restricted to quarterly or annual data. This, however, means that the seasonal character of tourism is only partly reflected.
- Finally, from a statistical point of view, much depends on the availability and accessibility of employment data for the selected tourism industries. Often the desired level of detail can lead to serious quality problems. Even if the steps described in this section are followed, differences in definitions and classifications between the available sources of employment data can act as a bottleneck.[79]

In general, this means that:

- For estimates of the levels of *direct* tourism employment, demand- and supply-side approaches can be used. The results can be reconciled using, for example, tourism ratios.
- For estimates of levels of *indirect* tourism employment, a demand-side approach is needed.
- For the description of the *composition* of tourism-related employment, only a total supply-side approach can be used, *i.e.* based on total industries. Some reconciliation can be achieved by using the same population for the estimates of the levels of direct tourism employment.

78. Commonwealth Department of Tourism (1994).

79. Other possibilities are the redesign of surveys or exact or synthetic matching.

Chapter 11

THE TABLES OF THE EMPLOYMENT MODULE

This chapter provides a set of tables and a worksheet for compiling and presenting employment data in characteristic tourism industries (CTI). It follows the variables, definitions and classification described in Chapter 9. To the extent possible, these definitions and classifications are based on SNA or ILO concepts. For the compilation of the data, the reader is referred to Chapter 10 which presents a broad outline of how to move from basic employment data to data that can be incorporated into the TSA, using the employment module as an integration framework (*micro-macro linkage)*.

The tables use a *supply-side approach* to employment. The set of industries follows the selection of tourism industries chosen for the TSA (Text Table 1). This set of industries can be adjusted or elaborated if changes are made in the TSA in relation to the inclusion or exclusion of specific tourism industries. The main focus is on the composition of the labour force in the selected industries. However, depending on the point of interest, other variables can be included.

A *demand-side approach*, such as that provided by the input/output tables of the TSA, cannot provide information on these aspects of employment. However, a demand-side approach is a good method for estimating the *levels of tourism-related employment*. This can, for example, be done on the basis of the output or value added, gross or net, of tourism-related industries using labour coefficients or tourism ratios. This approach can provide a broader view on employment levels than a supply-side approach and can account for aspects such as indirect employment.

In general, this means that the levels or the totals of tourism-related employment in the TSA and the employment module should match as far as possible. At the very least, any differences should be explicable. Data on the composition of employment, however, is compiled uniquely from the supply-side perspective.

The aim of this chapter is to provide a set of tables for the compilation of tourism-related employment. These tables can be used to strengthen national and international comparability of tourism-related employment data, but they also allow analysis of the different concepts and definitions of the data sources used.

The employment module is a set of fourteen partly linked tables plus a summary table. The starting point is the number of jobs and the number of employees by tourism-related industry, broken down by status in employment (Table 1). The number of establishments in each tourism-related industry provides additional information. These three aspects are further broken down in the tables of the module. Jobs are distinguished by working scheme, average hours of work, average earnings, average seniority and permanency of job.[80] People employed are further distinguished by gender, age, education and nationality. The number of establishments is, *inter alia*, subdivided by size class. The linkage between people employed and jobs can be found in Worksheet 1.

80. The variable “irregular working hours” is left aside for the time being.

Table 12 contains the variables which link the employment module to the TSA, *i.e.* jobs, FTEs, total annual hours of work and total annual compensation of employees. It is particularly important that this last variable match between the employment module and the TSA (see the production account). It should be based on the number of jobs, and relates to other characteristics such as average wages and average hours of work. In return, the TSA provides a set of useful indicators, such as tourism ratios and gross output per job. These are presented in Table 13.

No specific multi-dimensional tables are included. Chapter 10 provides an example of the further breakdown of compensation of employees based on the link with the TSA.

Although at first sight it might appear that substantial resources will be required to compile the data for the tables, especially if it proves necessary to start from scratch, most of the tables can be filled from a single source, *i.e.* a household or labour force survey. If the number of people employed and/or the number of jobs can be compiled from that source, many of the other variables can be collected in the same process. It is also possible to gradually expand the amount of data presented (see next section). However, if the intention is to build a module that is fully incorporated in the TSA and integrates all possible employment sources from the outset,[81] the (start-up) process will require substantial resources.

An alternative is not to compile the totality of the data in every cycle of presentation. Some data, such as the characteristics of the labour force, will not change dramatically every year or quarter. Data on, for example, the number of people employed, jobs and FTEs, distinguished by status in employment, working scheme and earnings, should be presented on a regular basis (yearly or even quarterly), while other data can be presented less frequently (yearly or even less often).

On the other hand, employment is a complex phenomenon. The core data presented in this module cover only the tip of the iceberg. To obtain a complete picture of employment, a great deal more data needs to be collected with a wider scope and at a more detailed level of aggregation.

The level of detail is limited to the three-digit level of the ISIC classification, with the exception of travel agencies and car rentals. Although countries can provide information at the four-digit level, the three-digit level is maintained here for reasons of reliability and comparability. The connection with the TSA, however, should be ensured. If data are only available at the two-digit level, additional information should be compiled to enable the data to be broken out to the three-digit level.

A row "other tourism-related industries" is included in each of the tables. This row should be used for industries that are included in the TSA but which are not mentioned specifically in the other rows. This accounts, for example, for industries such as the retail of tourism commodities, etc. The industries included in this row should be presented separately as "of which" groups. If a country wishes to highlight specific classes belonging to the selected industries, these can also be presented as "of which" groups. Examples are health spas ("of which" class of group 551) or ski lodges ("of which" class of group 924). Employment in industries which fall outside the scope of the TSA can be included as memorandum items.

Only official statistical data should be used. As far as possible, the compilation of tourism-related employment data should follow existing procedures for the compilation of employment data in general. Deviating from these processes and sources will render the regular compilation of the data far more time-consuming. For the basic set of data, it will not be difficult to comply with the definitions and classifications set out in Chapter 9.

81. See, for example, the ideas behind a (Tourism) Social Accounting Matrix (SAM or TSAM).

The tables are grouped in six blocks:

- *Block I* (Tables 1 and 2): tables presenting the *general level* of employment in the selected characteristic tourism industries, with the number of establishments as additional information.
- *Block II* (Tables 3, 4, 5, 6 and 7): tables which distinguish employment by the characteristics of *jobs*, including average hours of work and average wages.
- *Block III* (Tables 8, 9, 10 and 11): tables which distinguish employment by the characteristics of *people employed*, such as gender, age, nationality, etc.
- *Block IV* (Tables 12 and 13): tables which provide the connection with the TSA.
- *Block V* (Table 14): breaks down *establishments* by size class and presents births and deaths of establishments.
- *Block VI* (Table 15): summarises the main variables by industry.

The objective of the exercise is to provide tourism-related employment data for each year with the aim of building up *time-series.* This should not necessarily only be related to a year with a completed TSA. For some core variables, *short-term indicators* (every quarter or even every month, at least during the tourism season) should be available. This should be the case, for example, for the general level of employment, expressed in jobs and FTEs, subdivided by status in employment, working scheme and wages and salaries of employees (particularly the variables presented in Table 15). In addition to time-series, it is possible to include *year-to-year changes* (in percentages), by comparing current data with that last recorded.

Developing a set of employment data for tourism-related industries

The development of an employment module for tourism-related industries is fully dependent on the statistical situation in a given country and the availability of employment data, as well as on the resources available. The following list shows the steps involved if starting from scratch:

Step 1: Make an *inventory of all available sources on employment* related to the selected tourism industries. This can include not only the "standard" household or labour force and establishment surveys, but also other, often smaller, social or industry surveys and data from business registers. The advantages and disadvantages of each source of information should be described. In addition to populations, definitions and classifications used, it is important to know if these sources can be linked, through common variables, with other sources (*e.g.* ISIC classification).

Step 2*:* As a first step in compiling tourism-related employment data, the best option is to use *only household or labour force surveys*. This source provides a broad view on employment, although the data are not always accurate at all levels. Data can be presented on the number of people employed and/or the number of jobs, distinguished by variables such as status in employment, working scheme, gender, age and nationality. It should be kept in mind that the SNA definitions and classifications described in this module should be followed as far as possible. This is usually feasible, although some adjustments may be necessary. Concerning the population, problems can be expected to occur with the inclusion or exclusion of border and seasonal immigrant workers and workers working through employment agencies. Whether or not these groups can be included depends on the availability of data and the degree of detail. A further elaboration of the *occupational approach* could be made here. *Important tables:* 1, 3, 8 and 9.

Step 3: This can be seen as a first step leading towards *the integration of the employment module and the TSA*. This can be done by adding more aspects and variables of employment. The step from jobs to full-time equivalents (FTEs), hours of work and compensation of employees is an important one and usually means that data from establishment surveys have to be included. As a first step, this could be done for *employees*. At a later stage, data for the self-employed could be added. In this stage, *tourism ratios* can also be applied. *Important tables:* the tables of step 1, Tables 4 and 5, and especially Tables 12 and 13.

Step 4: The full potential of the integration of the employment module and the TSA can be realised in this step. Again, this may be done initially for employees, followed by the self-employed. Jobs or FTEs and the items of compensation of employees and mixed income of the self-employed are the central part of integration and the match between the TSA and the employment module needs to be perfect. The totals of other employment variables are benchmarked against the totals of these central variables, allowing labour analysis to be linked with other economic processes in the TSA. In this step, employment data from a demand-side approach could be (partially) reconciled with data compiled through the module (supply side).

Step 5: This step entails gradually adding more and more variables, such as education (Table 10), nationality (Table 11), average seniority (Table 6), permanency of job (Table 7) and establishments by size class (Table 14). Quarterly (Table 2), or even monthly, indicators could be included.

Step 6: This step entails expanding the framework on the basis of the ideas underlying the creation of a Tourism Social Accounting Matrix (TSAM or even a TSESAME),[82] and linking employment with possible extensions to the TSA. People employed and related topics can be integrated through the link with jobs in a household or labour force survey. This step also permits the inclusion of aspects such as indirect employment.

The employment module tables can be further improved. In addition, an elaboration with, for example, occupational groups, is necessary. It is especially important that *time series* be constructed over a number of years. As a starting point, data for more than one year could be compiled in one run.

Remarks on the employment tables

Worksheet 1 focuses on the calculation of the total population of tourism-related employment, expressed in jobs and people employed. If possible, data should be compiled as *annual averages*. Problems could arise with the groups of inbound labour and people working through employment agencies. Often little or no data on these groups are available or data cannot be assigned to the proper industry. In that case, these groups should be excluded. Sometimes the total hours of work of these groups is collected, allowing a crude estimate of, at least, the number of jobs using the average hours of work per job (Table 4). Establishment surveys can sometimes be used as an alternative. The main elements of this table are:

- Column 1: people employed with their main job in characteristic tourism industries (CTI).
- Column 2: jobs on the side in CTI of people with a main job in CTI (column 1).
- Column 3: jobs on the side in CTI of people with a main job outside CTI. This column could be split into people employed (first job on the side) and in second, third, etc., jobs. Here, the assumption is made that the number of people with a second, third, etc., job on the side will

82. Tourism System of Economic and Social Matrices and Extensions, see SNA93.

be very limited. Therefore, the number of jobs on the side equals the number of people employed for this group.

- Column 4: jobs of inbound labour, such as border workers or seasonal immigrant workers. Here, the number of jobs equals the number of people employed since there is usually little information available to subdivide this group. There can be a difference between labour force surveys (from which these groups are usually excluded) and establishment surveys (in which these groups are sometimes included).
- Column 5: jobs of people working through employment agencies. Again, the number of people equals the number of jobs.
- Column 6: total annual average number of jobs in CTI: 1 + 2 + 3, if possible, + 4 + 5.
- Column 7: total annual average of people employed in CTI: 1 + 3, if possible, + 4 + 5.
- Column 8: indication of "moonlighting": 2 + 3. A full indication of "moonlighting" should also include jobs on the side outside CTI (from column 1).

Block I

Table 1. Total number of *jobs* and *people employed*, distinguished by *status in employment* (self-employed/employees). The self-employed should include employers, contributing family workers and own-account workers. The data should be shown as *annual averages* (based on twelve months or four quarters). As additional information, the number of establishments is requested (from business registers; annual averages are preferred).

Table 2. Total number of *jobs of employees per quarter* (an indication of seasonality). Monthly data are preferred, but are not always easily available. Quarterly averages are the best option; otherwise, end of quarter data can be used.

Block II

Table 3. Jobs by *working scheme* (full-time/part-time). This should be an "annual average" based on the population used for the number of jobs. Point-in-time data provides only a second-best option. A distinction is made between the self-employed and employees. For employees, a further distinction is made between male/female. If data are not available for all subdivisions then, for example, only the totals could be filled.

Table 4. Jobs by average *hours of work*. This accounts for either hours *actually* worked (preferred for the TSA) or hours *paid for* (probably the most practical solution). A distinction is made between the self-employed and employees. For employees, a further distinction is made between an annual average of usual hours of work and an annual average of overtime hours. The calculation of these variables is total annual hours of work (or normal time or overtime) divided by total number of jobs.

Table 5. For jobs of *employees* only, the annual average *gross wages,* including overtime (and social contributions), hourly and yearly. Together with the number of jobs, these data can be used to derive total compensation of employees. If no distinction can be made between male and female, then only the totals can be filled.

Table 6. Jobs by average *seniority* (in months). This is an indication of the degree of labour turnover. A distinction is made between the self-employed and employees. This figure represents the average duration of work in the current job and is based on the data set used for the number of jobs.

Table 7. Jobs of employees by *permanency of job*. This should be "annual averages", meaning that the same data set is used to calculate the average number of jobs, or if no other data are available a point in time could be used.

Block III

Table 8. People employed (jobs can be used as an alternative) by *sex profile*. If no data are available on inbound labour and people working through employment agencies, then this figure is based on the population of column 1, 2 and 3 of Worksheet 1. This should be "annual averages", meaning that the same data set should be used as for the calculation of the average number of people employed (or jobs). Otherwise, a point in time is an alternative.

Table 9. People employed (or jobs as an alternative) by *age profile*. The column for child labour (< 15 years) can be used if needed and if data are available. See the remarks pertaining to Table 8.

Table 10. People employed (or jobs as an alternative) by *education level* (see ISCED classification). As a first step, the national education classification of the country should be used. See the remarks pertaining to Table 8.

Table 11. People employed (or jobs as an alternative) by *nationality*. This depends on how nationality is defined. See the remarks pertaining to Table 8.

Block IV

Table 12. This table includes the variables used in the TSA. It is possible that not all data are available, particularly in the case of total hours actually worked. The table consists of:

- Columns 1 and 2: total number of jobs and people employed (see Table 1).
- Columns 3 and 4: total hours actually worked or paid for, as an annual total. This total could be summed over months or quarters. Alternatively, the number of jobs (Table 1) multiplied by the annual average hours worked per job (Table 4) could be used.
- Columns 5 and 6: full-time equivalents (FTEs). This is an annual average.
- Column 7: compensation of employees, annual total. This could be the sum over twelve months or four quarters. An alternative is the annual average number of jobs (Table 1) multiplied by the annual average wages (Table 5). This variable is actually used in the production account and in the distribution of income account (not in the TSA) of the SNA.

Table 13. This table presents general indicators and calculations from the TSA, such as the tourism share of employment (tourism ratios) and gross output per job in the selected industries. The table includes:

- Column 1: number of jobs (Table 1).
- Column 2: number of FTEs (Table 12).

- Column 3: tourism ratios (see TSA for their calculation).
- Columns 4 and 5: *tourism share of employment* in CTI, expressed in jobs and FTEs, calculated by multiplying columns 1 (jobs) and 2 (FTEs) by column 3 (their tourism fraction). This can also be expanded to ratios for employment generated by the expenditure per visitor group (tourism ratios per visitor type) and the inclusion of indirect labour.
- Column 6: gross output per job (see the TSA).
- Column 7: Full-time/part-time ratio (see Table 3, columns 1 and 2).
- Columns 8 and 9: Employed/FTE ratio, distinguished between the self-employed and employees (see Table 1 and column 2).

Block V

Table 14. The number of establishments by size class. This total can come from annual averages or one point in time. Additional information is asked about births and deaths of establishments. This should be a percentage, calculated by dividing the number of births and deaths over the year of recording by the total (average) number of establishments. *Source:* business registers.

Block VI

Table 15. Summarises the core variables per industry (Tables 1, 3, 4, 5 and 12).

Worksheet 1. **Level of employment in characteristic tourism industries (CTI): Linking jobs and people employed (annual averages)**

	People employed with main job in CTI (1)	Jobs on the side in CTI and main job in CTI (2)	Jobs on the side in CTI but main job *outside* CTI (3)	Jobs of *inbound* labour workers in CTI (4)	Jobs of people working in CTI through temporary agencies (5)	Total number of *jobs* in CTI = 1+2+3+4+5 (6)	Total number of *people employed* in CTI = 1+ 3+4+5 (7)	Indication of *moon-lighting* = 2 + 3 (8)
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. ……..								
Total tourism-related industries								

Source: OECD Tourism Committee.

Table 1. **Level of employment, expressed in jobs and people employed, with additional information on the number of establishments**
Annual averages

	A. Jobs		B. People employed		C. Number of establishments
	Self-employed	Employees	Self-employed	Employees	Total
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …… …… …… ……					
Total tourism-related industries					
Total economy					

Source: OECD Tourism Committee.

Definition of employment:.....
.....
Definition of self-employed:.....
.....
Definition of employees: .....
.....
Age limits? .....
.....
Groups included or excluded? .....
.....
Workers of temporary agencies and inbound labour included? .....
.....
Sources: .....

Table 2. **Total number of jobs of employees per quarter**
Indication of seasonality

	Jobs of employees			
	1e quarter	2e quarter	3e quarter	4e quarter
Tourism industries:	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport				
611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: ……. ……. ……. …….				
Total tourism-related industries				
Total economy				

Source: OECD Tourism Committee.

Table 3. **Jobs by working scheme (full-time/part-time)**
Annual average or point in time

	Jobs									
	Total		Self-employed		Employees					
					Total		Male		Female	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..										
Total tourism-related industries										
Total economy										

Source: OECD Tourism Committee.

Definition of full-time and part-time labour: .....
.....
.....
.....
.....

Table 4. **Average yearly working hours (actually or paid for)**
For employees subdivided by normal time worked and overtime

	Jobs			
	Self-employed		Employees	
	Total	Total	Usual hours	Overtime
Tourism industries:	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..				
Total tourism-related industries				
Total economy				

Source: OECD Tourism Committee.

Definition of average yearly hours of work/usual hours of work/overtime: .....
.....
.....
.....
.....

Table 5. **Average gross wages of employees (hourly and yearly) per job, subdivided by gender**

	Jobs of employees					
	Total		Male		Female	
	Hourly	Yearly	Hourly	Yearly	Hourly	Yearly
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc.						
601 Railways 602 Other land transport						
611 Sea/coastal water transport 612 Inland water transport						
621 Scheduled air transport 622 Non-scheduled air transport						
6304 Travel agencies, etc.						
7111 Car rental						
921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act.						
Other tourism-related industries, of which: …….. …….. …….. ……..						
Total tourism-related industries						
Total economy						

Source: OECD Tourism Committee.

Definition of gross hourly and yearly wages of employees: .....
.....
.....
.....
.....

Table 6. **Average seniority of jobs**
In months

	Jobs		
	Total	Self-employed	Employees
Tourism industries:	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc.			
601 Railways 602 Other land transport			
611 Sea/coastal water transport 612 Inland water transport			
621 Scheduled air transport 622 Non-scheduled air transport			
6304 Travel agencies, etc.			
7111 Car rental			
921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act.			
Other tourism-related industries, of which: …….. …….. …….. ……..			
Total tourism-related industries			
Total economy			

Source: OECD Tourism Committee.

Table 7. **Jobs of employees by permanency of job**
Annual average or point in time

	Jobs of employees	
	Permanent job	Job on contract basis
Tourism industries: 551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport	Abs.	Abs.
611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..		
Total tourism-related industries		
Total economy		

Source: OECD Tourism Committee.

Definition of permanent job: .....
.....
.....
Definition of job on contract basis: .....
.....
.....

Table 8. **People employed by gender profile***
Annual average or point in time

	People employed (or jobs)					
	Total		Self-employed		Employees	
	Male	Female	Male	Female	Male	Female
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport						
611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..						
Total tourism-related industries						
Total economy						

* An alternative method is to base the analysis on jobs.
Source: OECD Tourism Committee.

Table 9. **People employed by age profile***
Annual average or point in time

	People employed (or jobs)						
	Total	<15**	15-24	25-34	35-44	45-55	55+
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc.							
552 Restaurants, etc.							
601 Railways							
602 Other land transport							
611 Sea/coastal water transport							
612 Inland water transport							
621 Scheduled air transport							
622 Non-scheduled air transport							
6304 Travel agencies, etc.							
7111 Car rental							
921 Motion picture, etc.							
923 Libraries, etc.							
924 Sporting/recreational act.							
Other tourism-related industries, of which:							
……..							
……..							
……..							
……..							
Total tourism-related industries							
Total economy							

* An alternative method is to base the analysis on jobs.
** Row for child labour. Depends also on the age limit used.
Source: OECD Tourism Committee.

Table 10. **People employed by education level***
Annual average or point in time

	People employed (or jobs)				
	Total	No schooling	Primary	Secondary	Tertiary
Tourism industries: 551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..	Abs.	Abs.	Abs.	Abs.	Abs.
Total tourism-related industries					
Total economy					

* An alternative method is to base the analysis on jobs.
** See ISCED classification or own classification.
Source: OECD Tourism Committee.

Definition of no schooling: .....
.....
Definition of primary education level: .....
.....
Definition of secondary education level: .....
.....
Definition of tertiary education level: .....
.....

Table 11. **People employed by nationality**
Annual average or point in time

	People employed (or jobs)		
	Total	Nationals	Non-nationals
Tourism industries:	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc.			
601 Railways 602 Other land transport			
611 Sea/coastal water transport 612 Inland water transport			
621 Scheduled air transport 622 Non-scheduled air transport			
6304 Travel agencies, etc.			
7111 Car rental			
921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act.			
Other tourism-related industries, of which: …….. …….. …….. ……..			
Total tourism-related industries			
Total economy			

Source: OECD Tourism Committee.

Definition of nationality:.....
.....
.....

Table 12. **Connecting table for the TSA with jobs (annual average), hours of work (annual total), full-time equivalents (annual average) and compensation of employees (annual total)**

	Labour volume in jobs (see Table 1)		Labour volume in total annual hours of work		Labour volume in full-time equivalents (FTEs)		Total compensation
	Self-employed	Employees	Self-employed	Employees	Self-employed	Employees	Employees
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc. 601 Railways 602 Other land transport 611 Sea/coastal water transport 612 Inland water transport 621 Scheduled air transport 622 Non-scheduled air transport 6304 Travel agencies, etc. 7111 Car rental 921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act. Other tourism-related industries, of which: …….. …….. …….. ……..							
Total tourism-related industries							
Total economy							

Source: OECD Tourism Committee.

Table 13. **General indicators and tourism ratios from the TSA**

	Total number of jobs (Table 1) (1)	Total number of FTEs (Table 1) (2)	Tourism ratios (TSA) (3)	Tourism share employment (1 or 2)*3		Gross output per job (TSA)	Full-time/ part-time ratio	Employed/FTE ratios (see Tables 1 and 12)	
				Jobs	FTEs			Self-employed	Employees
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.				
551 Hotels, etc. 552 Restaurants, etc.									
601 Railways 602 Other land transport									
611 Sea/coastal water transport 612 Inland water transport									
621 Scheduled air transport 622 Non-scheduled air transport									
6304 Travel agencies, etc.									
7111 Car rental									
921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act.									
Other tourism-related industries, of which: …….. …….. …….. ……..									
Total tourism-related industries									
Total economy									

Source: OECD Tourism Committee.

Table 14. **Establishments by size-class (annual average or point in time) and deaths/births (percentages)**

	Total (Table 1)	Size class by number of employees				0-9 employees		10+ employees	
		0	1-9	10-99	100+	Births	Deaths	Births	Deaths
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	%	%	%	%
551 Hotels, etc.									
552 Restaurants, etc.									
601 Railways									
602 Other land transport									
611 Sea/coastal water transport									
612 Inland water transport									
621 Scheduled air transport									
622 Non-scheduled air transport									
6304 Travel agencies, etc.									
7111 Car rental									
921 Motion picture, etc.									
923 Libraries, etc.									
924 Sporting/recreational act.									
Other tourism-related industries, of which:									
……..									
……..									
……..									
……..									
Total tourism-related industries									
Total economy									

Source: OECD Tourism Committee.

Table 15. **Summary table**

	Self-employed			Employees								H. Tourism share jobs (Table 13)
	A. Jobs Total (Table 1)	B. FTEs Total (Table 12)	C. Mixed income (TSA)	D. Jobs		E. FTEs	F. Annual average hours of work			G. Gross annual earnings		
				Full-time (Table 3)	Part-time (Table 3)	Total (Table 12)	Total (Table 4)	Usual hours (Table 4)	Over-time (Table 4)	Gross annual wages (Table 5)	Compen-sation (Table 12)	
Tourism industries:	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.
551 Hotels, etc. 552 Restaurants, etc.												
601 Railways 602 Other land transport												
611 Sea/coastal water transport 612 Inland water transport												
621 Scheduled air transport 622 Non-scheduled air transport												
6304 Travel agencies, etc.												
7111 Car rental												
921 Motion picture, etc. 923 Libraries, etc. 924 Sporting/recreational act.												
Other tourism-related industries, of which: …….. …….. …….. ……..												
Total tourism-related industries												
Total economy												

Source: OECD Tourism Committee.

Chapter 12

CONCLUSIONS AND AREAS FOR FURTHER RESEARCH

This book presents a first step in the development of a comprehensive employment module. Improvements can still be made. However, such a module will improve the availability of reliable employment, labour or human resource data for characteristic tourism industries. These data will provide the means to counteract the stereotypes and doubtful estimates circulating in this field, and are essential for the further development and innovation of the tourism industry in general. An integrated employment module will improve the comparability of data both within and between countries. This latter objective is, however, still far away, as definitions, methods and sources used in this field differ widely from one country to another. A balance has to be found between what is ideal and what is feasible, not only in terms of concepts and definitions, but also in the desired degree of detail. Since tourism does not fit into a "standard" statistical structure, the tendency is to require a very high level of detail in defining tourism-related topics. Many countries, however, simply do not have the resources to produce statistical data at such a high level of detail. This means that caution is required when comparing tourism-related employment data across countries.

Linking the employment module to the TSA represents a significant step forward, broadening the analytical capabilities of both the employment module and the TSA, and providing a solid statistical framework for further expansion. However, the employment module should also be able to stand on its own, so that it is in no way constrained by the timeliness of the TSA. This will also allow greater emphasis to be placed on employment as a social phenomenon.

"Counting jobs or people employed" from the supply side is only one side of the coin. In addition to the fact that it is difficult to define the tourism industry through the narrow set of industries of the ISIC classification, a supply-side approach has other limitations. For example, this method:

- Neglects so-called secondary effects, such as indirect and induced[83] employment effects of the expenditures of visitors. This can result in an underestimation of tourism-related employment. Some indication of these effects can, however, be derived from the TSA tables.
- Provides little direct insight into the responsiveness of employment growth to factors such as an increased number of visitors. Effects must always be related back to the expenditures of these visitors.

Demand-side approaches, such as simple expenditure methods, input/output methods, multiplier models or econometric models, recognise the relation between tourism expenditures and the impacts of these expenditures on tourism-related employment. These approaches are better suited for analysis of the impact of tourism flows and expenditures on, *inter alia*, employment levels, the importance of specific industries for tourism and thus for tourism-related employment, input/output relationships between industries (*e.g.* indirect employment), effects on tourism revenues received by governments

83. Again, the concepts of indirect and induced are used here in the context of employment. This does not correspond exactly to the way these concepts are used in the TSA (See Appendix A of the TSA).

and imports and exports of tourism services. In addition to the fact that the results of these methods are sensitive to the assumptions made and the availability of data, the major deficiency of demand-side approaches is that they cannot provide any information about the composition of tourism-related employment. For that kind of analysis, a supply-side driven method is an absolute necessity.

The objective here is to use both approaches simultaneously, matching them as far as possible through the linkage between the employment module and the TSA. The TSA provides better insights into the effects of tourism expenditures on levels of direct and indirect employment and the importance of tourism-related industries (*e.g.* tourism ratios) seen from the demand side. The link between the two systems allows this information to be translated back to the supply-side approach of the employment module, which is more suited to an overview of employment profiles and structures of these industries.

Improvements can always be made to any method used. Possibilities for enhancing the usefulness of the current employment module include:

- Improving the *concepts and definitions used* and the comparability of these concepts and definitions across countries, especially in the case of topics such as jobs, earnings, income, FTEs, hours of work and labour cost. Concepts and definitions often differ widely across countries and even within countries. This can mean that in some cases only the common core of an employment topic should be taken into account as a first step.

- Improving the *coherence of the framework* on the basis of "the job" and related topics, such as hours of work, earnings and labour costs, as the central variables. This would substantially strengthen the connection with the TSA. By linking data on jobs with data on people employed, further integration can be achieved between the more economic and the socio-demographic characteristics of tourism-related employment, including the inclusion of occupational groups. Also, the ideas underlying the concept of Social Accounting Matrices (SAM) can be further incorporated.

- Improving the definition/delimitation of tourism from the supply-side perspective, by including *more industries at the four-digit level*. A four-digit classification would improve the link with the TSA. Disaggregation to a four-digit industry level using the ISIC classification should follow the selection made in the TSA to the extent possible. However, the quality of the data remains an essential precondition.

- Further developing the *occupational approach* would provide a different, but very useful, view of tourism-related employment. This approach should be linked with the approach on the basis of economic activities.

- Adding more *objects of description and characteristics* and determinants of tourism-related employment, *e.g.* earnings and labour costs, vacancies, labour conditions and mobility, including in- and outflow of people working in the tourism-related industries[84] and informal labour. In addition, better indications of the employment effects of seasonality or the specific employment situation in SMEs would provide useful information. Furthermore, the use of business registers as a repository of information on businesses should be considered (*e.g.* size, births/deaths and employment). Also, more multi-dimensional tables or cross-sectional data could be added, accuracy constraints permitting.

- Supplying *time-series* and developing (short-term) indicators.

84. This could be based on longitudinal or retrospective research or by using social security numbers as a coupling variable when using different data sources.

- Moving from annual to *quarterly data* for a core set of variables. Because more reliable quarterly data is available, employment of employees is a better starting point than self-employment. In the case of quarterly data, seasonal adjustment is also an important issue.

- Including *more qualitative aspects of employment*, such as substitution of human labour by technology, new multiform labour structures and work organisations, motives, recruitment strategies and availability/unavailability of skilled labour (see also occupational approach). In general, data collection on all *context variables* should be improved.

- Making more elaborate analysis of the different tourism (sub) labour markets, using a mix of macro and meso methods.

Although significant progress has been made, a major problem in the area of employment in general, and tourism-related employment in particular, is the differences in concepts, definitions and methods applied both across and within countries. These concepts and definitions are often tied to data collection methods and specific objectives of surveys. Comparability problems would be partly eliminated if all data were derived from a single source, for example a household or labour force survey. However, this would entail the loss of other essential information. In presenting tourism-related employment data, it is essential to clarify the industries included and the concepts and definitions used. Using different methods and definitions can lead to quite different results.

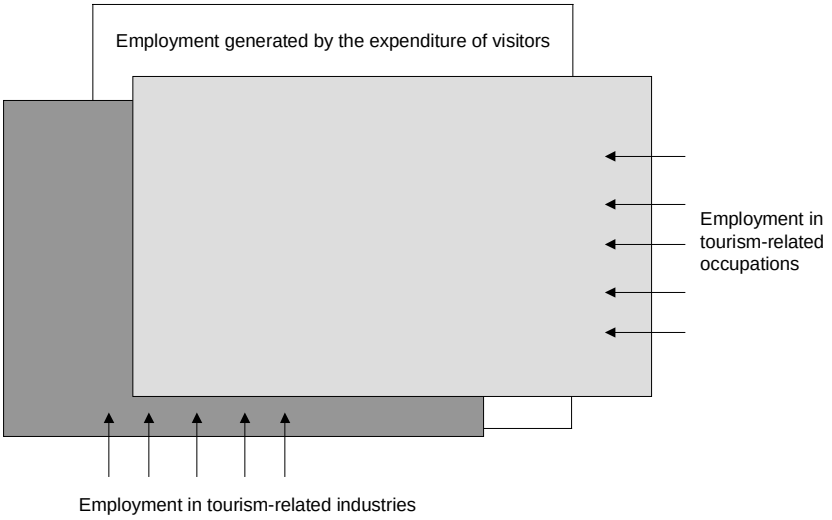
To improve data comparability, it is important to strengthen (inter)national co-ordination. The OECD strongly advocates co-operation with other international organisations, such as the European Commission (notably Eurostat), ILO, WTO-OMT, and with Member countries. The objective should be to design a common employment module. The development of statistical information should, however, also be in line with users' needs, thus contributing more effectively to policy making and the development of tourism in general.

Appendix 1

AN ALTERNATIVE APPROACH USING A CLASSIFICATION OF OCCUPATIONS

To obtain greater insight into employment related to tourism, an alternative approach could be used, *i.e.* a distribution of the employed by occupation, using the International Classification of Occupations (ISCO-68 or ISCO-88).[85] If the ISIC classification is used, all persons working in a given establishment are classified under the same industry, irrespective of their occupations. Using the ISCO classification, on the other hand, people working in similar types of work are grouped together, irrespective of where the work is performed (Figure 8). Examples of tourism-related occupations include: cooks, managers of catering and lodging services, bartenders, taxi drivers, stewardesses, airline pilots, travel counsellors, cleaners and bus drivers. Occupation data are usually collected through household or labour force surveys. Occupations can also be characterised by variables such as gender, age, salary, nationality, etc. An important policy issue could involve matching the number of people in specific occupational groups on the demand side with the supply side (by training and education schemes, for example). Other topics could include, for example, relating occupations to earnings, mobility and size of enterprise.

Figure 8. **An industrial and occupational approach to tourism-related employment**



85. See ILO, *International Standard Classification of Occupations (ISCO-88*), Fourteenth International Conference of Labour Statisticians 1987, Geneva, 1990.

For practical reasons, the occupational approach is left aside here. Further theoretical development is necessary. Potential problems include, for example, coding, degree of detail and reliability of available data and identifying the occupations that are of particular importance to tourism can pose problems, although this could be partly solved by linking to the selected set of characteristic tourism industries through the classification of industries (ISIC), provided in most household or labour force surveys. In that case, the occupational approach is simply an elaboration of the supply-side method described in this module. An additional advantage of this approach is that the totals for occupational groups can be brought in line with the totals presented on the basis of the ISIC classification. If the intention is to go beyond the selected tourism industries, then the main problem remains the identification of typical tourism occupations. This is the identical definition/delimitation problem as that encountered with selecting characteristic tourism industries from a supply-side perspective. Also, it remains unclear which proportion of occupational jobs are generated by the expenditure of visitors and which by the expenditure of non-visitors. Nevertheless, an occupational approach to tourism-related employment is an essential addition to the industrial approach.

Appendix 2

SOURCES OF EMPLOYMENT DATA

In general, employment data can be obtained from three main sources, namely:

- ***General household surveys***, such as employment or labour force surveys.[86] These surveys are a source of regular information on both the total labour force (employed plus unemployed persons) and the total inactive population. The data collected generally relate to employment during a specified brief period, either one week or one day. The statistical unit is the *person or household*. Depending on the country, these surveys are conducted on a monthly, quarterly, six-monthly or annual basis. This source covers the number of people employed, the number of jobs and all selected variables, although data on earnings and income are often not collected. The data usually provide the possibility to link to the ISIC classification of industries.[87] At the least, this source is needed for the number of (jobs of the) self-employed[88] and the number of jobs on the side. In addition to labour force surveys, countries often conduct other social surveys[89] which contain employment topics. The sample size of these surveys is usually much smaller and the periodicity is less frequent.

- ***Establishment surveys***. This source provides data on the number of workers on establishment payrolls for a specified period or working day. Sometimes, these surveys only cover a specified set of establishments (*e.g.* having more than a certain number of employees or having an annual output of more than a certain value). Usually these surveys relate to a sample of establishments and are conducted on a quarterly, annual or sometimes a monthly basis. *Establishments* or local kind-of-activity units are used as the statistical unit, mostly related to a business register based on an ISIC classification. Within the establishment, however, data is collected on *jobs of employees* (not people employed). Establishment surveys can generally be divided into two groups. The first group of surveys collects data on employment (jobs), earnings and hours of work. The second group collects data on labour cost. This source of information covers the number of jobs of employees and usually the selected variables [see Chapter 9, page 147, items a, b, e (partly), f, h and i]. Other business or industry surveys are used to collect data on other aspects of the production process, such as the structure and size of the output, the use of products, business revenues and expenses and value added, including wages and salaries and employers contributions. These industry surveys are often also used to collect limited employment data on the basis of jobs (*e.g.* full-time/part-time and temporary labour). Often, the national accounts use the employment data from these surveys, rather than data from employment statistics.

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86. Topics that are usually covered are, for example, employment, unemployment, hours of work, duration of employment/unemployment, industry, occupation, status in employment, level of education, permanency of job and usual activity and also, but less frequently, underemployment, wages and income, discourage job seekers, occasional workers and informal sector.

87. The way this variable is coded is not always of a good quality (obtained from the individual person and not directly from the employer) and therefore does not always coincide with the coding of the same variable in establishment surveys.

88. For the self-employed, there is usually less employment information available. This can be the effect of, for example, less frequently available sources, less accurate sources and less information on income (components).

89. Income distribution, spending and living conditions, for example.

- ***Social insurance statistics and administrative registrations***. This source covers the working population protected by health, accident or unemployment insurance schemes. Persons working a very short time or receiving very low pay are sometimes excluded. The statistical unit is a *job of an employee or an establishment*. The advantage of registrations is that data is already (electronically) available and can be re-used without the extra burden of surveying. However, the problem with registrations is that they are set up for administrative and not for statistical reasons. Therefore registrations are mostly used as an additional source of information. This source usually covers the selected variables [see Chapter 9, page 147, items a, b, e (partly), f, g and i]. These statistics are often the only source for employment topics such as inbound (border and seasonal) labour.

In general, the main strength of household surveys is that they provide a full picture of employment (jobs and people employed; employees and self-employed), although data on income and earnings is usually limited or absent. Furthermore, these surveys are the best source of information with respect to the socio-demographic characteristics of the workforce, such as age, gender, education and nationality. Furthermore, they can be used to make a link between jobs, people employed and occupational groups. A drawback of these surveys is that data on hours of work and earnings are often described less accurately.[90] This also occurs when data are disaggregated into smaller and smaller subgroups. The main sources of data on jobs of employees, (paid) hours of work, earnings and labour cost are establishment surveys. Another advantage of establishment surveys is the availability of information on size and other characteristics of the establishment.[91] A major drawback with these surveys is the incomplete coverage of employment, especially relating to the self-employed but also for "smaller" jobs. For data on the self-employed, household surveys have to be used. For data on earnings related to labour of this group, there is not usually a good source available.[92] This is because self-employment generates a mixed income rather than a clearly defined salary or wage related to a number of hours worked. In addition to the problems caused by using mainly administrative rather than statistical concepts and timeliness, incomplete coverage is the main disadvantage of register-based data. For data on occupational groups, household or labour force surveys are usually the only source of information.

In some countries, *labour accounting systems* have been developed. This is an integrated system of labour and employment statistics, based on information drawn from one or more of the above sources. In the statistical integration process, different employment phenomena such as people employed, jobs, hours of work, earnings and labour cost, are confronted on the basis of interrelationships. This source usually covers the number of people employed, the number of jobs and all selected variables, although often at a less detailed level than is desirable here.[93]

In addition to statistics covering the labour utilisation, different sources of information are available for other aspects of employment, such as vacancies, labour conditions (*e.g.* collective agreements or minimum wages), education and vocational training, strikes, unionisation and demographics.

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90. For example, many people do not have the exact information so they give an approximation and interviews are often conducted by proxy.

91. The availability of regional data means that it is also possible to use Geographic Information Systems (GIS).

92. See registrations based on taxes or other, often smaller, socio-economic statistics.

93. Within this framework, it is also possible to think of linking data of labour force, establishment, demographic and other relevant surveys on the basis of, for example, social security numbers or addresses, using imputation or other techniques to fill in the missing data. This can also be done on a reduced basis by linking the more economic characteristics of jobs with the characteristics of people employed (also directly through labour force surveys).

A useful source of information is provided by *business registers* (file or database). This source provides information on the size (*e.g.* by the number of people employed or by output) of an enterprise/establishment and regional information, but foremost it provides possibilities for statistical co-ordination between the different surveys, thus opening up the possibility of linking all kinds of basic data to macroeconomic accounts such as the TSA.

Often, (employment) data can be collected through *representative bodies*; this is frequently the case for data for the accommodation, food and beverage industries or for travel agencies. These data are often very detailed and cover all selected variables. However, they do not always match the official statistics, rendering data comparisons difficult.

PART III

NATIONAL EXPERIENCES IN THE FIELD OF TOURISM SATELLITE ACCOUNTS

Chapter 13

TSA EXERIENCES IN SELECTED OECD COUNTRIES

Part III illustrates ongoing work to measure the economic impact of tourism at national and/or regional levels in some OECD countries. The majority of the examples relate to the implementation of the Tourism Satellite Account (TSA) or of the former OECD Tourism Economic Accounts (TEA). However, some of the case studies illustrate parallel work being carried out to estimate the economic impact of tourism, to extend the TSA or to examine the feasibility of developing a TSA.

The aim is to provide a rapid overview of the different methodologies, options, sources of data and difficulties encountered by OECD Member countries in implementing a Tourism Satellite Account. Where available, main data results are indicated. Further information on national data sources and an extensive list of work undertaken at the international level is provided in the bibliography.

Many of the developments were initiated either before, or in parallel to, the research and methodological work undertaken at international level by the World Tourism Organisation (WTO-OMT), the OECD and other organisations. This partly explains the diversity of methods employed by countries to measure the economic impact of tourism. In this context, the guidelines and methodological references developed by the international organisations will be particularly useful for countries intending to review or extend their initial work. In particular, several tricky issues (*e.g.* the treatment of consumer durables) have been clarified in the final version of the methodology for building a TSA.

The OECD guidelines are flexible enough to enable countries to capture the specificity of their tourism industry at the national level. At the same time, they aim to provide a framework which is sufficiently robust for international comparisons of countries' tourism sectors and for measuring the economic structure and weight of the tourism industry *vis à vis* other major sectors of the economy. They provide clear guidance regarding the key indicators (*e.g.* tourism value added – TVA) that need to be developed, as well as their mode of calculation.

The WTO-OMT has also developed a conceptual framework for a Tourism Satellite Account, which has been used by OECD countries in isolation or in combination with the OECD guidelines to implement their national TSAs. Some countries refer to this methodology.

The World Travel and Tourism Council has elaborated principles to produce a simulated Travel and Tourism Satellite Account. One country makes use of these principles.

The WTO-OMT, the OECD and Eurostat have developed and recently agreed upon a common conceptual framework on Tourism Satellite Accounts. This tool – which was formally adopted by the Statistical Commission of the United Nations in March 2000 – addresses the broader needs of the global community. In particular, it provides the developing countries with a set of useful guidelines enabling them to build their own TSA.

Further international co-operation and the progressive implementation of the new standards should contribute to the international harmonisation of tourism statistics and help to strengthen the existing information base on tourism.

The OECD Tourism Committee, through its Statistical Working Party, will continue to assess the development and implementation of Tourism Satellite Accounts. The Committee will follow with great interest the ways in which these new indicators are used by policy makers and the industry to measure and analyse the socio-economic impact of tourism.

AUSTRALIA

Introduction

Tourism is a substantial activity in Australia, and its importance to many regions in Australia, and to the country as a whole, continues to grow. In response to this, in March 1995 the Australian Parliament commissioned the Australian Bureau of Statistics (ABS) to develop a system which would enable the significance of tourism in Australia to be quantified. In conjunction with the Department of Industry, Science and Resources (DISR) and the Bureau of Tourism Research (BTR), the ABS prepared a work programme to develop a Tourism Satellite Account (TSA) for 1997-98. The TSA methodology and results are due to be released in October 2000. The ABS's Tourism Statistics User Group was also consulted. Two-thirds of the funding for the work associated with the TSA has been provided through DISR, and one-third through the ABS. There are no plans at this stage to develop TSAs for other years or for the state and territories.

Conceptual framework for the Australian Tourism Satellite Account

The Australian TSA (ATSA) will provide a detailed set of data on the economic aspects of tourism, with links to other tourism indicators such as employment and numbers of visitors. The tourism definitions, concepts and methods are largely based on OECD/WTO-OMT recommendations. The Australian TSA classification (TSAC)[94] of tourism characteristic commodities and related commodities has been designed to suit the Australian experience. It is based on the commodity expenditure data available in the demand-side data. The net approach will be used in the treatment of package tours.

National accounts concepts will underpin the ATSA, which will be compiled within a balanced supply-use framework. Demand and supply of tourism commodities will be independently estimated and then confronted in order to resolve data or methodological problems. Using the supply-and-use framework, total Australian tourism value added (TVA) will be the same, regardless of whether it is calculated from the expenditure, production or income side. Although for the most part a constant ratio of gross output to intermediate consumption for all commodities produced by an industry will be assumed, in some cases specific inputs will be able to be related to specific outputs.

94. The TSAC covers the following commodities: 1.1 Travel agencies and tour operators; 1.2 Taxi fares; 1.3 Long-distance transport costs; 1.4 Local transport costs; 1.5 Air fares; 1.6 Motor vehicle hire and lease; 1.7 Fuel (petrol, diesel); 2.1 Hotels and other lodgings; 2.2 Second home services on own account; 3.1 Take-away and restaurant meals; 3.2 Groceries and self catering; 3.3 Alcohol/drinks; 4.1 Shopping; 4.2 Purchases of motor vehicles and other major purchases; 5.1 Entertainment; 5.2 Gambling services; 6.0 Education; 7.0 Other tourism expenditure; 8.0 Margins; 9.0 All other goods and services.

The three ways of arriving at TVA are:

$$TVA(P) = [\sum ((Goij - (IIj * CSij)) * TRj)]$$

$$TVA(I) = [\sum ((TCEi + TGOSi + TOTPi) * Tri)]$$

TVA(E) = [Final tourism consumption (basic prices) in Australia by households
+ Business tourism expenditure (basic prices) in Australia (including government)
$- (\sum (IIi * CSij) * TRj)]$

where: GO = Gross output.

II = Total intermediate input of industry i to which commodity j is primary.

CS = Commodity share [ratio of the industry's inputs of commodity j (e.g. electricity) used to produce commodity i (e.g. meals), based on the supply of input j relative to the total industry supply].

TR = Tourism ratio, calculated as the tourism demand for commodity i divided by the total domestic supply for commodity i.

CE = Compensation of employees.

GOS = Gross operating surplus.

OTP = Other net taxes on production.

ATSA outputs

ATSA output will have two dimensions. The main outputs of the first dimension of the ATSA will be:

- Tourism value added (TVA).
- TVA as a proportion of total GDP.
- The tourism component of the value added of major tourism-related industries (*e.g.* accommodation, restaurants and cafes, air transport).
- Expenditures by overseas visitors (by source country) and by Australians travelling abroad.
- Total business tourism expenditures.
- Wages and operating surplus of tourism-related industries.
- Tourism expenditure by commodity type (*e.g.* accommodation, transport, meals) by industry of supplier.
- Indirect taxes and subsidies for tourism-related industries.
- Import requirements for tourism-related industries.

The second dimension will provide a data set which will enable description of the relationship between economic variables in the first dimension and the following items:

- Employment in tourism-related industries.
- Employment profiles.
- Domestic visitor numbers.
- International inbound and outbound visitor numbers.

The results of analytical work to be undertaken by the ABS will also be made available.

Data sources

The supply-side data for the tourism industries will be sourced from ABS surveys, in particular the annual economic activity survey (EAS) and the periodic service industry surveys (SIS). The sample sizes and data items collected for the transport, automotive fuel and motor vehicle hire industries in the 1997-98 EAS were expanded to accommodate the needs of the ATSA. Surveys of travel agents, accommodation, clubs, pubs, taverns and bars, and gambling industries in respect of 1997-98 were conducted as part of the SIS work programme, and data from these surveys will be used in the compilation of the ATSA.

The demand-side data will be sourced from surveys conducted by the Bureau of Tourism Research (BTR). The international visitors survey uses personal interviews to collect information from departing international visitors at airport terminals. The national visitors survey collects data on domestic tourism via a dedicated telephone interview survey that runs throughout the year. Additional information was sought from the travel agency industry to allocate expenditure on package tours by commodity.

In the second-dimension tables, employment data will be sourced from the labour force survey, which is a monthly household survey. Data on employment in the tourism characteristic industries will be provided at the ABS's industry classification (ANZSIC) four-digit level by re-coding three-digit data using additional survey information. Other ABS collections will be used to provide information in the second-dimension tables. For instance, international visitor numbers will be sourced from overseas arrival and departure statistics.

The issue of tourism capital has not been a priority in the ABS's TSA work programme. The ABS will not be able to publish estimates of capital stock for the tourism industry. Capital expenditure estimates would require making a number of assumptions, and no decision has yet been made on whether such estimates will be provided.

Uses of an Australian TSA

Interest in the ATSA has been high. The ABS has been involved in walking users through data sources and methods, and users have shown interest in many of the major issues, such as the treatment of collective consumption.

One of the main advantages of the ATSA is that it will provide an estimation of tourism value added in a framework that integrates tourism with the rest of the economy. This should provide policy makers with an improved measure of the contribution of tourism to the Australian economy, and a basis from which to compare the performance of tourism against that of other industries. As national accounting concepts and methods have been used, the ATSA will minimise the use of additional assumptions in many modelling applications and impact studies. This will allow analysts to more accurately model the effects of shocks to tourism. Initially, the indirect effects of tourism will not be calculated in the ATSA. The information will, however, be available for analysts to compute tourism multipliers.

Tourism economic research will also be enhanced through the connection of TSA and other tourism data, such as data on employment. For instance, the combination of wages and salaries earned by the tourism industry and hours worked will allow average tourism compensation per hour worked to be calculated.

By improving data on tourism relationships at the national level, it is expected that the understanding of the regional impacts of tourism will also be enhanced. The ABS will be able to provide advice on possible techniques to derive regional estimates.

Remaining issues and research agenda

The research agenda after the publication of the ATSA will focus on adding value to the account through the compilation and interpretation of multipliers, analytical ratios and other impact measures, and educating users on the applications and limitations of the ATSA.

The compilation of an ATSA was only commissioned for 1997-98. If funding for an annual ATSA is made available, the 1997-98 table could be used as a benchmark and extrapolated for two or three years before another benchmark table was compiled. The presentation of demand-side data by state, and the development of estimates of capital expenditure in tourism-related industries may also be investigated.

AUSTRIA[95]

Introduction

Tourism is increasingly recognised for the significant role it plays in the economic, social, cultural, environmental and even educational areas. In the 1980s, the OECD, in collaboration with other organisations, initiated methodological work to improve the measurement of tourism. This work anticipated the development of Tourism Satellite Accounts, a more comprehensive system of measurement.

The 1991 *OECD Manual on Tourism Economic Account*s (TEA) constituted the first international approach to the measurement of tourism and played an important role in recognising tourism as an economic phenomenon. Taking this broader view, it is clear that traditional tourism statistics such as numbers of nights spent and arrivals at frontiers cannot present a full picture of the activities of the tourism-related industries. In a tourism-oriented country such as Austria, accurate measurement of the tourism sector is of key importance.

Five standardised TEA tables were developed as the basis for the measurement of the economic contribution of characteristic tourism industries and of tourism demand. Several rounds of calculation and data collection took place during the 1990s. In the near future, TSA will gradually replace TEA reporting. However, the TEA tables will continue to provide some of the core elements of the TSA.

There is no doubt that the TSA provides a better and a more comprehensive system for identifying the role of tourism in the economy. However, the TEA work conducted to date represents a useful basis for extending the statistical work to create a TSA. This accumulated experience is guiding the work of Austria in the TEA field.

Conceptual framework for the Austrian Tourism Satellite Account

In Austria, the TEA were used as the starting point for the development of the TSA. Results were submitted for reference years 1985, 1990, 1993 and 1996. In addition, for 1993 and 1996, estimates of the share of characteristic tourism industries in the GDP of the overall economy were calculated.

Data sources

Data were derived mainly from the national accounts. Input-output data (I/O-83) and economic census data have also been used as appropriate. In certain cases, *ad hoc* calculations and estimates were made.

95. The Austrian experience refers to the implementation of the OECD Tourism Economic Accounts (these represented an important stage in constructing Tourism Satellite Accounts).

Make matrix on tourism industries

The national commodity and activity classification (Austrian Standard Industrial Classification, version 1968) was rearranged according to ISIC to complete the "make matrix" on tourism industries, a central feature of the TEA. This information provides a comprehensive database for TEA Tables 1 and 2.

The completion of the TEA tables

The *OECD Manual on Tourism Economic Accounts* comprises five basic tables.

For Table 1, the basic data were taken from the total supply of each commodity, available from the national accounts. Data on imports were taken from the commodity account (I/O-83) and extrapolated using current import statistics. Tourism expenditure data were taken from the micro-census. Total consumption expenditure of non-resident visitors was found in the balance of payments (BOP) statistics.

The basic data for Table 2 are derived from the national accounts. For non-market producers, the data come from the I/O table. The basic data on compensation of employees were found in the economic census.

For Table 3, the expenditure structure of a specific WIFO research study was adjusted in line with the purpose classification of Table 3 and the total expenditure of non-residents according to BOP. Expenditure of resident visitors was derived from Table 1. Total final consumption expenditures of residents and non-residents were available in the national accounts.

The basic data for Table 4 were taken from the national accounts (public investments) and the economic census; business reports of larger units were also used. Extrapolation was done using various indicators, mainly from the national accounts.

For Table 5, the basis for the average number of persons engaged was taken from the economic census and I/O data. The values were extrapolated by social security statistics on employment, economic census, population census and the national accounts. Total hours worked by employees were available from micro-census data.

Estimating the share of tourism in GDP

The estimates of tourism GDP are based on Tables 1 and 2. Austria used two different methods of estimation to derive tourism shares. The results are not substantially different, and this can be taken as an indicator of a certain robustness of the outcome. In both approaches, the industry's output is assumed to be related to characteristic producers only. Neither secondary output nor the non-typical components of tourism were taken into account; however, the estimates do take account of indirect impacts (Chart 1). Thus, the only segment addressed is the contribution to GDP of the characteristic expenditure of tourists.

Chart 1. **Share of tourism in GDP, 1996**

Tourism industries	Table 2			Table 1					Estimates (Implicit GDP from domestic tourism)		Share of tourism industries in total gross value added (GVA)	
	Gross output	GVA	Net ratio	Total supply	*Of which:* tourism (without "other")	Tourism ratio	Total domes-tic supply	*Of which:* tourism	A	B	A	B
	In billion ATS		In %	In billion ATS		In %	In billion ATS		In billion ATS		In %	
	(1)	(2)	(3) = (2)/(1)	(4)	(5)	(6) = (5)/(4)	(7)	(8) = (7)/(6)	(9) = (8)/(3)	(10) = (2)/(6)	(11) related to (9)	(12) related to (10)
55 Hotels and restaurants	160.6	93.1	58.0	165.7	126.6	76.4	165.7	126.6	73.4	71.1	3.1	3.1
60 Land transport	102.1	67.6	66.2	122.3	15.4	12.6	115.3	14.5	9.5	8.5	0.4	0.4
601 Rail transport	21.7	14.3	65.9	21.5	6.7	31.2	18.9	5.9	3.9	4.5	0.2	0.2
602 Other land transport	79.6	53.0	66.6	96.5	8.7	9.0	92.0	8.3	6.6	4.6	0.2	0.2
61 Water transport	2.4	0.8	33.3	2.8	0.3	10.7	2.2	0.2	0.1	0.1	0.0	0.0
62 Air transport	22.5	8.4	37.3	22.1	14.7	66.5	22.1	14.7	5.5	5.6	0.2	0.2
63 Supporting and auxiliary transport activities, activities of travel agencies	97.8	20.4	20.9	87.4	41.3	47.3	84.6	40.0	6.3	9.6	0.4	0.4
92*) Recreational, cultural and sporting activities	58.2	38.8	66.7	62.5	7.4	11.8	61.3	7.3	4.8	4.6	0.2	0.2
Total	443.6	229.1	51.6	462.8	205.7	44.4	451.2	200.5	101.2	99.6	4.4	4.3
Total GVA	--	--	--	--	--	--	--	--	2331.3	2331.3	100.0	100.0

A = based on net ratio.
B = based on tourism ratio.
* market + non-market.

Calculation of tourism ratios for commodities and related GDP shares

The tourism ratio is calculated on the basis of Table 1 (and Table 2) to indicate the amount of a given commodity purchased by tourists. These "tourism ratios" are applied to gross value added of the corresponding industries to derive the "implicit" tourism GDP. The sum of the "implicit" tourism GDP is then related to total GDP; resulting in the share of tourism in total GDP.

The tourism ratios ranged from over 76% for hotels and restaurants to 11% for water transport. For air transport, the tourism ratio accounts only for 67%, indicating a relatively high proportion of non-tourism use in this sector. For 1996, the "implicit" GDP of the given tourism industries amounted to ATS 99.6 billion, *i.e.* 4.3% of GDP (ATS 2 331.3 billion). As expected, the hotels and restaurants industry accounts for the highest contribution (ATS 71.1 billion), followed by the supporting and auxiliary transport sector (including travel agencies with ATS 9.6 billion) and land transport (ATS 8.5 billion).

Calculation of the industry's net ratio and related GDP share

The calculation of the net ratio on the basis of Table 2 (and Table 1) showed the alternative calculation of the share of tourism in total GDP. These industry-based ratios were applied to use by tourists of characteristic tourism commodities. The result is thus more closely related to domestic tourism expenditure.

With 66.7%, the net ratio of recreational, cultural and sporting activities was rated first, followed by land transport with 66.2%. The supporting and auxiliary transport sector had the lowest proportion (20.9%). As mentioned above, the final results based on "net ratios" were fairly similar to those calculated using the alternative approach. The "implicit" GDP accounted for ATS 101.7 billion, to which hotels and restaurants (ATS 73.4 billion) and land transport activities (ATS 9.6 billion) are the main contributors. The share in GDP amounted to 4.4%, which is only 0.1% higher than the share calculated on the basis of "tourism ratios".

Evaluation

The calculation based on commodities differs from the GDP share estimate, which is industry-oriented. In the first case, a commodity-based ratio (tourism share) is "projected" into a characteristic industry (*cf.* Chart 1, column 10).

In the second case, an industry-based share (net ratio of characteristic tourism industry) is "projected" into the respective commodities' supply (*cf.* Chart 1, column 9). The characteristic industry's net ratio may not correspond to characteristic commodities proper.

It is evident that these two methods of calculation will provide slightly different results; however, this may be acceptable. An exact calculation would need to be based on I/O techniques.

The estimation of tourism's share of GDP calculated using both methods provides one important key figure, but here only the tourism characteristic components are taken into consideration.

Tourism non-characteristic aspects can be addressed by taking TEA Table 3 into account. This would result in a higher share for tourism. A full sequence of systematic indicators (shares or simple ratios) could then be developed.

Remaining issues and research agenda

Due to the outdated base years 1983, 1985 and 1988, the results are only approximate estimations. Other weaknesses include problems posed by the reclassification according to ISIC, the lack of reliable data (*e.g.* expenditure) on non-residents, the occasional lack of data on uses by visitors, on the expenditure of same-day visitors, on the structure of package tours and on travel agencies. The figures presented in Table 4 are mainly based on estimations as no detailed data were available. Two-digit growth rates were used instead of the three- and four-digit-levels used in Table 5.

Through the use of the TEA system, it immediately becomes clear that tourism is a complex phenomenon which cannot be readily grasped using traditional statistic measurements (*e.g.* nights spent, etc.). This complexity is due to the fact that the tourism industry is not a single industry but encompasses a number of economic activities which, at first sight, are not tourism related. Only an integrated system of accounts such as the TEA or the TSA can enable adequate measurement of the role of tourism in national economies.

Further analysis that could be carried out on the basis of the TEA results includes, notably, estimating the share of tourism value added relative to overall GDP.

In the 1980s, Austria was a pioneer in the development of economic estimates of tourism in the economy. The TEA system represents a challenge, notably in relation to the development of quality

data for the completion of the tables. However, the work has proved useful in supporting the development of the TSA and in resolving some of the tricky issues which need to be addressed.

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DENMARK[96]

Introduction

The demand-side nature of tourism means that traditional supply business statistics are unable to provide sufficient information on the tourism sector.

In 1996, the Danish Tourist Board started the TØBBE project, financed by the Danish Ministry of Business and Industry. This project aims to provide, on a permanent basis, reliable key economic data on tourism at the regional level. The project has the following objectives:

- To inform policy makers and help them in decision making by providing information at both the national and regional levels. To enable cross-sectoral comparisons, economic statistics relating to the tourism industry need to include the same economic variables as traditional business statistics.

- To contribute to the evaluation of initiatives on business policy and market campaigns, where regional/national economic impact is one of the relevant criteria of success.

- To help in planning decisions and in the estimation of the economic consequences of specific scenarios, in connection with marketing, product development or policy initiatives.

The project is based on the 1993 UN/WTO-OMT definitions of tourism.

Conceptual framework for the Danish Tourism Satellite Account

The basic rationale for the project is to include all types of accommodation and to collect data on the number of nights spent and the consumption behaviour of tourists. This methods will allow the calculation and breakdown of tourism expenditures. The data collected are then integrated into the regional macroeconomic model for each target group. The model outputs are standardised macroeconomic variables, with the results linked to the defined target group. The estimation process is illustrated in Table 1.[97]

96. The Danish experience is not related to the Tourism Satellite Account framework *per se*. Rather, it provides an alternative method of estimating the economic impact of tourism in Denmark.

97. The Regional Economic Model (AIDA) is constructed in Institute of Local Government Studies – Denmark (AKF).

Table 1. **Estimation process**

Data input	The regional economic model	Tourism output
Number of nights		
- by nationality - by type of accommodation - by county	Regional input-output relations	***National accounts variables***
Expenditure per day	***Income multiplier***	- by county/region - by business - by nationality - by type of accommodation - by direct/indirect effects
- by nationality - by type of accommodation - by county of stay - by county of spending - by consumption categories		

Data input

The tourism expenditures/private consumption calculations need to be disaggregated, at least by county of stay, nationality and type of accommodation (*e.g.* German campers on the Danish West coast). It is therefore necessary to collect statistics on overnight stays and spending behaviour at the same level of detail.

Statistics on overnight accommodation

Statistics Denmark[98] provides data on registered accommodation such as hotels, leisure centres, camping, rented cottages, youth hostels and boats. Statistics relating to cruise liners, bed and breakfast establishments, festivals and foreign one-day visitors are based on reports from the relevant organisations and companies. Data on borrowed cottages, own cottages, and visits to friends and relatives are based on telephone interviews.

Expenditure statistics

The expenditure data are collected through face-to-face and telephone interviews. Regardless of the intensity of tourism, each of the 14 counties in Denmark had a basic quota of 1 750 face-to-face interviews.[99] For each county, the quota is broken down into type of accommodation and nationality. The detailed quotas are fixed according to the importance of the various target groups for the county in question (*e.g.* British hotel guests staying in Copenhagen) and the practicalities of collecting a sufficient minimum number of respondents (about 40 per cell).

98. Data on numbers of nights spent are sent to Statistics Denmark by all providers of registered accommodation.

99. With the exception of Copenhagen County, where the quota was 3 500 (due to the large numbers and different nationalities of visitors).

The model

The model used is an annual regional (county-level) input-output macroeconomic model, which has a built-in Keynesian income multiplier. The tourist expenditures, calculated by the input data, are the entrance to the model. The private consumption of tourists is consequently the main variable influencing the model.

Each region/county has its own "regional accounts" system in which the input-output relationships between industries within the region, between regions, and between the region and abroad are described. Basically, the system uses a top-down principle, where national input-output relationships are broken down into regional linkages according to the regional structure of industries. The regional accounts are fully consistent with the national accounts.

Uses of a Danish TSA

Output can take several different forms and characteristics as indicated below. The results can be disaggregated and combined if necessary for analysis purposes. Aggregated results can also be calculated:

- The economic impact of tourism can be measured through variables represented in the national accounts (*e.g.* employment, gross domestic product, production, gross fixed capital formation, taxes, turnover, exports and imports).
- The economic impact of tourism can be calculated by county/region, by type of accommodation and by nationality (*e.g.* the value added linked to German rented cottages in West-Denmark).
- The economic impact of tourism can be calculated for a given business sector (*e.g.* employment in the retail trade in Northern Denmark arising as a result of Norwegian youth hostel guests).
- The economic impact of tourism can be broken down into direct and indirect effects.
- The economic impact of tourism can be divided into "own-region" tourism and "outside-region" tourism.
- The economic impact of specific niche markets (*e.g.* revenue due to expenditures of Swedish cycle tourists on the island/county of Bornholm).
- The economic impact of changes in the number of tourists.
- The economic impact of changes in tourists' consumption behaviour.

Remaining issues and research agenda

The Danish Tourist Board is confident that this new tool can be used in economic impact analysis. The model's unique regional approach and high degree of flexibility enable it to be used for estimations and scenarios that precisely meet the specific political or marketing issues to be analysed.

The Danish Tourist Board aims to produce estimates on a permanent basis: data will be regularly updated and the economic model will be revised each year.

To date, the Danish Tourist Board has published two reports on the economic impact of tourism in Denmark. The first was published in 1998, using data for 1996. The second was published in 1999 with data for 1998. A new report with figures for 1999 will be published in June 2000.

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FINLAND

Introduction

In Finland, the development of the Tourism Satellite Account (TSA) started in 1998 at the initiative of the Finnish Tourist Board (FTB). The project was led by the Travel Development Centre Ltd (TDC), a private consultancy company, and a group of experts from the Bank of Finland, the FTB, the Ministry of Trade and Industry, Statistics Finland and the Hotel and Restaurant Council. The project was financed by FTB and the Ministry of Trade and Industry.

Main results

After a thorough analysis, and as a result of a number of recommendations and models developed in Sweden and Norway, Finland has now reached a stage where general information for some of the tables can be produced. At this phase of the project, Finland has chosen to concentrate on four tables: Table 1 which describes the consumption of inbound tourism; Table 2 which describes the consumption of domestic tourism; Table 6 which describes domestic supply and internal tourism consumption by product; and Table 7 which describes employment in the tourism industries.

Table 1. Consumption of inbound tourism

The basic information for this table is put together from the border interview survey, the main purpose being to establish the number of non-residents who visit Finland, the duration of their stay and their expenditure, etc. The survey is commissioned and financed by FTB, with the support of the Ministry of Trade and Industry; it is carried out by Statistics Finland's Survey Unit. Data collection stage began in December 1997 and will continue until the end of 2000.

During 1998, 17 200 foreign passengers departing Finland were interviewed. Initially, the results were calculated as mean values for each subset, *i.e.* country of residence. In calculating the mean values for the whole data set, the weights of the means were determined by the weight of each subset in total arrivals.

According to the border interview survey, it is estimated that in 1998 inbound same-day visitors' total consumption in Finland amounted to FIM 458 million and tourists' expenditures were FIM 5 806 million. These amounts do not include consumption on transport when arriving and departing Finland; transport costs are added from the passenger transport balance. Other limitations concerning the data are: *i)* only the mainland of Finland is covered, meaning that the Åland Islands are not included; and *ii)* the regular, almost daily, local traffic for business and other purposes across the borders between Finland and Sweden or Finland and Norway is excluded.

Table 2. Consumption of domestic tourism

Data for domestic tourism consumption are collected through the Finnish travel survey carried out by Statistics Finland. The Finnish travel survey is a quarterly sample survey in which data are collected by computer-assisted telephone interviews. Data collection was carried out in connection with the monthly labour force surveys conducted by Statistics Finland using the same sample. Each sample of the four quarterly travel surveys covers some 2 200 persons.

The survey completes the accommodation statistics in that it covers the use of all paid modes of accommodation, including small accommodation enterprises and rented private holiday cottages; it also covers use of second homes and visits to friends and relatives. The survey also provides information on expenditures on travel.

It is estimated that, in 1998, domestic tourism consumption in Finland amounted to FIM 12 900 million. This figure does not include an estimation of expenditure on domestic day trips as no information is available on the number of domestic day trips at the national level.

Table 3. Domestic supply and internal tourism consumption, by product

The production figures are taken from the System of National Accounts (SNA). The tourism share of total production is estimated according to information from the National Tourism Barometer. In the National Tourism Barometer, some 800 companies are asked to estimate the share of tourism in their total turnover. The Barometer is commissioned and financed by FTB and is conducted by TDC.

Among related goods and services, retail stores and service stations are of special interest in Finland. This is because of the large number of nights spent at second homes.

Table 4. Employment in the tourism industries

The importance of employment in the tourism industry is evident in Finland. A number of studies have been carried out to measure the employment impacts of tourism at the regional level, not only for the tourism industries themselves, but also for tourism-related industries such as retail stores. This information is not used in the TSA since, according to the recommendations, measurement of employment is limited to the characteristic tourism industries.

The framework uses the breakdown according to the simplified status in employment classification. The SNA also provides information on working hours for some sectors of the tourism industries.

Remaining issues and research agenda

There is a need for further work in the following areas:

- Level of detail for the expenditure data for the consumption table.
- Net valuation of package tours.

- Breakdown between resident and non-resident producers concerning outbound tourism.
- Need for more accurate information on the tourism industries in the supply tables.

Table 8 for tourism gross fixed capital formation will not be completed within the framework of the current project. The Ministry of Trade and Industry intends to finance a research project to measure tourism collective consumption.

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FRANCE

Introduction

French Tourism Accounts: a legal requirement

The Tourism Directorate *(Direction du tourisme)* has drawn up Tourism Satellite Accounts since the mid-1980s. Its approach was officially recognised in 1988 by the creation of a Tourism Account Commission, a joint forum of public authorities and representatives of the tourism trade. The Commission meets at least once a year to approve these accounts and examines various issues:

- It controls tourism accounts and highlights the most significant developments for the future of this business sector and its various components.
- Against the background of the System of National Accounts and in close co-operation with the Commission of Transport Accounts and the Commission of Services Accounts, it focuses on the role of tourism in domestic trade, its impact on external accounts and its impact on land-use management.
- It studies behavioural changes by the French in terms of when they take their holidays, and the means available to satisfy their needs.
- It studies foreign visitor trends and their demands.
- It examines the position of French tourism companies as compared to their foreign competitors.

The ability to make meaningful international comparisons is a key requirement in the tourism field. International standardisation has not yet resulted in universally adopted norms. However, France has played and continues to play an active role in international discussions on norms. Bringing French accounts into line with international standards is a top priority.

Uses of a French TSA

Tourism is a demand-driven sector. Unlike other economic sectors, where business is defined by reference to production, a business is identified as forming part of the tourism sector if a portion of its production is produced for use by tourists. The problem therefore is one of identifying and measuring the products used by tourists. To do so, several surveys have been developed to target tourists:

- *Survey monitoring the tourist travel of French citizens* (SDT Survey) is the basic tourism survey aimed at studying the travel and spending of French residents in France and/or abroad. Since April 1990, the SDT survey has monitored a panel of 10 000 French

individuals over the age of 15 by mail. They are questioned every month on their trips during the current survey month. The monthly nature of the survey notably allows for accurate information on short trips, and limits the impact of "forgetfulness". In addition, five surveys on expenditures were done on a sample of individuals from the panel between 1991 and 1994. The survey has been expanded since April 1999: the size of the panel was doubled and an ongoing spending section was included for a portion of the panel.

- Tourist visits by foreign residents were estimated by means of a *transport survey* carried out in 1993/94 by INSEE (National Institute of Statistics and Economic Studies).

- The *border survey* is the basic source of information on tourism by non-residents in France. The Tourism Directorate carried out a series of surveys in 1989, 1991, 1993/94 and 1996 at the country's borders, aimed at measuring the volumes and characteristics of foreign tourists. Between surveys, estimates of tourism volumes and related expenditures are made mainly by means of travel item receipts in the balance of payments. A new border survey is planned for 2000.

- In addition, a *special spending survey* was conducted of non-resident tourists visiting France during the summer of 1997.

Conceptual framework for the French Tourism Satellite Account

The basic concept is that of internal tourism consumption; in other words, used in the country by residents and non-residents. Tourist consumption is defined as all goods and services used by visitors during their stay, or in preparation for their stay, as well as services provided by bodies directly involved in the development of tourism (information, promotion and administration).

Four aggregates may be distinguished:

- T0: consumption of characteristic tourism activities.

- Tl: consumption related to visits.

- T2: internal tourism consumption.

- T3: tourism and tourism-related consumption.

The first three aggregates involve tourism consumption, using the international definition of tourists as visitors who stay at least overnight and less than twelve months in the country visited.

Consumption of characteristic tourism activities (T0)

This aggregate represents expenditures of French tourists and non-resident tourists in France on characteristic tourism activities. Three items may be distinguished:

- Paid accommodation (hotels, rented accommodation, lodges, camping/caravaning, etc.).

- Restaurants and cafes.

- Tourist leisure activities (museum tours, etc.).

It also includes expenditures of French citizens travelling abroad who use French companies (*e.g.* profits on package deals sold by French travel agencies).

In 1998, this aggregate was estimated at FRF 243 billion.

Consumption related to visits (Tl)

The Tl aggregate corresponds to all consumption by tourists during their visit. Therefore, the following needs to be added to aggregate T0:

- Food.
- Sundry purchases (on-location expenditures for the purchase of goods that may be used at a later stage: gifts, souvenirs, bathing suits, toys, etc.).
- Other expenditures (local travel for residents, services such as medical visits, hairdressing, etc.)
- Fictitious rent (an estimate of the accommodation costs that would have been paid by tourists if they had used paying accommodation instead of staying in their second home or with family or friends).

Aggregate T1 represented FRF 447 billion in 1998.

Internal tourism consumption (T2)

In addition to T1, this includes:

- Transport between the homes of French residents travelling in France and their holiday destination.
- The transport of non-residents in France.
- The transport of residents travelling abroad but using French companies.
- Other tourism products: spending prior to travelling (purchasing a caravan, luggage, etc.).
- Spending by public authorities and administrations responsible for tourism.

T2 represented FRF 612 billion in 1998 (7.3% of GDP).

Tourism and tourism-related consumption (T3)

This is the broadest aggregate and includes all aspects listed in T2, plus:

- Spending by day trippers (visitors who do not spend a night on location).
- Spending by local clientele on characteristic tourism activities as identified in the NAF.

T3 was estimated at FRF 762 billion for 1998.

Estimation methods

Statistical tools distinguish between identifying tourist flows and expenditures. As a result, tourism consumption is evaluated in two stages:

- Determining physical flows, expressed in number of nights.
- Adding to these physical flows by using the notion of average expenditures per night.

Some basic figures on the French Tourism Satellite Account

Table 1. **Internal tourist consumption (T2)**
1998 (provisional data)

By tourists' country of origin	FRF billion	By-product	FRF billion
Non-residents	199.7	Hotels, cafes, restaurants	151.3
Residents	351.7	Leisure activities	35.1
Percentage of French residents[1]	61.1	Travel agencies	57.0
Total	612.5	Sundry	92.1
		Food	55.5
		Fictional rent	56.2
		Transport in France	130.3
		Other products	21.6
		Public authorities	13.4
		Total	612.5

1. On trips abroad.
Source: Tourism Directorate.

Table 2. **Data on selected sectors**

	Number of establishments affiliated with UNEDIC at 31/12/1998	UNEDIC salaried employment at 31/12/1998	Non-salaried employment in thousands (branch)	Investments in billions of FRF (branch)
Hotels and restaurants	121 541	678.3	184.4	25.2
Travel agencies	6 476	39.0	1.2	0.4
All services	527 465	3 716.3	548.9	365.8
Economy as a whole	1 475 694	13 697.3	2 541.3	1 574.7

Source: UNEDIC, INSEE.

Remaining issues and research agenda

Tourism Satellite Accounts such as the one presented above are the result of major methodological studies and investments in setting up surveys starting in the early 1990s, particularly to monitor the holiday travel of French citizens. These efforts have resulted in the availability of a range of annual estimates of internal tourism consumption since 1990. In addition, it has been possible to break down internal tourism consumption in the various French regions in order to evaluate their respective weight in the national tourism economy. It may soon be possible to fine-tune this breakdown at department level thanks, in particular, to the doubling in size of the SDT panel and the new border survey.

Significant efforts have recently been made regarding primary resources. A new border survey will be carried out in 2000. The *Banque de France* is closely involved in these two surveys and is partly financing SDT spending. In particular, efforts underway aim to continue monitoring developments in the balance of payments during the changeover to the single European currency.

Other recent efforts have focused on determining tourist numbers: the INSEE survey on hotel occupancy was modified, notably with regard to foreign occupants. In addition, a survey of open-air accommodation occupancy has been developed since 1993.

The Satellite Accounts constitute an incentive to develop new sources of information, although this is an area where much progress remains to be made. In terms of consumption, some items need to be re-estimated entirely. This is true in particular of fictional rent, spending prior to travelling, etc. Internal tourism consumption must also be expanded to include the Overseas Departments *(Départements d'Outre-Mer)*.

Progress also needs to be made in terms of production. Companies whose business is linked to tourism need more information, particularly on what portion of their production and value added is attributable to tourism. Improving knowledge of employment is also a priority. To do so, available statistical sources on companies, particularly at INSEE, must be better utilised.

Compliance with developing international norms should be an ongoing concern. The aim is to provide for international comparisons and to learn from other countries' experiences.

Development of the supply side of the TSA

As regards the study of supply, the analysis of production is only partially dealt with in the Satellite Account. The problem lies mainly in the fact that tourism supply is not defined by a central product nomenclature: while some well-identified products are exclusively used by tourists, other products may be used by tourists in varying degrees.

The French Satellite Account currently includes an list of companies from characteristic tourism sectors, estimates of stock and related capital flows, and estimates of employment in these sectors. The concept of characteristic sectors is still being discussed at international level. The French account has, up to now, included under characteristic activities those activities that are almost exclusively aimed at satisfying the needs of tourists, and those whose level of production is directly linked to tourism.

As a result, hotels, other large-scale paying accommodation, restaurants, cafes, travel agencies, hot springs and thalassotherapy businesses, cable cars and ski lifts have been included. It is interesting to note that, with the exception of cable cars and ski lifts, which are classified as transport-related

services, the French Satellite Account does not include transport as a characteristic activity. In the same way, many other activities have not been included despite their involvement in the tourism trade, because they have not been identified as such in the French classification of business activities (NAF) (the NAF is derived directly from the General Industrial Classification of Economic Activities within the European Communities (NACE), by breaking down certain items). These activities include, in particular, those that appeared or were developed since NAF was implemented (such as theme parks) or activities with closely linked tourism and non-tourism elements (property-related activities that include seasonal rentals and tourist accommodation).

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ICELAND

Introduction

The Icelandic National Economic Institute (NEI) is in the process of implementing the most recent version of the System of National Accounts (SNA93), and the harmonised European System of Accounts 1995 (ESA95). In addition, the NEI will shortly adopt the new industrial classification NACE Rev. 1, which is based on the UN industrial classification ISIC Rev. 3. The intention is to publish revised time series from 1990 onwards before the end of the year.

The NEI is also constructing supply-and-use tables and input-output tables for the first time.

Conceptual framework for the Icelandic Tourism Satellite Account

Based on the revised national accounts, Iceland intends to build further on existing economic data in the field of tourism to produce a pilot Tourism Satellite Account. This work will be based on the *OECD Manual on Tourism Satellite Accounts* and on work by other leading organisations such as the WTO-OMT's *Tourism Satellite Account (TSA): Methodological Reference*, and work done by Eurostat.

The primary objective of the statistical work conducted to date in Iceland has been to:

- Estimate and provide a comparable measure of tourism's contribution to GDP that is consistent with measures of the contribution of other industries to GDP found in the Icelandic System of National Accounts.

- To collect information on employment in the tourism industries, the number of people employed and the percentage share in total employment from a supply-side perspective.

For this exercise, the NEI followed and benefited greatly from the recommendations and definitions elaborated by the OECD, the WTO-OMT and Eurostat. Priority has been given to compiling the core tables of the *OECD Manual on Tourism Economic Accounts*, in order to identify, from the demand side, the percentage share of the characteristic tourism industries consumed by tourists and then to calculate tourism's contribution to GDP and the proportion of tourism employment.

In the ongoing process of building a TSA, Iceland will continue to follow international recommendations and will maintain permanent dialogue on tourism statistics with national accountants, tourism statisticians and the industry itself. Iceland attaches great importance to the flexibility of the system, which should allow a step-by-step process to be established in line with resource constraints and data availability.

KOREA

Introduction

The development of a Korean Tourism Satellite Account (KTSA) will be a crucial factor in enabling evaluation of the Korean tourism industry and enhancing the importance of tourism. Moreover, the KTSA will provide guidelines to the Korean Government for establishing effective policies relating to tourism.

The Korea Tourism Research Institute (KTRI), a governmental policy research institute, is responsible for the construction of the KTSA on behalf of the Ministry of Culture and Tourism. KTRI has formed a task force for the development of the TSA. The preliminary phase of KTSA will be carried out during the first half of 2000.

Conceptual framework for the Korean Tourism Satellite Account

The conceptual framework of the KTSA is based on the indirect approach adopted by the World Travel and Tourism Council. This approach provides meaningful information on the direct and indirect effects of tourism demand. The indirect approach starts from the demand side and uses the "tourism ratio" to estimate the supply side of tourism through input-output tables. Using this methodology has the advantage of bringing greater economic significance to the measurement of the economic impact of the tourism industry.

The KTSA methodology estimates final demand of tourism (consumers' expenditures, investment, exports and imports) through tourism expenditures. Measurement of final demand of tourism is based on existing data from the Korea National Tourism Organisation's opinion surveys and on empirical data gathered from on-site field surveys conducted for the purpose of establishing the KTSA. This empirical work includes three surveys targeting domestic, inbound and outbound travellers.

Final tourism demand is applied to the input-output tables to measure the supply side of the tourism industry.

$X = (I – A) – 1F$

$F = C + I + G + E – M$

where: X = Total output (n * I).

A = Technical coefficient (n * n).

F = Final demand (n * I).

C = Consumer expenditure.

I = Investment expenditure.

G = Government expenditure.

E = Exports.

M = Imports.

The supply-side tourism ratio can be calculated from the above equation, and the result is shown as a ratio, *i.e.* each industry's turnover price for tourism divided by each industry's total output price.

The demand-side tourism ratio is composed of the "consumption tourism ratio", the "investment tourism ratio", the "export tourism ratio" and the "import tourism ratio".

Through the establishment of the supply side of the tourism industry, each industry's tourism value added can be estimated. More specifically, the share of the tourism industry in GDP is calculated from the national economy (as measured in the national accounts).

Policy applications

The KTSA will provide a useful tool for the Korean Government as it can be used to:

- Enhance the significance and characteristics of the tourism industry.
- Provide the information necessary for appropriate policy decisions and measuring relating to tourism planning and/or development.

The KTSA will also be valuable for the research community as it:

- Provides a comprehensive statistical database and establishes a framework for tourism statistical research.
- Provides indicators (income, employment, economy, environment, etc.) enabling a thorough analysis and assessment of the impact of the tourism industry.

Remaining issues and research agenda

The supply-side data needs to be further refined and developed through additional field research and new surveys. The construction of a TSA should not be a one-off project and improvements and updates should be carried out on a permanent basis.

MEXICO

Introduction

In 1998, Mexico established its Tourism Satellite Account (MTSA) as an extension of its system of national accounts. The TSA was the result of a co-operation agreement between the Ministry of Tourism (SECTUR) and the National Statistics, Geography and Informatics Institute (INEGI). The intention was to provide the country with a broad base of macroeconomic information that would meet, at least, the following six objectives:

- Identify the real contribution of tourism to the national economy, and the links between tourism and other industrial sectors.
- Develop different levels of aggregation for tourism indicators.
- Develop an advanced and timely programming tool.
- Facilitate the analysis of tourism trends and structure.
- Describe tourism-related monetary flows recorded within national boundaries.
- Broaden the information base for decision making in the tourism field.

Main results

The results obtained by the MTSA exceeded the previous estimates for the tourism industry made by the Mexican Government, and confirmed the importance of tourism in the development of the country. SECTUR has already begun to assess the "true" impact of tourism on the Mexican economy. In 1999, it carried out a preliminary assessment that showed that:

- The tourism industry accounts for 6.5% of the total supply of goods and services used in the Mexican economy. This is six times more than the production of the electricity, gas and water industries; and more than twice the size of mining output. It represents slightly more than the contribution of the primary sector.
- Tourism makes an outstanding contribution to overall GDP, amounting to 8.2% of the national total (around USD 30 billion). This means that tourism amounts to 55% more than the total GDP for the primary sector; five times more than that for mining; twice that of the construction industry; and seven times greater than the figure for electricity, water and gas.
- The composition of the tourism GDP shows that restaurants and bars, together with transport and accommodation, accounted for 62.8% of the value added generated by tourism in the

period under review. The contribution of tourism value added was also significant in other industries: 49.9% in restaurants and hotels; 8.2% in manufacturing (mainly crafts); 27.9% in transport and 19.7% in leisure activities.

- In 1996, the Mexican tourism industry generated USD 14 708.2 million in business for its suppliers. In addition, for its own outputs, the tourism industry requires goods and services equal to the entire intermediate demand of agriculture, forestry and fishing; mining and electricity generation taken together. As an industry, it is highly efficient, generating MXN 1.69 of value added for each peso of input, well over the average for the Mexican economy.

- The tourism industry generates an average annual product per person employed of USD 14 600, 37% greater than the national average; average compensation paid to workers is USD 4 470 a year, almost 32% more than the average for the economy. In characteristic goods and services, productivity levels are 130% above the national average, and annual average compensation per worker is 64.9% greater than the country's economic activities as a whole.

- The tourism industry provides 6% of the salaried jobs in the Mexican economy, employing almost 1.7 million people or slightly over half the number required to produce all manufacturing output in Mexico. On this point, it is worth noting that industries involved in the production of non-characteristic goods and services employ most people within the tourism industry, at slightly over 1 100 000 people in 1996, or 66.9% of the total workforce; whereas industries producing characteristic goods and services in the same year (1996) employed almost 513 000 persons, most of whom were involved in hotels and ground transport. As regards annual average wages, these were 30% above the figure for all industries.

- Tourism consumption accounted for 18.3% of final private consumption in Mexico, and domestic tourism accounted for 77.5% of tourism consumption.

Other important aspects included the decreased in the imported component of tourism supply, this fell from 11.5% in 1993 to 9.1% in 1996, revealing an increase in the share of GDP in total supply.

Three main factors enabled the construction of Mexico's Tourism Satellite Account (MTSA):

- SECTUR fixed as a priority the development of a reliable tool for the measurement of tourism. This arose from growing user demand from both the public and private sectors and from the need to provide a better assessment of the expanding Mexican tourism economy, particularly in the light of the highly competitive nature of the industry.[100]

- The Ministry of Tourism made an overall analysis and assessment of the production and use of tourism statistics in Mexico up to 1997. This work described the information available; the methods and procedures in use and the products available. It examined which agencies produced tourism statistics, and studied the organisational and operational rules applied in

100. Despite the fact that tourism in Mexico is extremely dynamic and has recently become a driving force of economic growth, until the construction of the MTSA, the Mexican national accounts included only a partial measurement of tourism, restricted to certain aspects of tourism supply. Indeed, in the past tourism was not fully reflected in Mexico's System of National Accounts, as it was to some extent sidelined when it came to state development policy.

the production of tourism information. The report identified, evaluated and described existing technical and operational capacities, and proposed pertinent short-, medium- and long-term solutions for the creation of a TSA.

- In 1998, SECTUR and INEGI signed a number of co-operation agreements and commitments related to the development of the MTSA. This co-operative effort aims to take full advantage of the capacities of each institution, and to ensure an efficient use of resources and a permanent development of the MTSA.

Conceptual framework for the Mexican Tourism Satellite Account

The main items of these agreements and commitments were as follows:

- To create an MTSA with national coverage, taking 1993 as the base year for measurement.

- To use an integrated and coherent conceptual framework, in line with: *i)* the international definitions, classifications and guidelines set out in the WTO-OMT's 1996 *Tourism Satellite Account (TSA): Methodological Reference*; and *ii)* the 1993 System of National Accounts (SNA93).

- A commitment by SECTUR to provide the INEGI with the information required for the preparation of the 39 tables comprising the MTSA, both for the 31 states and the federal district and their different public institutions, including SECTUR, and for chambers and associations of tourism companies. In addition, in 1998, the Ministry decided to pay the expenses incurred by the INEGI in the preparation of the MTSA.

- An undertaking by the INEGI to contribute to the establishment of the MTSA through the provision of specialists in national accounts, qualified technical personnel, computer and office equipment. In addition, INEGI agreed to develop and update the data series, beginning in January 1999, at no charge to the SECTUR budget.

Work on the MTSA was concluded in September 1999. Information was presented not only for 1993 (the base year), but also for the period 1993-96, along with a series of extensions which were not initially foreseen.

It is worth noting that the development of the MTSA was facilitated by the fact that the INEGI had already adopted the main 1993 SNA recommendations; this is why 1993 was chosen as the reference year. In fact, for the MTSA, the supply of tourism goods and services was documented directly from the Mexican national accounts. Where this was not possible, due to the level of detail required, calculations were made, taking into account the methods used in the MSNA and the 1993 SNA recommendations.

It was therefore possible to identify and measure specific activities which would not otherwise have been available, either because the system of national accounts aggregates them with other activities or because the classification systems do not facilitate the detailed presentation of data. For example, it was possible to quantify the craft industry, which makes an important contribution to Mexico's tourism GDP.

All of the above ensured that the results were consistent as far as supply was concerned; this in turn allowed comparisons between the Mexican aggregates and data for other countries since

international guidelines were followed to the extent possible and wherever the basic statistics so permitted.

Together with the above, and in line with the recommendations of the WTO-OMT, important issues have been analysed, providing valuable data on tourism supply and use, production accounts, personnel employed, gross fixed capital formation for 1993, tourism consumption by type and function, and partially, the tourism balance of payments.

Remaining issues and research agenda

The 1993-96 MTSA suffers from certain limitations, of which the following are the most important:

- Regarding the output of restaurants, bars and night clubs, the Mexican national accounts record only provision of services, whereas for the MTSA, in addition to considering the value of the service, an attempt was made to identify the cost of food and drink, thus obtaining a value for the goods processed in such establishments. Therefore, there is a conceptual difference with the national accounts. Nevertheless, as research progresses, it will be possible to quantify the demand for food and drink purchased directly by visitors.

Other areas for improvement include:

- The calculation of domestic and imported intermediate demand for tourism-related industries; this will become possible once input-product and import matrices become available for Mexico.

- In the national accounts, the estimation of the consumption of fixed capital has, until now, been calculated for the economy as a whole, using aggregate industries. Therefore, in the MTSA it was not possible to quantify this variable for the tourism-related industries.

- As a complement to the MTSA, information is currently being collected to assess the feasibility of performing calculations by institutional sector. This would permit detailed comparative studies of industries and sectors.

- Plans also exist to make estimates of tourism-related industries such as communications, financial services, etc., as well as for vacation homes and time-share units. These are under investigation and the necessary basic information is being collected.

- The current study lacks the data for a series to measure gross fixed capital formation. Only 1993 is documented, and even this only partially, due to a lack of adequate data. Basic information should be obtained for the calculation of this important variable. Obviously, the construction of highways, roads and other infrastructure built specifically to facilitate access to tourist centres has to be taken into account. The necessary steps are being taken to achieve this.

- In Mexico, and perhaps in other countries, one of the primary obstacles has been the lack of adequate information permitting measurement of the demand for tourism goods and services. This must be overcome if there is to be monetary equilibrium between supply and demand. In Mexico, data were available on the structure of expenditure related to inbound and domestic tourism; these were used to estimate the amount and importance of this type of

tourism. However, there is a need for closer co-ordination with the statistical agencies so that future data collections will meet international recommendations.

- The same awareness-raising and dissemination effort will be carried out with other institutions so that the tourism foreign account can be documented and detailed. To date, the records submitted have been limited.

Due to the fact that the MTSA is based on the central national accounts framework, the necessary consistency exists to ensure that results can be used in tourism policy and the tourism industry in general, because they provide a solid basis for the analysis of:

- Tourism's contribution to the Mexican economy and how that contribution has evolved over the years.

- The relationships between the performance of tourism and other economic phenomena such as changes in the exchange rate and other macroeconomic variables.

- The results that may be used to validate or modify current tourism promotion policy as far as inbound tourism is concerned.

A work programme has been established for 2000, covering the following issues:

- Valuation at constant prices of the items corresponding to the 1993-96 MTSA.

- Restatement of the MTSA in 1998 terms, based notably on the records provided by the Mexican System of National Accounts and the 1999 economic census.

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NEW ZEALAND

Introduction

Statistics New Zealand developed and released its first Tourism Satellite Account (TSA95), covering the year ended March 1995, in June 1999. One of the major objectives of the project was to develop a methodology, identifying key data gaps and weaknesses. As the source data was deficient in a number of important areas and estimation and data modelling was required to fill the gaps, the 1995 results are regarded as experimental. Nevertheless, the TSA produced very interesting results that were widely reported in the media and used by government policy agencies.

The "experimental" TSA95 was developed in consultation with a steering committee made up of representatives from various government organisations and the tourism industry. This consultation process resulted in some changes being made to the initially planned output in order to meet the needs of key users. For example, there was considerable user interest in calculating tourism's indirect (or induced) contribution to GDP, and this was subsequently added to the scope of the project. However, from the outset the importance of maintaining international comparability was stressed, and TSA95 is largely based on the *OECD Manual on Tourism Satellite Accounts*.

Main results

Key results to emerge from TSA95 include:

- Tourism directly contributed 3.4% of New Zealand's GDP in 1995. This can be compared to the contribution of conventionally defined industries such as agriculture (5.6%), construction (3.5%) and communications (3%).

- If the indirect (induced) flow-on effects are also included – and these occur when tourism industry providers such as transport firms, hotels and restaurants purchase goods and services from their suppliers – then a further 4.6% of GDP was generated by tourism.

- Total spending in New Zealand by all tourists was NZD 9.1 billion for the year ending March 1995. Of this, 47% was spent by overseas visitors and 39% by New Zealand households travelling for recreation and pleasure, while the remaining 14% was spent on work-related travel by business and government.

- The NZD 4.3 billion spent by international visitors to New Zealand accounted for 15.8% of total export earnings for 1995.

- An estimated 4.1% of the New Zealand labour force were engaged in directly producing goods and services consumed by tourists. Another 4.2% of the labour force were indirectly engaged in supporting tourism.

Conceptual framework for New Zealand's Tourism Satellite Account

The conceptual framework of the TSA95 was developed based on the frameworks produced by the OECD and WTO-OMT as published in 1998, and does not incorporate changes in these frameworks since then. The intention is to base New Zealand's next TSA on the recently-approved official *OECD Manual on Tourism Satellite Accounts*. Accordingly, the TSA95 has adopted special or different treatments in some areas and for future TSAs these will be reviewed in the light of the latest standard.

Special treatments and definitions in the TSA95 include:

- When defining domestic visitors for the TSA95, deciding what exactly constituted a person's "usual environment" proved to be difficult. It was decided that for domestic visitors/tourists to be outside their usual environment, they must be travelling on a scheduled flight or by inter-island ferry service, travelling more than 40 kms from their residence (one way) and travelling outside the area they commute to for work or visit daily. This definition was judged to be the most practical way of identifying domestic travellers in New Zealand.

- Defining which industries were "characteristic tourism industries" also proved troublesome, as the TSA95 was constrained by the level of industry detail present in the 1994/95 input-output study of the New Zealand economy. Hence, a number of industries that for the most part did not cater to tourists were included as characteristic tourism industries because a subset of the industry was highly tourism dependent.

- Tourist purchases from retail outlets. The value added resulting from the manufacture and wholesaling of goods sold to tourists by retailers was excluded from direct tourism value added and included in indirect tourism value added. This treatment was based on our interpretation of the October 1997 OECD TSA conceptual framework, *i.e.* that a tourism industry must have a direct relationship with the tourist.

- Tourism "expenditure" excluded all non-trip expenditure. Hence, non-trip expenditure on single-purpose consumer durables such as tents and luggage was not included. Consumer durables purchased while on trip were included in tourism expenditure.

- The value added of holiday homes was included within scope. However, due to a lack of data on holiday home rentals, the imputed rental per holiday home was set equal to the mean imputed rental for all owner-occupied dwellings, as calculated in the 1995 New Zealand national accounts.

- Package tours were recorded using a "net" approach. This "net" approach records the organiser's margin as the sole output for arranging the tour, maintaining the implied direct relationship between the airline, hotel, etc., and the tourist. In other words, the tour organiser is paid a fee for organising the tour, and the tourist is regarded as having directly purchased transport, accommodation, etc., from the airline or hotel. As a result, package tour organisers were treated in the same way as travel agents.

Data sources

The TSA95 drew on a wide range of data sources. In addition to the 1994/95 input-output study of the New Zealand economy which provided supply and use tables for deriving the TSA, a range of

Statistics New Zealand business surveys were used to obtain additional data. These included the annual enterprise survey, the census of distribution 1992, the manufacturing census 1995, the rest of economy survey 1996, and central and local government financial accounts. All were used to provide information on business travel expenditure and, where relevant, on the supply of tourism commodities. Also used were the household economic survey and the international visitors survey. Information from studies by other organisations such as the New Zealand Institute of Economic Research and New Zealand Tourism, as well as companies' annual reports, was also used.

Indirect and induced tourism value added

As part of the TSA95, Statistics New Zealand also measured tourism's indirect and induced contribution to GDP.

Indirect tourism demand was defined in the (1997) OECD draft TSA as "the demand generated by the producer (of a characteristic tourism commodity) that results from the production of a good or service sold directly to a tourist". For example, if a tourist buys a meal in a restaurant, then the indirect tourism demand relating to that transaction is the amount spent by the restaurateur on raw materials to prepare the meal. Indirect value added is the value added of the producers supplying the restaurateur, for example the market gardener selling vegetables to the restaurant. Induced tourism demand refers to all of the steps further down the supply chain, *e.g.* fuel for the market gardener's tractor. Induced tourism value added includes all of the value added in the supply chain resulting from the initial purchase by a tourist.

Hence, it is possible to draw up the following equation:

Total tourism expenditure =	Direct tourism value added +
	Indirect tourism value added +
	Induced tourism value added +
	Goods and services tax (12.5% in New Zealand) +
	Imports used in production

In the TSA95, indirect and induced value added as defined above were calculated together, and are collectively referred to as "indirect value added" in the rest of this chapter.

The basis for the indirect tourism GDP estimates was a matrix of "industry by industry total requirements (direct and indirect) per unit of final demand". This came from the input-output study of the New Zealand economy for the year ended March 1995. This matrix shows how much direct and indirect output is required to be produced by each industry if a particular industry is to produce more of its own output. The 1995 input-output study also formed the basis for the estimation of tourism's direct contribution to GDP in TSA95.

Unfortunately, the total requirement matrix is not perfectly applicable to tourism. Total direct tourism demand estimates include a business and government travel expenditure component (which is part of intermediate consumption rather than final demand), and it is not appropriate to simply apply the total tourism demand estimate to the matrix. This is because a proportion of the business travel expenditure component will itself have arisen due to the (final) tourism demand of households and overseas visitors. In other words, part of business travel expenditure arises precisely due to the direct and indirect consequences of final tourism demand. If the total direct demand estimate was used in the

calculation, the level of business travel expenditure would be overstated (double counted) leading to an overstatement of indirect/induced tourism GDP. Hence, a process was developed which removed the double count over a series of iterations.

Remaining issues and research agenda

Statistics New Zealand plans to produce its next TSA, for the year ended March 1997, before the end of 2000. TSA97 will be an "official" TSA (as opposed to the "experimental" TSA95), with data gaps identified in TSA95 being filled. One of the major gaps was the measurement of households' domestic travel expenditure, which has now been addressed by a domestic travel survey conducted in 1999. Improvements are also planned for a number of other data sources. Part of this involves greater interaction with key tourism industry firms in order to obtain more accurate and detailed data. This task is made easier by New Zealand's small size; for example, New Zealand has only two major domestic airlines, one international airline and one rail company.

Another objective of the TSA97 is to directly incorporate TSA requirements into the annual input-output tables that are produced as an integral part of compiling the national accounts. This would allow much of the TSA to be completed as part of a routine process, leading to annual TSAs.

In 2000, Statistics New Zealand also plans to produce a TSA for the year ended March 1999. As an input-output study of the New Zealand economy for 1999 will not be completed before mid-2001, we propose to develop a "provisional estimate" TSA methodology for the TSA99. This will draw on the methods used by Statistics New Zealand in producing provisional estimates of annual GDP, and will incorporate reliable tourism expenditure data from the 1999 international visitor survey and the domestic travel survey. By developing a TSA provisional estimate methodology, we will then have in place a proven methodology to produce an ongoing time series of both final and provisional TSAs. The provisional TSAs, while possibly lacking the detail and/or accuracy of the final version due to not being based on a balanced supply-and-use table, will greatly improve timeliness of the results.

Issues that may be considered in future TSAs include:

- Disaggregating overseas tourism demand by type of international visitor, in particular separately identifying foreign students whose expenditure patterns will be quite different to those of other visitors.

- Expanding the monetary accounts to include non-monetary data such as tourist visits by country/region of origin, type of tourist, etc.

- Refinement of the TSA methodology used to derive tourism industry employment and gross fixed capital formation figures.

- Investigating how a regional dimension could be added.

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NORWAY

Introduction

Within the standardised concepts and standards for classification in the national accounts, there are some economic transactions that cannot easily be recognised. This is the case for transactions related to tourism. A Tourism Satellite Account is an account based on the national accounts, that has been specially adapted to throw light on transactions related to tourism.

Statistics Norway's Division for National Accounts is responsible for the compilation of the Norwegian Tourism Satellite Account (NTSA). Such accounts have been constructed for all the years between 1988 and 1996. Preliminary figures are available for 1997 and 1998. The Ministry of Industry and Trade finances the work related to constructing and updating the NTSA.

In 1996, Statistics Norway finished the revision of its national accounts based on the new international recommendations, namely the SNA93 and the ESA95. The NTSA is based on the revised annual accounts and is therefore in line with both SNA93 and ESA95. The NTSA supply-and-use tables are fully integrated with the supply-and-use tables of the national accounts, and the NTSA provides estimates for tourism consumption by purpose and by product. The NTSA follows the existing international definitions on tourism statistics.

Main results

- The estimations indicate that the contribution of tourism to GDP ("tourism GDP"), was approximately 3% in each of the years 1993-95.

- The contribution of tourism to total employment was also about 3% in each of the years 1993-95.

- In 1995, about 32% of total tourism consumption in Norway was related to non-residents' consumption in Norway; resident households' tourism consumption made up 49% of total tourism consumption. The remaining 19% of total tourism consumption related to resident industries' expenditure on business trips.

- Non-residents' tourism consumption amounted to about 5% of total exports in 1995, or close to 8% of total exports (excluding exports of crude oil and natural gas).

- Resident households' tourism consumption comprised 6% of resident households' consumption in total. For resident households, imputed rents on second homes (for holiday and leisure) generate an important share of total tourism consumption in Norway, at slightly over 10% in 1995.

- 66% of total tourism consumption in Norway was produced by "characteristic tourism industries", 18% of total tourism consumption was produced by other industries, and 4% was imported goods and services. Finally, VAT and other net taxes on products accounted for nearly 12% of tourists' consumption expenditures in total.

- Total output of characteristic tourism industries constituted 5.5% of total output in Norway in 1995, and the contribution of these industries to total employment in Norway was nearly 7%. Only 43% of total output in these industries was, however, actually sold to (and paid by) tourists. Correspondingly, sales to tourists from other industries as a share of the total output of other industries accounted for less than 1%.

Treatment of tourism demand

Tourism expenditures cover all non-residents' consumption expenditures in Norway, as well as residents' expenditures on journeys, or directly related to journeys, in Norway. In the case of non-residents, tourism consumption includes all consumption expenditures which occurred in Norway. Outlays for transport between Norway and other countries and in international waters, with carriers operated by Norwegian companies, are also included.

For residents, tourism consumption covers consumption expenditures on the trip and undertaken while staying at places outside the tourist's usual environment. Expenditures made before and after the trip, but which are directly related to the trip, are included (*e.g.* payment for a package tour). To some extent, residents travelling abroad may serve to increase tourism expenditures in Norway. This is the case, for instance, when they travel by an airline operated by a Norwegian company, or when they buy a package tour to a foreign country through a resident tour operator.

The tourism consumption is separated into: *i)* tourism consumption by resident households; *ii)* resident industries' expenditure on business travel in Norway;[101] and *iii)* tourism consumption by non-residents in Norway. The distinction between *(i)* and *(ii)* is very important in the system since, according to the national accounts' definitions, *(i)* represents final consumption expenditures, whereas *(ii)* is intermediate consumption. In the case of non-residents, no distinction is made between consumption expenditures of households and expenditures of business travellers.

For resident households, tourism consumption includes expenditures on tourism products such as accommodation and transport services, package tours and some cultural and sporting services. Expenditures on transport with own cars during the trip, *e.g.* expenditures on petrol and parking, and imputed and actual rents for owning or renting second homes, are also included as are purchases of goods such as souvenirs and some consumer durables that should only be used for tourism purposes (*e.g.* leisure boats). Purchases of consumer durables that are partly used for the purpose of tourism (*e.g.* cars) are not included.

In the case of residents, expenditures during or before the journey which would have been incurred anyway (*e.g.* consumption of food, beverages and some personal-care products) are not

101. Note that "resident industries' total expenditure on business travel" is, by definition, different from "total expenditures of individuals travelling mainly on expense of private or public domestic establishments". This is because a person who travels for business purposes, etc., may buy services and/or goods on his/her trip which are not paid for by his/her employer, but are paid for by his/her own household.

recorded as tourism consumption. The reason for this exclusion is that main aim of the NTSA is to show the importance of tourism for the Norwegian economy.

In the case of resident industries' expenditures on business travel in Norway, the NTSA includes tourism consumption of accommodation services, restaurants or other food- and drink-serving services and passenger transport services.

Measurement of transfers other than tourism consumption expenditures which were undertaken for the purpose of tourism (*e.g.* tourism collective consumption and tourism investment/financial transactions), is not included in the NTSA.

Treatment of tourism supply

The supply side describes activity[102] in characteristic tourism industries, as well as supply (output by resident producers and imports) of products characteristic for tourism industries.

The definition and classification of characteristic tourism industries and tourism products can cause problems. This is because tourism is a demand side-concept related to tourism activities and expenditures: visitors purchase many products produced by many industries. Theoretically, nearly all products could be sold to visitors and, therefore, most industries could be directly or indirectly involved in tourism. The degree of relationship to tourism for a particular industry will normally depend on the level of aggregation in the classification system.

The classification of tourism industries is based on the industry classification used in the national accounts.[103] Basically, all the industries in the national accounts which mainly produce passenger transport services, operation of hotels and restaurants and specific culture and recreational services have been classified as characteristic tourism industries. More detailed information about the industry specification is provided in the bibliography.

Data sources

Statistics Norway publishes statistics for overnight stays at hotels and camping sites for residents and non-residents. Since 1991, it has also undertaken regular holiday surveys among resident households; these cover trips in which more than three nights are spent away from home. The Institute of Transport Economics has produced statistics on non-residents' visits and overnight stays in Norway since 1995.

This information on physical flows has to be linked with monetary information on tourist expenditures per night and per trip. A survey of expenditures for visitors and non-visitors travelling in Norway for leisure or holiday purposes was carried out in the summer of 1991 (Jean-Hansen and Ryntveit, 1992). Business travellers were not included.

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102. Figures for industries output, intermediate consumption, value added, compensation of employees, consumption of fixed capital, operating surplus, gross fixed capital formation and different employment figures) are presented. Some values are presented in both current and constant prices.

103. The classification of industries in the Norwegian national accounts is based on the European standard for classification of industries; NACE Rev. 1.

A new survey of visitors and non-visitors travelling in Norway for leisure or holiday purposes was carried out in the summer of 1995 (Haukeland and Grue, 1996). The survey was followed by a similar survey in winter 1996, in addition to a survey of participants in courses and conferences in late 1996 (Jean-Hansen, 1996).

Other important information relating to tourism consumption is taken from the supply-and-use tables of the national accounts and from household consumption surveys.

However, a number of weaknesses remain in the existing data sources and some of the estimations rely on expert judgements.

Input-output analyses of tourism in Norway

In analysing data on tourism supply, it is important to bear in mind that a substantial share of the total output of characteristic tourism industries is sold to non-visitors. On the other hand, visitors purchase products which are not produced by set of the industries defined as characteristic tourism industries. Data for tourism supply do not therefore tell much of a story unless the link between tourism supply and tourism demand can be demonstrated.

Thus, for each year, the NTSA supply-and-use tables are transformed into an NTSA industry-by-industry matrix. This matrix shows the direct relationship between industries and between industries and final consumers, including the direct relationship between tourism supply and tourism demand. The contribution of tourism consumption to GDP and employment is calculated on this basis.

The model indicates the tourism consumption delivered by different industries and the tourism share in total output. For the calculation of the share of tourism in GDP, it is assumed that input shares in output are the same for each industry, regardless of whether the output is purchased by visitors or non-visitors. These assumptions and calculations are made at a detailed industry level.

For 1993, the NTSA industry-by-industry matrix was used to analyse the indirect effects on the economy of changes in tourism demand.

Package tours

A package tour comprises a number of components (accommodation, meals and transport services, etc.). Within the TSA, package tours can be treated in two different ways (*e.g.* the "net" or "gross" treatments). The COICOP[104] contains a single consumption group for package tours.

Norway treats package tours in the national accounts on a gross basis; for consistency, a similar method is used in the NTSA. However, a supplementary set of tables based on a net recording of package tours is also presented. It should be noted that in the case of Norway, tour operators are basically involved in sending residents out of the country; only a small proportion of the packages sold by resident producers is related to holidays that take place in Norway. Therefore, the problem of gross vs. net recording of package tours is not an important issue for Norway.

104. Classification of individual consumption by purpose (COICOP). This covers individual consumption expenditure by households, non-profit institutions serving households and general government.

Future work

The aim is to update the tourism accounts every year. Data for 1997, together with preliminary figures for 1998 and 1999, will be released in August 2000. Currently, Statistics Norway is involved in an ongoing project relating to the regionalisation of the NTSA. This project is financed by the Norwegian Research Council and the results will be presented in 2001.

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POLAND

Introduction

The economic and political transformations which have been taking place in Poland since the late 1980s have significantly influenced the development of the tourism industry. During the last ten years, the number of foreign visitors arriving in Poland and Polish citizens travelling abroad has increased significantly. Tourism is therefore receiving more and more attention as a potential source of income and employment. However, traditional indicators were insufficient to measure the economic impact of tourism on the national economy.

The Central Statistical Office (CSO) is quite advanced in implementing the new System of National Accounts adopted in 1993. SNA93 introduced the notion of satellite accounts to measure issues which cannot be adequately measured in the central system; these include tourism, health, education and the environment.

The growing importance of tourism, on the one hand, and SNA93 implementation, on the other hand, stimulated research into the development of a Polish Tourism Satellite Account (PTSA).

A seminar on Tourism Satellite Accounts was organised in 1996 to examine existing methodologies and the basic statistical data sources necessary to implement a TSA. The seminar was attended by researchers from various Polish institutions (the Central Statistical Office, the State Sport and Tourism Administration, the Institute of Tourism, the Polish National Bank, the Warsaw School of Economics and other institutions) as well as by OECD experts.

The developmental work has been financed by PHARE funds and through sales of publications of the Central Statistical Office and the State Sport and Tourism Administration (see bibliography).

Conceptual framework for the Polish Tourism Satellite Account

The PTSA is based on the 1991 *OECD Manual on Tourism Economic Accounts*. However, the Polish TSA has been slightly modified and is limited to four tables covering the following areas:

- Tourism characteristic products use and supply account (Table 1).
- Tourism characteristic activities production and income generation account (Table 2).
- Tourism consumption expenditure (Table 3).
- Employment in tourism characteristic activities (Table 4).

The original method has been supplemented by the product account for tourism characteristic commodities, which provides information on tourism characteristic activities' total output and their share in the domestic supply of the relevant tourism characteristic products. The information enables a more precise calculation of tourism value added. The set of four tables was supplemented by two worksheets: the above-mentioned product account and a table showing domestic supply of tourism characteristic products.

The PTSA uses the NACE and CPA classifications employed in the national accounts. The basic tourism-related concepts and definitions follow the recommendations of the World Tourism Organisation (WTO-OMT) and the OECD relating to the definition of tourism demand, the concept of a "visitor" and the concept of tourism expenditure.

The concept of tourism expenditure includes expenditure of same-day visitors and tourists travelling either as private household members or as government or business representatives. It encompasses a wide variety of items, ranging from the purchase of goods and services closely related to the trip to consumer durables bought for personal use or as gifts and souvenirs for relatives and friends. In addition to payments made directly during the trip, tourism expenditure includes all prior outlays necessary for the preparation of the trip or purchases directly related to a trip even if such purchases are made after the trip (insurance, transport fares, guidebooks, etc.). The concept excludes expenses and purchases intended for resale or that involve capital-type transactions. International tourism receipts represent total tourism expenditures of inbound international visitors, together with payments for international transport made on behalf of resident carriers. International tourism expenditures consist of total tourism expenses of outbound visitors, together with payments for international transport on behalf of non-resident carriers.

Serious theoretical and practical problems have emerged due to the important commercial activities which exist in the border zone. It has therefore been decided to exclude wholesale purchases and those meant for resale, and to leave all other spending on shopping. Furthermore, in order to improve the analytical relevance of the PTSA, separate entries for international same-day visitors and tourists have been put in place to enable a closer scrutiny of the non-tourism portion of their expenditures.

Data sources

The selection of statistical information for the PTSA was ruled by two basic principles:

- There was no possibility of carrying out special surveys.
- The data utilised should conform to the greatest extent possible with the national accounts.

After a thorough examination of available statistics, the following data sources have been selected as the most credible and comprehensive:

- Data concerning households' travel were supplied by the random sample survey on participation in tourism and culture covering the period October 1994-September 1995. This survey provides detailed information on long domestic holidays (five days and more) and outgoing tourism, as well as basic data on short domestic holidays (two to four days).
- The main body of data describing demand of foreign visitors to Poland was supplied by a sample survey of foreigners' expenditure during their visit to Poland in 1995.

- The above-mentioned surveys were supplemented by balance of payment data on foreign travel and transport. In the case of travel, the data cover four items: private travel, business travel, medical and educational exchanges. In Poland, the item "private travel" is the turnover of travel agencies since the account is based on banks' reporting. It therefore excludes the cash turnover between Polish and foreign economic entities. The travel item also contains credit-card payments; this item was omitted from the PTSA to avoid double counting. In the case of transport data, data on exports of passenger air services has been utilised in the PTSA.

- The data on tourism demand generated by government/business travel come from the national accounts. Information is provided on the volume of expenditure incurred by such travel and (partly) on the composition of such travel (comprising indirect consumption of products considered as tourism characteristic).

Other national accounts have been used for compilation of the supply side of the account and to estimate tourism employment. The only modification to the data supplied by the National Accounts Department concerned the estimation of the total supply of passenger air transport services. A ratio of 90% of total air transport output was used; this ratio was indirectly confirmed by balance of payments data, where the relationship between exports of passenger and freight transport services was similar.

The basic problem hindering the adoption of financial and employment data in the satellite account was the inadequate level of disaggregation of the data and the estimation of the associated value added and employment. This is due to the fact that the representative sample of small enterprises was selected at a higher level of classification, making an appropriate estimation for the satellite account difficult.

Main results

In 1995, total tourism demand represented 2.2% of total consumption. Foreign visitors represented the biggest share (around 37%), of which about 50% were same-day visitors. Business travel by residents amounted to 35% and travel by households to 28%.

The breakdown of tourism consumption by type of commodities (net version) revealed that the largest share went to transport services (25%), accommodation services (16%) and catering services (13%). Entertainment and cultural expenses amounted to only 2%, indicating that these items do not play a significant role in tourism demand in Poland.

The PTSA highlighted the importance of individual users. For accommodation services, the majority of income came from domestic visitors (72%), with the biggest share attributed to domestic business travellers. The share of household consumption was lowest, amounting to 20%. For catering services, households were the major user group (50%). For transportation services, business travellers represented the largest share (59%).

The total output of the tourism characteristic activities constituted 6.7% of total economy output at basic values. Among the characteristic activities, land transport had the highest ratio (3.14%), with air transport (0.18%) and travel agencies/tour operators services (0.3%) at much lower levels. It is significant that 34% of land transport output came from railways. The share of hotels and restaurants in the total economy output amounted to only 0.66%, one-third of which was attributed to hotels and related accommodation, the remainder to restaurants and catering services. The output of the entertainment, culture and sport activities amounted to about 1% of the total economy output.

The value added of tourism characteristic activities in total value added amounted to about 5.4%. The major share (52%) was attributed to land transport, about 18% to recreational, cultural and sporting activities, 17% to support and auxiliary transport services, and 14% to travel agencies, tour operators and other tourism-related activities. Hotels and restaurants produced 8.4% of value added generated by all characteristic activities, of which 44% was accounted for by hotels and other short-stay accommodation, and slightly more (56%) by restaurants. 37% of land transport was generated by rail transport, which produced 17% of the total value added of tourism characteristic activities (1% contribution of total economy value added). Water transport produced only 2% and air transport 1.5% of the total tourism characteristic activities' value added.

Estimated tourism GDP (in purchasers' prices, PLN million) and its share in the total GDP in Poland was as follows:

	Tourism GDP	Share in total GDP
Hotels and other short-stay accommodation	1 065 781	0.30
Restaurants and other catering services	520 684	0.18
Railway transport	690 621	0.24
Air transport	174 100	0.06
Travel agencies and other tourism activities	101 496	0.09
Total	**2 807 651**	**0.99**

Remaining issues and research agenda

The results presented above should be treated with care due to the experimental character of the PTSA. This cautious approach is justified by the imperfect nature of the statistical sources used. The experimental PTSA was, therefore, a compromise between researchers' intentions and the limitations of data availability. The recent approval of the *OECD Manual on Tourism Satellite Accounts* sets out a number of new methodological challenges which will be faced in future development efforts.

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SPAIN

Introduction

This section describes the experience of the *Instituto de Estudios Turisticos* (Tourism Studies Institute), of the State Department of Trade, Tourism and Small and Medium-sized Enterprises, in drawing up a Spanish Tourism Satellite Account (STSA). An analysis is made of the ongoing work being carried out jointly by the *Instituto de Estudios Turisticos* (IET) and other state administrative bodies to enable the National Statistics Institute (INE) to present the first STSA results by the end of 2000.

IET analyses the socio-economic aspects of tourism. It runs two statistical surveys. The first examines the tourism movements of the Spanish themselves (*Movimientos turisticos de los españoles* – FAMILITUR), notably their tourism behaviour, including at a regional level. The second follows tourist movements at borders (*Movimientos turisticos en fronteras* – FRONTUR) and examines the behaviour of the non-residents during their visits to Spain. IET also analyses other sources of information, such as the balance of payments, consumer and hotel price indexes, the hotel occupation survey and employment, etc.

During 2000, IET will put in place an expenditure survey to quantify and break out non-residents' expenditures in Spain and residents' expenditures abroad.

Several factors encouraged IET and other bodies in their decision to set up a TSA to better evaluate the impact of tourism on the Spanish economy. These include:

- The continuing growth of the tourism industry and its economic importance for Spain, one of the leading receiving countries in world.

- The development of an agreed conceptual framework for the TSA by the main international tourism-related bodies, notably WTO-OMT, OECD and Eurostat.

- The publication in 1999 of the first national accounts based on the new European System of Accounts (ESA95).

At the beginning of 1999, INE, the Bank of Spain and IET created a working group on the TSA, with the aim of drawing up a Spanish Tourism Satellite Account by the end of 2000.

The new national accounts based on ESA95 constitute the reference framework for the development of the TSA in Spain.

Demand

Consumption expenditure

The calculation of the total consumption expenditure and its breakdown by expenditure category (accommodation, transport, restaurant services, etc.) and by type of user (visitors, tourists and same-day visitors), as well as by institutional sector, is dependent on the availability of the following data:

- *Domestic tourism:* The FAMILITUR survey is the only existing source of information. In addition, INE is examining the changes that need to be introduced in the tourism module of the household budget survey.

- *Inbound and outbound tourism:* INE, the Bank of Spain and IET have designed a new survey to collect information on non-residents' expenditure in Spain and of residents' expenditure abroad. The survey, tested in 1998, will provide information on the general expenditure level and its components, paying special attention to package tours. IET will begin fieldwork on a new expenditure survey in June 2000. To meet the information needs of the TSA, INE has undertaken to develop a statistical survey on the expenditure structure of visitors.

IET has evaluated and compared the main statistical sources on tourism expenditure developed by the autonomous communities as well as the results of FAMILITUR, FRONTUR and the balance of payments.

Expenditure on business trips

Expenditure on business trips is an important variable, which will be included in the design of INE's new annual service survey and may be included in the business industry and the labour cost surveys.

Package tours

In co-operation with some of the autonomous communities and Tourespana, IET has contacted a number of tour operators to determine the expenditure structure of the services offered in the package tours.

Supply

INE has produced the new national accounts statistical series based on ESA95. The source table identifies the productive sectors, regardless of whether the production is principal or secondary, while the destination table gives a detailed product breakdown enabling the inter-relationships between products and activity sectors for the whole economy to be identified. The same operation is carried out for the products and activity sectors characteristic of tourism in order to determine the size of the tourism economy within the economy as a whole.

In recent years, INE has introduced many significant improvements in services and tourism statistics.

Structural statistics

As part of the work on service statistics, INE has analysed the activities of hotels (1991, 1992 and 1996), restaurant services (1989 and 1994) and travel agency services (1993 and 1997).

Using the new annual service survey, INE will analyse the structure of the service sector as a whole, examining the productive sectors of tourism services through specific modules in the survey. This information will be available18 months after the beginning of the reference period and will provide detailed information for both the national accounts and the STSA.

Cyclical statistics

The improvements to the hotel occupation surveys will allow better monitoring of price trends in this area, as well as measurement of the activities of tour operators. This new information, together with other surveys, will significantly improve the quantity and quality of the supply-side information required for the compilation of the TSA.

Package tours

A better identification of the different components of package tours will enable quantification of the amounts to be imputed to the various sectors of productive activity.

Employment

IET has followed the methodology of the OECD's employment module to carry out an initial study of the labour market in the tourism industry, and has started to built a series of tables using information available from the survey of the active population, the survey of labour trends, social security information, the survey of wages in industry and services, tax records, companies registered for social security purposes and the business registry. This system will provide the information required to complete the employment table of the TSA.

SWEDEN

Introduction

The Swedish project to produce a Tourism Satellite Account (TSA) was started in 1995. The Swedish Tourist Authority, which is the body responsible for tourism statistics in Sweden, wanted to measure the importance of tourism in the Swedish economy. The traditional mix of indicators on hotels and restaurants and transport activities did not provide the full picture of the tourism "industry" and was criticised for both under- and over-coverage of the industry. Therefore, the Tourist Authority asked Statistics Sweden to calculate a national TSA. The primary objective of the Tourist Authority was to be able to compare the tourism industry with other industries in the Swedish economy and to measure its share of GDP.

Two persons from the National Accounts Division of Statistics Sweden were assigned to the project. A reference group was set up, associating the University of Umeå, the Tourist Authority, the Tourism Industry, together with the head of National Accounts and a tourism statistician from Statistics Sweden.

The calculations were carried out in 1996 for the reference years 1990-94. The project was conducted as a pilot study in order to test if the statistical information was of sufficient quality to compile a TSA. Since that experimental phase, calculations have been made for the years 1995, 1996 and 1997. However, results for the year 1997 are not yet completed due to the introduction of SNA93 and ESA95 in 1999.

The same methodology has been applied throughout the period in order to maintain the consistency of the time series. An overall evaluation of the methods and data used will be implemented in 2000, at which time the latest WTO-OMT and OECD methodologies will be used.

Main results

The share of the tourism industry in GDP in 1996 was estimated to be 3.3%, an increase of 0.1% over the previous year. This share has remained fairly stable over the period under review; in 1990, it amounted to 3.1%.

Hotels and restaurants are the largest contributors to the value added of the tourism industry. This sector produced 23% of total tourism value added. Second homes represented 17%, and air transport 16% of total tourism industry value added. The retail trade also played an important role, with a 12% share of tourism value added.

In 1996, Swedish households generated 50% of tourism demand, business travel represented 26% and the share of foreign visitors amounted to 24%. These figures are also fairly stable, the biggest

change since 1990 concerns business travellers, whose share declined from 29% in 1990 to 24% in 1994, with a slight increase to 26% in 1996.

Data sources

Two main sources of data were used in the calculations: *i)* the travel survey carried out by Statistics Sweden; and *ii)* the Swedish travel database.

The travel surveys follow the travel activities using different transport modes of a sample of Swedish households (*e.g.* the number of kilometres households travelled by car for leisure reasons).

The Swedish travel database (TDB) monitors the travel behaviour of Swedes inside and outside Sweden. It is based on a monthly telephone survey of 2 000 persons. The TDB provides information on different aspects of travel. However, it does not provide information on the number of kilometres travelled and focuses instead on values (*e.g.* How much money have you spent on food while travelling?).

The two surveys provide basic information on kilometres travelled, purpose of travel and expenditure while travelling. They are about to be merged into a single survey, in which Statistics Sweden will include questions which were previously asked in the TDB. It should prove easier to use information originating in a single survey.

Other sources used include the national accounts, the accommodation statistics and the travel balance, which provide information on foreigners' total expenditures in Sweden.

Methodology

Production is estimated from the demand side. For some products, all production has been treated as tourist consumption (*e.g.* accommodation and passenger air transport). However, for the majority of products, only part of the supply is accounted for by tourist consumption. Petrol provides a useful illustrative example: information collected through the travel survey indicates the number of kilometres driven by households and the purpose of the trip. Once the length of the trip is known, it is possible to calculate the quantity of petrol used, using average consumption of petrol per kilometre.

One tricky problem has been the breakdown of foreign visitors' expenditures on goods and services. Information was provided by a consultant specialising in this field, but the figures should be treated with caution as no reliable statistical data were available.

Once tourism demand has been attributed to the various goods and services using all the available data sources, the products are aggregated in such a way that each product group corresponds to the typical output of an industry in the national accounts. The values are reduced by the amount of product taxes in order to match the output figures shown for the different industries in the national accounts at basic prices. The level of tourism demand is then compared to the total level of output of the industry in question; this permits calculation of the tourism share. It is assumed that the value-added share is the same as the production-value share, thus enabling the calculation of the tourism value added for the industry. The share of GDP is estimated by adding all industries together. Employment figures for the tourism industry are calculated using the same methodology.

The model is of course a simplification of the real world. One of the assumptions made is that all products are produced in the characteristic industry, *i.e.* no secondary output exists. Of course, this is

not true, but it was judged that constructing a more complex model would affect the results only marginally.

Remaining issues and research agenda

A major issue in implementing a TSA is to operationally define the "usual environment". No clear international recommendation exists. Furthermore, the "usual environment" differs from one person to another. For the Swedish project, it was decided that a distance of 50 km (one-way) was an appropriate threshold.

Another troublesome issue concerns second homes. It was decided that second homes should be included – as they represent an important share of tourism in the Nordic countries – as long as the visitor stays outside his usual environment.

The TSA is a new statistical product and suffers from a number of teething problems. International recommendations on the TSA have been published since the Swedish TSA was developed, and there is a need for better basic statistics. Some areas where further development should be made are listed below.

Value added from manufacturing industry should be excluded. The production of goods sold to travellers should be included. Another area of research concerns the purchases by non-resident households of various goods and services. The border survey which will be carried out in 2000 should improve the quality of information regarding foreign visitors' consumption behaviour.

Another issue relates to the quality of the data received, especially that coming from the tourist database. The figures have been adjusted downwards in line with "telescoping theory". Questions from the TDB have now been included in the travel survey; this should provide more reliable data.

Sweden's introduction of SNA93/ESA95 and the implementation of new statistics in the national accounts mean that the output values and value added for different industries in the new national accounts have changed. This will, of course, affect the TSA, and provides another reason for revising the current TSA.

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SWITZERLAND

Introduction

Switzerland has a long-standing tourist tradition and tourism has always been of key importance, particularly for decentralised regions where employment opportunities are more limited than in urban centres. As a result, analysing tourism and its impacts has always been a top priority for politicians and researchers.

Switzerland has data on supply, number of nights and arrivals in hotels and health spas going back to 1934. Since 1979, the hotel-related industry has been added to these figures (holiday homes and apartments, camping and caravaning, youth hostels and group accommodations). These statistics provide information on the number of nights and arrivals for each country of origin. They provide a physical evaluation of tourism and its geographic divisions, but do not provide information on qualitative, economic or financial criteria.

Even in the early days of tourism statistics, there was a need to identify the financial contribution of tourism to the economy. The first estimates were carried out as part of the tourism balance and continue to be conducted today by the *Banque Nationale Suisse*. These estimates are used to draw up the tourism balance which, among other things, is part of the balance of payments. To this end, the relevant tourism flows are defined using current definitions from the balance of payments manual, and the financial equivalents are estimated. However, this vision is rather limited and only looks at international tourism (flows into and out of the country). Domestic tourism – which accounts for almost half of all nights spent in paying accommodation in Switzerland – is omitted and many of the indirect and induced implications of tourism have been neglected.

Starting with the assumption that a general overview is lacking if one only uses physical indicators such as accommodation statistics and financial indicators such as the tourism balance, a broader analysis has become essential. The aim is to place the analysis of tourism into a macroeconomic framework in order to enable comparisons to be drawn with more traditional business sectors such as agriculture and banking.

The conceptual work undertaken by the OECD led to the construction of Tourism Economic Accounts (TEAs).[105] Switzerland participated in these methodological discussions and published a retrospective analysis[106] using this method for the years 1990 to 1995.

The main problem with measuring the impact of tourism lies in the fact that this business is embedded in other economic sectors. Since tourism cannot be identified as a separate business sector,

105. OCDE (1991), *Manuel sur les comptes économiques du tourisme de l'OCDE*, OCDE, Paris.

106. Federal Statistical Office (1998), *L'importance du tourisme dans l'économie nationale; vers un compte satellite du tourisme*, Berne.

but rather forms part of a large number of sectors, the Tourism Economic Accounts have intentionally limited the study to a small number of economic sectors with an obvious link to tourism. This restriction nevertheless detracts from the aim of achieving an overall vision and the possibility of comparing tourism with other business sectors. In order to obtain a full analysis and ensure consistency with the System of National Accounts (SNA93), it was therefore necessary to go beyond the TEAs and attempt a more exhaustive study.

Ideally, all impacts of all businesses linked to tourism should be measured for all economic sectors concerned. The main problem lies in defining and measuring these impacts. This task was taken on by the Statistical Working Party of the OECD's Tourism Committee. A great deal of effort was spent in discussing the relevance of definitions and finding an adequate way of measuring the impacts of tourism in order to develop Tourism Satellite Accounts (TSAs). While these discussions have led to significant progress based on the concept of TEAs, they are by no means completed. However, the conceptual maturity of Tourism Satellite Accounts is sufficient to proceed with exploratory applications.

Conceptual framework for the Swiss Tourism Satellite Account

The results below give an overview of the direction taken by Switzerland in drafting its Tourism Satellite Account, the problems encountered and the solutions developed. Since this project is still underway, it is not yet possible to give a full presentation or provide figures. Initial results should be available at the end of 2000.

The Swiss Tourism Satellite Account project is based on the *OECD Manual on Tourism Satellite Accounts*. Since such a project requires vast amounts of statistical data of all types, it seems appropriate to first examine the available data, the frequency with which they are collected and the level of detail in order to draw up a comparative table between what currently exists and what is called for in the *Manual*.

This initial overview is to be recommended from more than one point of view. First, it provides insight into what is possible with currently available statistics. In addition, it provides an opportunity to determine the limits of the project. These limits need to be made clear in order to ensure optimum interpretation of results and their inter-sectoral and international comparability. For Switzerland, it has become clear during this preliminary stage that some restrictions should be planned for when compared to the general model of the Tourism Satellite Account. Finally, by highlighting statistical shortcomings, the overview offers the option of preparing for future needs by taking adequate steps (implementing new surveys, etc.).

Once these shortcomings have been identified, solutions must be found – sometimes on an *ad hoc* basis – to achieve results while ensuring the system's consistency. It is essential for Switzerland that the conceptual framework used by the national accounts be respected.

On a practical level, the Federal Statistical Office and the Economic Secretariat[107] have been jointly allocated two experts to undertake an initial analysis. The first specialises in macroeconomic analysis and Input-Output tables, and the second has experience in regional impact studies on tourism. The representative team is thus combines a theoretical and a practical foundation, an additional safeguard for a project of this nature.

107. The body responsible for developing domestic policies for certain key sectors of industry and trade.

Remaining issues and research agenda

Generally speaking, Switzerland is interested in measuring all the impacts of tourism – direct, indirect and induced – in order to obtain a more global vision of tourism. However, in light of the scope of the work, it has been decided to limit the initial stage to the *direct* impact of tourism. This is in line with the OECD concept. The projected analysis is therefore based on Tables 1, 2, 4, 5 and 6 of the OECD *Manual* and a table including investments in equipment and construction for several key sectors of the tourism industry. Once this experience has been gained, a more ambitious TSA may be attempted.

In order to draw up Tables 1 and 2 as presented in the OECD *Manual*, it is necessary that countries have sufficiently detailed make and use matrixes. The ideal would be to have these matrixes at establishment level. However, since there is no matrix with this level of detail, a more aggregated level must be used.

As far as demand is concerned, current data is insufficient. It is not possible to obtain information on the characteristics of day-trip tourism, nor on the induced effect of visits to family and friends or of the use of second homes. In addition, a clear-cut measure of tourism demand (products required and tourism expenditures) broken down by type of consumer (residents, non-residents, households, companies and governments) is not easy to obtain and is currently lacking in Switzerland.

While sufficiently detailed national data on demand is unavailable, a proposal has been made to use various regional impact studies in the tourism field. An essential precondition for using this information is the ability to adjust such regional results at national level. This is only possible if at least one national study exists, making it possible to adjust regional results for estimates of the TSA. The principle applied is to deal with the lack of macroeconomic data by using microeconomic data adjusted by means of coefficients. The feasibility of such an approach needs to be established but it could prove useful.

Since actual calculations have not yet been made, it is too early to judge the relevance of the decisions made for this first estimate of the TSA. The Federal Statistical Office and the Economic Secretariat are nevertheless confident that the methodology will provide a new instrument for analysis in the long term, even if the statistical basis is incomplete. The step-by-step implementation of the method means that the Federal Statistical Office and the Economic Secretariat have been able to launch the project; if they had been obliged to wait for data sources that satisfied all the requirements, this would not have been possible for several years. It is important that such obstacles should not be allowed to stand in the way of progress, and that solutions be found that will enable the envisaged goal to be attained in stages. The conceptual efforts undertaken can only benefit from the experience gained from even partial implementation.

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UNITED KINGDOM[108]

Introduction

Tourism spending in the United Kingdom in 1995 was estimated to total some GBP 27.5 billion (USD 43 billion), excluding tourism day trips taken by UK residents. This estimate was derived, as it is every year, from two major surveys covering international tourism and domestic tourism. Every year, the British Tourist Authority puts the total tourism spending figure alongside the total GDP for the United Kingdom. This is no more than a numerical comparison because total tourism spending will be considerably greater than the value added by tourism. It is the value added by any industry that is needed in order to estimate that industry's share of GDP. Nevertheless, the comparison of total tourism spending with total GDP over time gives an indication of trends (provided that the relationship between turnover and value added is reasonably stable). Looking at the ratio of total tourism spend to GDP between 1997 and 1998 (British Tourist Authority, 1999) we can see that the tourism ratio fell between the late 1970s and the early 1980s, before rising over the next ten years. The ratio had levelled out by 1995 (having regained the level of the late 1970s).

The numerical value of the tourism ratio in 1995 was 3.8%. Estimates derived from the UK national accounts and input-output tables for 1995 suggest that the value added of the main tourism-related industries (hotels, restaurants, bars, recreation activities, etc.) totalled GBP 17.6 billion (USD 28 billion) or 2.9% of GDP. The coverage of this value-added calculation is not the same as the coverage of tourism spend. However, the two approaches seem to give results for value added and turnover, respectively, that are broadly consistent, so it might be said with some confidence that tourism value added in 1995 was of the order of 3% of UK GDP.

The publication of a report that suggested that the gross output of travel and tourism in the United Kingdom was USD 141.6 billion and 12% of GDP (World Travel & Tourism Council, 1995) therefore caused considerable interest in the United Kingdom. The figures were quoted in Parliament as evidence that "the UK travel and tourism industry's contribution to the economy was much larger and created more jobs than previously estimated" (speech by Mr. McAvoy, House of Commons, 20 November 1995).

TSA feasibility study

The marked difference between the WTTC's figures and those derived from the regular tourism surveys clearly deserved close study. The WTTC approach was "designed to be the methodological equivalent of the future national satellite accounting system for travel and tourism being developed by the OECD, the United Nations, the World Tourism Organisation and other international and national statistical bodies" (World Travel & Tourism Council, 1995). As part of their review, the British

108. The United Kingdom's experience relates to the feasibility of a Tourism Satellite Account and not to the implementation of the tool itself.

Tourist Authority and its sponsoring department, the Department for Culture, Media and Sport (DCMS), commissioned Cambridge Policy Consultants and Geoff Broom Associates in 1998 to undertake a study into the feasibility of compiling a Tourism Satellite Account (TSA) for the UK. Although there are well-established tourism surveys in the United Kingdom, a TSA had not been compiled. Also, although the UK national accounts were well established, the United Kingdom had not been able to complete the tourism economic accounts developed by OECD. The feasibility study was completed in 1998 and is available on the DCMS Web site (http://www.culture.gov.uk/tourism).

The consultants confirmed that one of the purposes of a TSA arises because the relative importance of tourism is not apparent in the existing national accounts. A TSA would also draw out tourism aspects from the national accounts and help to clarify the role of tourism and its linkages within the economy. The potential uses of a TSA include:

- Comparable international accounts.
- Insights into tourism and its role in the economy.
- Framework for models measuring the economic impact of tourism developments.
- Identify employment, tourism capital investment, productivity measures and linkages between them.

There are significant gaps in the information base needed to produce a TSA in the United Kingdom:

- Expenditure on consumer durables not related to a specific trip (*e.g.* luggage, cameras).
- Capital and revenue costs on second homes, caravans, boats, etc., retained and used for more than one trip.
- Revenue expenditure by public bodies.
- Revenue expenditure by central government on tourism-related activities.
- Capital investment in tourism by the private sector.
- Capital investment in tourism infrastructure.
- Expenditure by UK residents on goods for use on tourism trips abroad.
- Expenditure by carriers in the United Kingdom relating to outward and inward tourism movements.
- Accurate figures on some aspects of the supply of accommodation.

The consultants also noted that there was some scope for greater harmonisation between tourism surveys. A range of options was presented. The cost of producing a full TSA was estimated at GBP 160 000-200 000 (USD 250 000-350 000). In addition, there would be "substantial" costs arising from the increases in sample sizes. These would be needed to enable robust estimates to be produced at a greater disaggregation of tourism spending and supply than is presently possible. The cost of updating a TSA was estimated at GBP 50 000-60 000 (USD 80 000-100 000).

Research agenda

The UK Government's strategy for tourism (Department for Culture, Media and Sport, 1999) contains a commitment to examine the relative costs and benefits of compiling a satellite account for tourism in the United Kingdom that complies with emerging international standards set by the European Commission and reflects the convergence of the approaches taken by the OECD and the World Tourism Organisation. There are a number of additional factors to consider, including how to maximise the wealth of existing tourism data to better meet the needs of the tourism industry. Also, national indicators of sustainable development are being developed to help measure progress in achieving sustainable tourism, looking at the balance of economic, environmental and social costs and benefits (*e.g.* Department for the Environment, Transport and the Regions, 1999). As of March 2000, no decision had yet been taken on building a TSA for the United Kingdom.

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UNITED STATES

The US Travel and Tourism Satellite Accounts (TTSAs) provide a framework for analysing tourism expenditures in a systematic way that links tourism demand expenditures to industries that produce tourism goods and services in the United States. The TTSAs were developed by the Bureau of Economic Analysis (BEA), with the support of the Tourism Industries Office of the International Trade Administration, US Department of Commerce to address questions about the growth and importance of travel and tourism.

Estimates of the US Travel and Tourism Satellite Account

The prototype US TTSAs, published in July 1998,[109] integrate information on the flows of commodities that are related to travel and tourism activities, but that are not identified in the standard presentation of the US national income and product accounts (NIPAs) and input-output (I/O) accounts. They extend the I/O accounts, measuring an economic activity (travel and tourism) undertaken by only a subset of purchasers (visitors) and involving only a subset of purchases (tourism demand). The TTSAs define travel and tourism as the economic activity generated inside the United States by "visitors" of all types – for business and pleasure, by residents and non-residents alike – and outside the United States by US residents. They rely primarily on the WTO-OMT and OECD definitions of visitors, tourism and tourism expenditures.

Estimates from the 1992 TTSAs point to the importance of travel and tourism in the US economy: *i)* value added in travel and tourism represented over 2% of US GDP; *ii)* expenditures on travel and tourism accounted for 5% of US GDP, the largest category of expenditures being passenger air travel services; and *iii)* travel and tourism represented more than 3% of total employment in the United States, paying an average compensation of USD 21 400 per year per tourism employee. Updated estimates for 1993-97 will be available in spring 2000.

Extensions of the US Travel and Tourism Satellite Account

When the prototype TTSAs were prepared, BEA noted that two important types of expenditures were excluded: *i)* the portion of the services of owned and leased autos and trucks associated with tourism; and *ii)* the portion of the services of second homes associated with their owners' tourism. Both motor vehicles and second homes represent important categories of final demand expenditures that provide tourism-related services. The tourism-related services that flow from these expenditures are not observed market transactions.

109. Sumiye Okubo and Mark A. Planting, "US Travel and Tourism Satellite Accounts for 1992", *Survey of Current Business*, 78, July 1998, pp. 8-22.

BEA developed a framework to extend the TTSAs to include the tourism-related services from motor vehicle (MVS) and tourism-related services from second homes.[110] This extension improves the estimates of travel and tourism activity in the United States for several reasons.

First, transport is identified as a major activity of tourism which must be measured. Transport services, while essential to tourism, are provided by different modes in different countries. To make comparisons of tourism demand across countries, the accounts must capture transport expenditures for all modes of transport. For meaningful comparisons with estimates for other countries that rely more heavily on alternative forms of transport, such as rail and air, a comprehensive measure of passenger vehicle services is needed. In some countries, and in particular the United States, personal vehicular travel is a key part of tourism demand. According to the most recently published American travel survey, 82% of leisure trips made in the United States in 1995 used personally owned passenger vehicles.[111] If the tourism services furnished by owned passenger vehicles are excluded, it will be impossible to make comparisons of transport expenditures across countries.

Second, including tourism services of passenger vehicles would also address the serious problem in measuring tourism in countries, such as the United States, where a rising proportion of passenger vehicles are leased rather than purchased. In the United States over the past five years, households have shifted more and more from purchases of passenger vehicles to leases. This rise has blurred the distinction between services from rentals (short-term), leasing (long-term), and ownership of passenger vehicles in the national accounts. While the SNA93 decision to exclude the services of passenger vehicles may be appropriate for measuring a country's national accounts, in the TTSAs – where the objective is to highlight travel and tourism activities – the exclusion of the tourism services of passenger vehicles ignores the major purpose of satellite accounts as stated in the SNA93; that is, to extend the flexibility of the national accounts framework and permit measurement and analysis beyond what can be accomplished under the central framework.

Third, including the tourism services from motor vehicles and the tourism-related investment in motor vehicles would parallel the treatment of tourism services from second homes and the corresponding investment in these homes in the proposed expansion of the TTSAs. Rents on second home are included in the accounts as part of total housing rents that are imputed for owner-occupied housing. The expanded TTSAs would identify separately the tourism services from second homes to their owners.

Estimation of motor vehicle services

Estimates of services of motor vehicles will be made for all automobiles, light trucks and recreational vehicles that are owned, leased (long-term) and rented (short-term) by households, businesses and governments. Purchases of motor vehicles by households, businesses and governments will be uniformly treated as investments, and the values of the services from owned motor vehicles will be imputed. The sum of the imputed values of services of owned motor vehicles, leases and

110. Sumiye Okubo, "Improved US Travel and Tourism Satellite Accounts: Proposal to Include Imputed Services of Motor Vehicles and Vacation Homes", prepared for the OECD Statistical Working Party, Tourism Committee, Directorate of Science, Technology and Industry, 8-9 November 1999.

111. US Department of Transportation, Bureau of Transportation Statistics, "American Travel Survey", 1995. Leisure trips include long-distance trips (100 miles or more from home one way) for rest and relaxation, sightseeing, outdoor recreation, entertainment and shopping. The TTSAs define tourism in terms of visitors travelling outside their "usual environment" or a distance between 50 to 100 miles from their residence.

rentals of motor vehicles by households, businesses and governments will provide an estimate of the services of all motor vehicles. The total costs of using motor vehicle transport – motor vehicle services, owned and leased, and the related operating costs – equals the sum of the services of all motor vehicles and all related expenses, such as gasoline, insurance, and maintenance and repairs, of operating a motor vehicle.

In the expanded TTSAs, the portion of total costs of using motor vehicle transport used for travel and tourism will be included in the accounts. The related operating costs are already partially included in the prototype TTSAs, under operating expenses for motor vehicles, and are reclassified as a tourism industry from a non-tourism industry. Most rental payments (short-term rentals) are assumed to be for travel and are included in the TTSAs.

Two approaches will be used to estimate the services from motor vehicles: The rental-equivalent approach and the cost approach. The first approach is based on an observed rental value for motor vehicles, and uses a market equivalent value to impute the value of motor vehicle services. The second approach is based on the costs incurred by owners of motor vehicles, including an estimate of the net return.[112]

Rental-equivalent approach. This approach is similar to that used for measuring the services of owner-occupied housing in the national accounts. The purchases of services of motor vehicles (the housing rental equivalent for motor vehicles) are imputed using the market-equivalent measure of the value of long-term leases of motor vehicles. Motor-vehicle lease payments represent the closest available measure to a market value of motor vehicle services. Leasing information from industry sources is used to estimate the value of these services.

This methodology, however, does not take into account possible differences in the age mix of motor vehicles that are leased vs. owned. Leasing of motor vehicles older than four years is uncommon, and data sources on leases for older motor vehicles are unknown. In contrast, owners may keep their motor vehicles for ten to 15 years, or even longer. Moreover, motor vehicles older than four years cannot be assumed to provide services similar to those provided by younger ones. Therefore, the rental-equivalent approach is used for motor vehicles four years old or less. Services of motor vehicles older than four years are estimated using only the cost approach.

The cost approach. The second approach is based on the cost of services to the owner of the motor vehicle. In this approach, the value of transport services from owned motor vehicles is the sum of the costs incurred by the owner. These costs include the capital costs, defined as the sum of depreciation, which reflects the use of the motor vehicles, and the net return to capital (also known as net rental income), which is a measure of the productivity of capital funds tied up in the motor vehicles. The total costs of using motor vehicle transport is the sum of capital costs and related operating costs (gasoline, repairs, etc.).

Estimating rent for second homes

Imputed rents for second homes are estimated from imputed rents for "owner-occupied non-farm dwellings" and rents from "tenant-occupied non-farm dwellings" in the national income and product accounts (NIPAs). The estimation of housing services for owner-occupied housing is imputed on the basis of rent charged for tenant-occupied units of the same market value. Rent is imputed for owner-

112. Arnold J. Katz and Janice Peskin, "The Value of Services Provided by the Stock of Consumer Durables, 1947-77: An Opportunity Cost Measure," *Survey 60,* July 1980, pp. 22-31.

occupied units of equivalent market value, using an average of the market value for each class of housing unit. Rental receipts for owner-occupied non-farm dwellings include rents for both residential and second homes.

The imputed rent for second homes is estimated by multiplying the average market value for each class of housing by the number of second homes. Separate estimates are computed for owner-occupied second homes and for tenant-occupied second homes.

Changes in the TTSAs to include motor vehicle services and rents from second homes

Extending the TTSAs to include the services from motor vehicles and rents from second homes changes the estimates of the prototype TTSAs. The level of GDP increases by the value of the services of motor vehicles owned by households and the value of services of motor vehicles owned by government, which is partially offset by a decrease in consumption of fixed capital by government. Preliminary estimates of the inclusion of motor vehicle services and second home rents show an increase in tourism demand and in the value added of tourism industries that is higher than the rise in GDP. This increase is reflected in the increase in the ratio of tourism demand to GDP and the ratio of value added of tourism industries to GDP for the extended TTSAs, compared to the same ratios in the prototype TTSAs. The estimates also indicate that the use of motor vehicles for travel in the United States is sizeable, and that services from motor vehicle and services from second homes are among the five largest tourism industries in the United States.

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