

The International Association for Tourism Economics 2024 Conference, May 21st – May 24th, 2024
Rosen College of Hospitality Management, University of Central Florida, Orlando Florida



Households: The Missing Link Between the Tourism Satellite Account (TSA) And the System of Environmental-Economic Accounting (SEEA)

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Wednesday May 22nd

Parallel sessions C, C3 - Data Analysis
3:45 pm – 5:00 pm

The paper is based on the results of the Institute for Tourism, Croatia project Tourism and the Croatian economy
The project is funded by the European Union, Next Generation EU

Content

- Introduction
- The size of accommodation in households
- Purpose of the paper
- Measurement of the economic and environmental impacts of tourism
- Challenges of linking TSA and SEEA
- Households' perspective
- Possible solutions: disaggregation and additions

Introduction

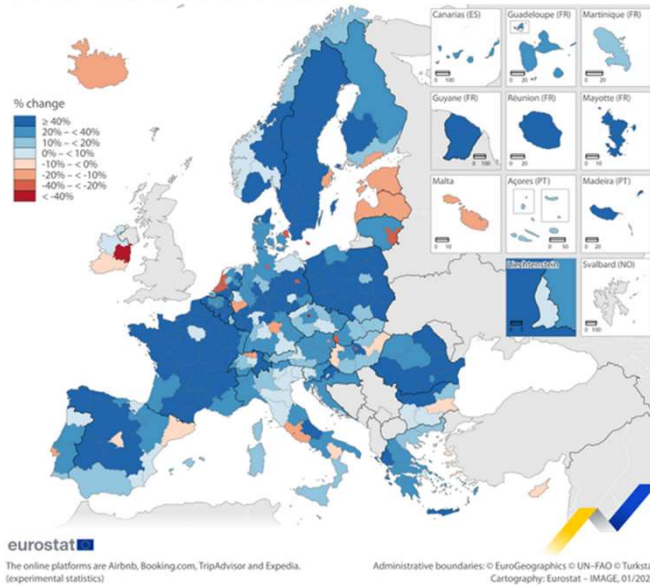
- Evidence-based tourism policies require methodologically harmonized insight into both, positive and negative contributions/impacts of tourism
- **Online collaborative economy platforms** have brought significant changes to the size and structure of supply and demand for short-stay accommodation
- **To what extent and how are these changes embraced in tourism statistics**, especially statistics related to the system of national accounts such as the satellite accounts of tourism and the environment?

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- Data on holiday homes, apartments, and rooms in otherwise private buildings are often outside the scope of tourism registers and surveys
 - Existing European statistics on tourism provide only limited coverage of the size of tourism activity generated by collaborative economy platforms

Source: <https://ec.europa.eu/eurostat/web/experimental-statistics/collaborative-economy-platforms>

The size of accommodation in households

Guest nights spent at short-stay accommodation booked via online platforms (NUTS2, % change between 2019 and 2022)



Guest nights spent at short term accommodation booked via online platforms, NUTS2, % change between 2019 and 2022

Source: Eurostat (tour_ce_omn12)

Source: Eurostat

- In 2023, tourists spent 678.6 million nights in short-term rental accommodation in the EU booked via Airbnb, Booking, Expedia Group, or TripAdvisor; 13.8% more than in 2022
- The third quarter of 2023: **the most popular regions for short-term rental accommodation in the EU were Adriatic Croatia** (23.7 million nights), Andalucía in Spain (14.0 million nights), and the French Provence-Alpes-Côte d'Azur (12.2 million nights)
- Adriatic Croatia is among the three largest tourist regions of the European Union, the others being Centro, Italia, and Canarias, Spain (source: Eurostat)
- **41.5%** of commercial overnight stays in Adriatic Croatia are made in accommodation facilities provided by households (source: Croatian National Tourist Board, eVisitor data)

Purpose of the paper

The paper aims to analyze the **implications of households as providers of accommodation services** for the methodologically **harmonized measurement of the economic and environmental effects** of tourism and tourism activities based on the **principles of national accounting**

Issues to consider:

- **Differences in the methodological framework** of the tourism and environmental satellite accounts
 - Different institutional units
 - Different classification of activities/tourist activities
- **Accommodation services** provided by households:
 - Paid accommodation services (various forms of sharing economy)
 - Secondary homes (TSA: Accommodation services associated with all types of vacation home ownership)
 - Visiting friends and relatives (VFR)
- **Adequacy of the use of tourism shares**

Measurement of economic and environmental impacts of tourism



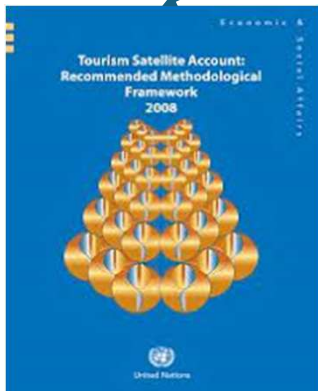
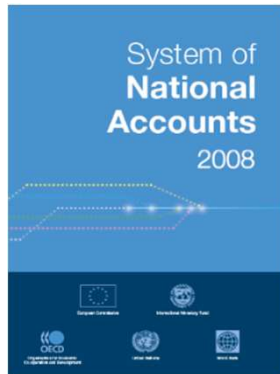
Tourism:
• Multisector
• Growth

- ‘Considerable improvement in the quality of tracking’ economic and environmental implication of tourism consumption
- The tourism academy has been relatively slow to tackle the question of how tourism interacts with the climate
- Professional research are also focused on measuring the environmental impact of the tourism industries should (for example calculation of the environmental pressures from the tourism industries in Italy, development of the TSSA in Germany)

Tourism environmental efficiency

- Comparing environmental externalities with positive economic impacts is an important direction of both academic and professional research
- Calculation of tourism environment efficiency indicators at the national level is faced with numerous methodological challenges, such as:
 - Quality and availability of data: the level of development of the statistical systems of individual countries
 - Level of analysis: sectoral and/or national level
 - Principles of measuring economic and environmental impacts: residential vs. territorial principles, and/or production vs consumption principles (Lenzen, Murray, Sack, & Wiedmann, 2007)
 - Scope of the analysis: direct and total indicators of the economic and environmental impact of tourism

Get back to basics: Satellite accounts



- The methodological framework of tourism and environmental satellite accounts offers the platform for rigorous and consistent measurements of the economic and environmental impacts of tourism
- **The Tourism Satellite Account:** method for measuring the direct effect of tourism consumption on the national economy
- **The System of Environmental-Economic Accounting (SEEA) Central Framework** is a methodological framework for describing the stocks and flows that are relevant for the analysis of the interaction between the economy and the environment

Linking TSA and SEEA



- In 2024, the Statistical Division of the United Nations adopted the Statistical Framework for Measuring the Sustainability of Tourism (SF-MST)
- SF-MST provides a common set of concepts, definitions, classifications, and reporting structures to guide the measurement of tourism across its economic (based on TSA), environmental (based on SEEA), and social dimensions and recommends that:
- SF-MST recommends use of tourism share of total environmental flow at the industry level calculated by application of the tourism output ratio for that industry from TSA Table 6
- Such an approach implies **equal definitions of activities** in TSA and SEEA which cannot be directly achieved from the available statistical data

Challenges of Linking TSA and SEEA

Table 2.2
Basic form of a physical supply and use table

		Industries	Households	Accumulation	Rest of the world	Environment	Total
Supply table							
Natural inputs						Flows from the environment	Total supply of natural inputs
Products	Output				Imports		Total supply of products
Residuals	Residuals generated by industry		Residuals generated by final household consumption	Residuals from scrapping and demolition of produced assets			Total supply of residuals
Use table							
Natural inputs	Extraction of natural inputs						Total use of natural inputs
Products	Intermediate consumption		Household final consumption	Gross capital formation	Exports		Total use of products
Residuals	Collection and treatment of waste and other residuals			Accumulation of waste in controlled landfill sites		Residual flows direct to environment	Total use of residuals

Note: Dark grey cells are null by definition. Blank cells may contain relevant flows, which are explained in detail in chapter III.

Source: System of Environmental-Economic Accounting (SEEA);
https://seea.un.org/sites/seea.un.org/files/seea_cf_final_en.pdf

- Different levels/disaggregation of productive economic activities
 - TSA: Tourism characteristics and other industries
 - SEEA: ISIC (International Standard Industrial Classification) Rev. 4 + Households (GHG emissions: transport; heating/cooling; other)
- Different economic entities
 - TSA: The economic activity of resident units in tourism and other industries
 - SEEA: Emissions arising from the activity of resident units in tourism and other industries and households
- Production/system boundaries
 - TSA: Domestic production (production by resident transactors)/total supply that caters to internal tourism (resident and non-resident visitors)
 - SEEA: Tourism generated air emissions (national) of resident visitors, within and outside the economy of reference

Linking TSA and SEEA: Households' perspective

Linking all elements of TSA table 6 and of the GHG emissions for tourism account is not possible

calculation of all required tourism ratios is not possible

Items	TSA framework	SEEA: GHG emissions for tourism
Private dwellings used for commercial accommodation	<ul style="list-style-type: none"> (Should be) a part of value of output and intermediate consumption of Accommodation for visitors 	<ul style="list-style-type: none"> Part of the heating/cooling and other emissions of the households (residuals generated by final household consumption) Part of household air emissions related to transport (final household consumption)
Private dwellings used for noncommercial accommodation (VFR)	<ul style="list-style-type: none"> Not included in the TSA 	
Accommodation services associated with vacation home ownership	<ul style="list-style-type: none"> Value of imputed rent and related intermediate consumption 	
Tourism use of: <ul style="list-style-type: none"> individual private automobiles individual private vessels for sport and recreation 	<ul style="list-style-type: none"> Visitors' expenditures for the fuel (Other consumption products/Other industries) 	

Possible solutions: Disaggregation and additions

Linking TSA and SEEA:
future compilation guidance

TSA & SEEA: GHG emissions for
tourism

TSA

- Accommodation services provided by households should be included in the total production of the Accommodation for visitors, but also shown separately
- Adding (something like) a Production and retail sale of automotive fuel as a country specific-product/industry

Accounts for GHG emissions

- Subdivision of households' air emissions on tourism and non-tourism emissions, with additional subdivision of tourism emissions on:
 - i. transport (cars and similar, vessels)
 - ii. private dwellings used for Accommodation services (heating/cooling and other emissions), and
 - iii. vacation homes (heating/cooling and other emissions)
- (Adding a block with Bridging items to enable the calculation of direct emissions on national and territorial principles)

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THANK YOU FOR ATTENTION!

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