



# The 5<sup>th</sup> Conference of the International Association for Tourism Economics

30 June - 3 July 2015, Hong Kong

## BOOK OF ABSTRACTS



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## **WELCOME FROM THE ORGANIZING COMMITTEE**

On behalf of the School of Hotel and Tourism Management at The Hong Kong Polytechnic University and the School of Events, Tourism and Hospitality at Leeds Beckett University, we are pleased and honored to welcome you to Hong Kong for the 5<sup>th</sup> Conference of the International Association for Tourism Economics (IATE).

Our conference brings together scholars and industrial professionals around the globe to share their knowledge and experience, and provides a forum for thought-provoking and insightful discussions. We are certain that this 4-day conference will bring every attendee with valuable knowledge as well as the best practices.

We wish all participants a fruitful time at the conference, and to our delegates from overseas, a most enjoyable time in Hong Kong.

Warmly welcome,



Organizing Committee  
IATE 2015

## **WELCOME FROM THE HOST ORGANIZER**

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It gives me great pleasure to formally welcome every one of you to the School of Hotel and Tourism Management at The Hong Kong Polytechnic University and the 5<sup>th</sup> Conference of the International Association for Tourism Economics (IATE).

IATE is the leading independent global academic community for the discussion, exchange, and development of knowledge in the field of tourism economics and the only international association of its kind. This conference has been organized biennially since 2007 to provide a platform for researchers, students, and professionals around the globe to come together and share their knowledge and experience in tourism economics research. Subsequent to its previous successes in Spain, Thailand, Solvenia, and the United Kingdom, I am sure that this 5<sup>th</sup> conference at The Hong Kong Polytechnic University will continue to provide a forum for thought-provoking and insightful discussions in the arena.

The organization of this conference required much hard work and coordination by many individuals. I would like to thank members of the Organizing Committee and everybody in our School who helped in making this conference a success.

Once again, I thank for your participation, and it is my sincere hope that each of you will enjoy the conference. May it also allow you to enjoy the beauty and hospitality of Hong Kong.



Prof. Haiyan Song  
Conference Chair and Chair of Scientific Committee  
Associate Dean (Research) and Chair Professor of Tourism  
School of Hotel and Tourism Management  
The Hong Kong Polytechnic University

## CONFERENCE THEMES

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This conference provides an opportunity for researchers, scholars and practitioners to exchange ideas on key research issue in the field of tourism economics, in the following themes in particular:

- Economic modelling of tourism
- Tourism competitiveness
- Tourism and the environment
- Climate change and tourism
- Economic analysis of tourism demand
- Tourism, economic growth and development
- Innovation in tourism
- The economic contribution or impact of tourism
- Tourism, labour markets and human capital
- Tourism policy/taxation
- The economics of tourism supply
- The economics of special events

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## ABOUT IATE

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The International Association for Tourism Economics (IATE) was established in September 2007 with the following aims:

- to contribute to the development and application of tourism economics as a science and instrument for policy making
- to improve communication and contacts between teachers, researchers and students in tourism economics all over the world
- to improve communication and contacts between tourism economics and other fields in economics and in other disciplines
- to develop and encourage cooperation between university level teaching institutions and research institutions so as to promote knowledge of the concepts and applications of economic analysis to tourism issues and policy analysis

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## ORGANIZERS

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THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

SCHOOL OF HOTEL AND TOURISM MANAGEMENT



LEEDS  
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The Hong Kong Polytechnic University, Hong Kong  
Chair of Scientific Committee

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Bournemouth University, United Kingdom  
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**Dr Vicente Ramos**

Universitat de les Illes Balears, Spain  
IATE Vice President

**Dr Mondher Sahli**

Victoria University of Wellington, New Zealand  
IATE Secretary General

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University of Bologna, Italy

**Prof. Gang Li**

University of Surrey, United Kingdom

**Prof. Tanja Mihalič**

University of Ljubljana, Slovenia

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University of the Aegean, Greece

**Dr Sylvain Petit**

Universités de Lille, France

**Prof. Andrea Saayman**

North-West University, South Africa

**Dr Neelu Seetaram**

Bournemouth University, United Kingdom

**Prof. Stephen Wanhill**

Bournemouth University, United Kingdom

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## ORGANIZING COMMITTEE

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### ***Conference Chairs***

#### **Prof. Haiyan Song**

The Hong Kong Polytechnic University, Hong Kong

#### **Prof. Rhodri Thomas**

Leeds Beckett University, United Kingdom

#### **Dr ShiNa Li**

Leeds Beckett University, United Kingdom

Vice Chair of Organizing Committee

### ***Organizing Committee***

#### **Dr Stephen Pratt**

The Hong Kong Polytechnic University, Hong Kong

Programme Chair

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University of Surrey, United Kingdom

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Leeds Beckett University, United Kingdom

#### **Prof. Andrea Saayman**

North-West University, South Africa

#### **Prof. Haiyan Song**

The Hong Kong Polytechnic University, Hong Kong

#### **Prof. Rhodri Thomas**

Leeds Beckett University, United Kingdom

#### **Dr Emma Wood**

Leeds Beckett University, United Kingdom

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## GENERAL INFORMATION

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### Venue

The Conference and Gala Dinner will be held at the School of Hotel and Tourism Management of The Hong Kong Polytechnic University and Hotel ICON, 17 Science Museum Road, Tsim Sha Tsui East, Kowloon, Hong Kong.

### Conference Sessions

All conference sessions will be held on Level B1. Lunch and Gala Dinner will be held in the Silverbox Ballroom, Hotel ICON.

### Registration

The registration desk is located on Level B1. Pre-conference registration will start at 12:00 noon on Tuesday, 30 June. Name badge and conference package can be collected at this time.

The registration desk will be open at the following times:

Tuesday, 30 June	12:00 – 18:00
Wednesday, 1 July	09:00 – 16:00
Thursday, 2 July	09:00 – 16:00
Friday, 3 July	09:00 – 12:00

### Name Badges

Name badges must be worn at all times during all conference sessions, welcome reception, lunch, and gala dinner.

A mark will be indicated on your name badge if you are registered to attend the gala dinner.

### Conference Package

All delegates will receive a conference bag upon registration. The conference package will include materials supplied by sponsors, the book of abstracts, and a USB of full papers.

## **Mobile Phones**

As a courtesy to speakers, presenters, and other delegates, please ensure that your mobile phones are switched off or on silent mode during all sessions and social functions.

## **Wi-Fi**

Complimentary Wi-Fi service is available on Level B1. Log in details will be announced at the conference sessions.

## **Instructions for Presenters**

Each presenter will have 20 minutes to present their paper. We suggest 15 minutes for the presentation with 5 minutes for questions and answers.

Please arrive in the session room 5 minutes before the session commences to upload your PowerPoint presentation. Please save the file on a USB flash drive.

For full papers, the session chair will act as a discussant after the presenter has made a 20-minute presentation. The discussant will review and provide commentary on the paper for an additional 10 minutes.

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## PROGRAMME AT A GLANCE

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Time	Event
<b>Tuesday, 30 June</b>	
12:00 – 18:00	Registration
14:00 – 14:40	Opening Ceremony
14:45 – 15:45	Keynote Address: Dr Oliver Herrmann
16:00 – 17:30	Parallel Sessions A
18:00 – 19:30	Welcome Reception
<b>Wednesday, 1 July</b>	
09:00 – 09:30	Registration
09:30 – 10:30	Keynote Address: Prof. Egon Smeral
10:30 – 11:00	Coffee Break
11:00 – 12:30	Parallel Sessions B
12:30 – 14:00	Lunch
14:00 – 15:30	Parallel Sessions C
15:30 – 16:00	Coffee Break
16:00 – 17:30	Parallel Sessions D
<b>Thursday, 2 July</b>	
09:00 – 09:30	Registration
09:30 – 10:30	Keynote Address: Prof. Stephen Wanhill
10:30 – 11:00	Coffee Break
11:00 – 12:30	Parallel Sessions E
12:30 – 14:00	Lunch
14:00 – 15:30	Parallel Sessions F
15:30 – 16:00	Coffee Break
16:00 – 17:30	Parallel Sessions G
19:00 – 22:00	Gala Dinner
<b>Friday, 3 July</b>	
09:00 – 09:30	Registration
09:30 – 11:00	Parallel Sessions H
11:00 – 11:30	Coffee Break
11:30 – 13:00	Parallel Sessions I
13:00 – 13:30	Closing Ceremony
From 15:00	Optional Post-conference Tours

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## KEYNOTE SPEAKERS

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### Dr Oliver Herrmann

Director of Statistics and Tourism Satellite Account Programme  
World Tourism Organization (UNWTO)



Dr Herrmann has a broad experience in the public and private sector. Before joining UNWTO, he worked at the Ministry of Business, Innovation, and Employment, in New Zealand for almost three years.

He also worked as civil servant at the European Commission in Brussels and as a consultant at the VDI Technology Centre in Düsseldorf. He studied in Germany and France and holds a PhD in Economics.

## Prof. Egon Smeral

Professor of Tourism Economics, MODUL University Vienna, Austria

Prof. Egon Smeral is Professor of Tourism Economics at the *MODUL University Vienna*, Austria. His areas of research are applied economic theory and politics (especially in the fields of tourism economics, leisure and service sector economics), tourism forecasting and modelling, impact analysis and Tourism Satellite Accounts, designing and evaluating tourism policies programs, as well as marketing strategies.



He is a consultant to the *Austrian Federal Ministry of Economics and Labour*, Vice-president of the *International Association of Scientific Experts in Tourism (Aiest)*, Secretary General of the *Tourist Research Centre (TRC)*, and member of the *International Academy for the Study of Tourism (IAST)*, *Travel and Tourism Research Association (TTRA)*, and the *International Institute of Forecasters (IIF)*. Further, Prof. Smeral is the coordinating editor of the journal *Annals of Tourism Research*, member of the editorial review board of the *Journal of Travel Research*, *Tourism Management*, and of the editorial board of the journals *Tourism Analysis*, the *Tourism Review*, *Anatolia* and *Tourism Economics*.

## Prof. Stephen Wanhill

Editor of *Tourism Economics*

Adjunct Professor of Tourism Economics, University of Limerick, Ireland

Emeritus Professor of Tourism Research, Bournemouth University, United Kingdom



Prof. Stephen Wanhill is the Editor of *Tourism Economics*, and Adjunct Professor of Tourism Economics, University of Limerick and Emeritus Professor of Tourism Research, Bournemouth University. He is a Director of Global Tourism Solutions (U.K.) and his principal research interests are in the field of tourism destinations. To this extent he has undertaken a wide range of tourism development and tourism impact assessments, with an emphasis project studies from airports to attractions, both in the U.K. and worldwide, covering some 50 countries. He has acted as tourism policy advisor to the U.K. Parliamentary Select Committee on Welsh Affairs for a period of five years, and has been a Board Member of the Wales Tourist Board with responsibilities for the development and research divisions. In this capacity, he spent much time reviewing and recommending grant applications for projects that encompass accommodation, restaurants and pubs, attractions and public facilities, such as country parks, visitor centres and infrastructure improvements, as well as contributing to the rolling 5-year Development Plan of the Board.

## DETAILED PROGRAMME

## Detailed Programme

**Note:** Papers marked with \*\* are full papers.



Time	Event	Venue
12:30 – 13:00	IATE General Assembly	B112 + B113
13:00 – 14:00	Lunch	Silverbox Ballroom, Hotel ICON
14:00 – 15:30	Parallel Sessions C Stream	B104/ B105/ B106/ B114
	<u>C1 – Tourism Expenditures</u>	<u>C3 – Tourism Flows</u>
	Session Chair	Stephen Pratt
Venue	B104	B114
Author(s)	<i>D'Urso, Disegna, &amp; Massari</i>	<i>Cassella, Fugini, &amp; Saayman</i>
Paper	Modeling Tourism Expenditures Using a Fuzzy Approach	The Influence of Trade and Currency Agreements on International Tourism Flows
	<u>C2 – Pricing</u>	<u>C2 – Pricing</u>
	Session Chair	Gang Li
Venue	B105	B105
Author(s)	<i>Divisekera</i>	<i>Fourie, Rosseló, &amp; Santana-Gallego</i>
Paper	Efficient Pricing for Sectors with Interdependent Demands: A Model of Optimal Tourism Taxes**	The Opportunity Costs of Visa Restrictions in Europe: An Analysis of International Tourism
	<u>C3 – Tourism Flows</u>	<u>C3 – Tourism Flows</u>
	Session Chair	Zou, Ren, Li, Meng, & Zhang
Venue	B104	B104
Author(s)	<i>Ferrer-Rosell &amp; Seetaram</i>	<i>Assessment Index of International Tourism Hub and its Application</i>
Paper	Determinants of Per Diem Tourism Expenditure in Spain	
	<u>C4 – Tourism Policy</u>	<u>C4 – Tourism Policy</u>
	Session Chair	Hamnadou, Loïc, Nowak, & Petit
Venue	B105	B105
Author(s)	<i>Hamnadou, Loïc, Nowak, &amp; Petit</i>	<i>Industrial Legacy and Tourism: An Application of Hedonic Pricing Analysis to the Case of Hotel Rooms in Nord-Pas de Calais, France</i>
Paper	Industrial Legacy and Tourism: An Application of Hedonic Pricing Analysis to the Case of Hotel Rooms in Nord-Pas de Calais, France	

Time	Event	Author(s)	Paper	Venue
15:30 – 16:00	Coffee Break			Foyer
16:00 – 17:30	Parallel Sessions D Stream			B104/ B105/ B106/ B114
	<u>D1 – Tourism &amp; Economic Growth 1</u>			<u>D3 – Tourism Behavior 1</u>
	Session Chair	Gang Li / ShiNa Li	Haiyan Song / Adam Blake	Vicente Ramos
	Venue	B104	B105	B106
	Author(s)	Kim, Song, & Pyun	Zhang, Botti, & Petit	Regev & Tavor
	Paper	The Relationship among Tourism Competitiveness, Poverty, and Economic Growth in Developing Countries: A Panel Data Regression Analysis **	Destination Performance: Introducing the Utility Function in the Mean-variance Space **	Decision-making in Daily Life and in Tourism
	Author(s)	Rakotondramaro & Andriamasy	Robinson & Blake	Guntawongwan, Ramos, Untong and Kaosa-ard
	Paper	Multivariate Granger Causality between Tourism Receipts, Poverty and Growth: Evidence for Less Developed Country as Madagascar**	VAT and Tourism: Results from a Survey of Holiday Intentions	The Effect of Country Motivation on Experiences and Behavior Intention of Medical Tourists in Thailand
	Author(s)	Yang & Lin	Where Can Tourism-led Growth Occur? Evidence from the Chinese Regional Data	Tur, Rey-Maquireira, & Ramos
	Paper			A Measurement Tool for the Tourist Experience

Time	Event	Venue
Thursday, 2 July		
09:00 – 09:30	Registration	Foyer B112 + B113
09:30 – 10:30	Keynote Address: Prof. Stephen Wanhill <i>What Tourism Economists Do. Your Contribution to Understanding Tourism</i>	
10:30 – 11:00	Coffee Break	
11:00 – 12:30	Parallel Sessions E <u>Stream</u> <u>2</u> <u>E1 – Tourism Demand</u>	<u>E2 – Tourism Accounts</u> ShiNa Li B105 <u>Wu &amp; Song</u> Amaya, Sosa, Ochoa, & Schmidt The Perception of Destination Competitiveness by Host Population and Tourists**
	Session Chair Venue	Neelu Seetaram B114
	Author(s)	Monther Sahl B106
	Paper	Divisekera Regional Tourism Satellite Account (TSA): Guangdong, China
	Author(s)	Jones & Li Estimating the Economic Impact of Meetings and Conventions: A Satellite Account Approach
	Paper	Xie, Yu, & Shen Domestic Tourism Demand of Chinese Citizens with Structural Cost and Income: A Panel Spatial Econometric Approach
	Author(s)	Fringo & Fritz A Regional Dynamic Shift-Share Analysis of Long-Run Trends in the Austrian Tourism Sector
	Paper	Zekan Benchmarking in European City Tourism: Lessons Learned
		<u>E3 – Tourism Satellite</u> Competitiveness 2 Mondher Sahl B106
		<u>E4 – Cultural Tourism</u> 1 Foyer B104/ B105/ B106/ B114

Time	Event	Venue
12:30 – 14:00	Lunch	Silverbox Ballroom, Hotel ICON
14:00 – 15:30	IATE 2015-2016 New Council Meeting	B104
Parallel Sessions F	Parallel Sessions F	B105/B106/B114
Stream	F1 – Tourism Forecasting 2	F4 – Tourism & the Environment 2
Session Chair	Haiyan Song	Tanja Mihalić
Venue	B104	B114
Author(s)	Liu & Song	Falk & Hagsten
Paper	Forecasting Tourist Arrivals in China using Daily Search Engine Data – A FAMIDAS Modelling Approach	Importance of Early Snow Fall for Swedish Ski Resorts: Evidence based on Monthly Data **
Author(s)	Eugenio-Martin & de Rus	Zeng
Paper	Ex-post Three Stage Public Tourism Infrastructure Project Assessment: The Case of Malaga Airport	Linking between Carbon Dioxide Emission and Tourism Economy Growth in Low Carbon Model Area of Tourism: Based on the Data of Confucius Temple Scenic Area, Nan Jing
Author(s)	Oj	Porto & Gonzalez
	The Economic Impact of an Art Festival in Japan: A Case Study of Roppongi Art Night	Touristic Resources and Factor Intensity in the Province of Buenos Aires
	One Exploring Determinant Factors toward Formation of Farmers' New Identity Doing Educational Tourism	

Time	Event	Venue
15:30 – 16:00	Coffee Break	Foyer
16:00 – 17:30	Parallel Sessions G Stream	B104/ B105/ B106/ B114 G3 – Service Quality
		<b>G2 – Human Resources</b>
Session Chair	Paolo Figni	Stephen Wanhill
Venue	B104	B105
Author(s)	<i>Candela, Mussoni, &amp; Patuelli</i>	<i>Tleuberdinova, Shayekirina, &amp; Abylkair</i>
Paper	Centralized vs. Decentralized Tourism Policies: A Spatial Interaction Model Framework **	Human Resources Policy in the Tourism Industry of the Republic of Kazakhstan: Problems and Ways to Improve **
Author(s)	<i>Xu, Dupre, &amp; Chau</i>	<i>Hill &amp; Turley</i>
Paper	Place Attachment and Community Attitude toward (Re)positioning Chinatown as a Site for Tourism: Evidence from Three Chinatowns in Australia **	Improving the Positive Economic Impact of Tourism by Enhancing Tourism Labor Compensation and Status
19:00 – 22:00	Gala Dinner	Yeh & Huang Service Quality Improving Effects And Recreational Benefits for Sport Tourism **
		Silverbox Ballroom, Hotel ICON

Time	Event	Venue
<b>Friday, 3 July</b>		
09:00 – 09:30	Registration	Foyer
09:30 – 11:00	Parallel Sessions H	B104/ B105/ B106/ B114
	<u>Stream</u>	<u>H3 – Socio-Economics</u>
	<u>H1 – Tourism &amp; the Environment</u>	<u>H2 – Tourism &amp; Economic Growth 2</u>
	Tanja Mihalč	Adam Blake
Venue	B104	B105
Author(s)	<i>Falk</i>	<i>Zhou, Qu, &amp; Li</i>
Paper	The Stagnation of Summer Glacier Skiing **	Tourist Attractions Agglomeration and Economical Performance**
	<i>Hernández &amp; Santana-Jiménez</i>	<i>Inchausti-Sintes</i>
	Determinants of Land Use Conversion from Tourist to Residential	Tourism: Economic Growth, Employment and Dutch Disease
Author(s)	<i>Cai</i>	<i>Bianchi, Sahli, &amp; Vici</i>
Paper	Estimating the Carbon Footprint of Tourism in South Tyrol, Italy	A Re-examination of the Tourism-led Growth Hypothesis: The case of New Zealand
Author(s)		<i>Hon-Snir, Shahabani, Regev, &amp; Friedlander</i>
Paper		Factors Affecting Use of the Internet to plan and Purchase Tourism Services among Older Adults
		<i>Shahabani, Regev &amp; Syra</i>
		Factors Affecting Young People Decisions to Travel to Risky Destinations
		Foyer

Time	Event	Parallel Sessions   Stream	Venue
11:30 – 13:00		<u>I1 – Economic Geography</u>	<u>B104/ B105/ B106/ B114</u> <u>I3 – Hotel Economics 3</u>
	Session Chair	Mondher Sahli	ShiNa Li
	Venue	B104	B106
	Author(s) Paper	<i>Gunter, Ceddia, &amp; Tröster</i> International Ecotourism and Economic Development in Central America and the Caribbean	<i>Falk</i> A Gravity Model of Foreign Direct Investment in the Hospitality Industry**
	Author(s) Paper	<i>Hilberd</i> Examining Youth Attitudes to Ecotourism in Vietnam: Key Economic and Lifestyle Considerations	<i>Li, Chen, &amp; Li</i> How Does Tourism Development Contribute to Regional Income Inequality? A Case of China
	Author(s) Paper	<i>Figini &amp; Leoni</i> Disneyland Paris and the French Capital: A Tale of Two Destinations?	<i>Tur, Rey-Maqueira, Ramos, &amp; Gartner</i> The Impact of Experience Staging in Tourism Competitiveness
	Author(s) Paper		<i>Masiero, Pan, &amp; Heo</i> Hotel Room Choice and Repeat Purchase Behavior: An Analysis of Guests' Preferences
13:00 – 13:30 From 15:00	Closing Ceremony Optional Post-conference Tours		<u>B112 + B113</u> Foyer



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**Keynote Address [K1]**

[Tuesday, 30 June 14:45–15:45]

[Venue: B112+B113]

**A Brief History of Tourism Statistics:  
From the “Visitor” to “Gross Travel Propensity” or...  
Are Tourism Statistics Crazy or Users Lazy?**

**Dr Oliver Herrmann**

*Director of Statistics and Tourism Satellite Account Programme  
World Tourism Organization (UNWTO)*

The World Tourism Organization (UNWTO) is the United Nations' agency responsible for the promotion of responsible, sustainable and universally accessible tourism. In the area of statistics, UNWTO is recognized as the appropriate organisation to collect, analyze, publish, standardise and improve the statistics of tourism. In recent years UNWTO has coordinated the international development and adoption of definitions, concepts and classifications for tourism statistics which are coherent and consistent with other relevant economic statistical systems. However, the adoption of the international recommendations for tourism statistics does not clarify all issues in this area. There are still many conceptual problems that need discussion and further clarification amongst tourism statisticians. In addition, there are new and upcoming issues on the horizon of tourism statistics: the correct measurement of environmental impacts due to tourism and of “sustainable tourism development”. While tourism in most countries is geographically concentrated, the current international recommendations for tourism statistics do not address the problems involved in the sub-national measurement of tourism. In these and other areas, UNWTO will continue to steer the process of advancing the measurement and analysis of tourism, to ensure the continuation of better understanding, development and management of tourism.

**Session Chair: Dr Stephen Pratt**  
The Hong Kong Polytechnic University

**Keynote Address [K2]**

[Wednesday, 1 July 9:30–10:30]

[Venue: B112+B113]

**Questioning the Stability of Tourism Income Elasticities:  
A Critical Perspective**

**Prof. Egon Smeral**

Professor of Tourism Economics  
MODUL University Vienna, Austria

Tourism demand studies generally assume that tourism demand income elasticities remain stable across medium-term growth periods and the business cycle. In contrast to the mainstream approaches, the focus of this key note is on presenting causes, hypotheses and relevant research results for the facts that income effects on international tourism demand could be different in each medium-term growth period and asymmetric across the business cycles within the growth period. However, there are also research outcomes why the patterns of the asymmetric tourist behavior are not stable across the growth periods. Main reasons for the changes in the income elasticities are different growth regimes, saturation, psychological facts such as loss averting consumers, changing marketing efficiency, supply effects, liquidity constraints and precautionary saving. Further, the intensity and time structure of substitution effects between expenditures on travelling abroad, domestic tourism and other goods and services plays an important role to explain why income elasticities may vary across the growth periods and the business cycle.

**Session Chair: Dr ShiNa Li**

Leeds Beckett University

**Keynote Address [K3]**

[Thursday, 2 July 9:30–10:30]

[Venue: B112+B113]

**What Tourism Economists Do.  
Your Contribution to Understanding Tourism**

**Prof. Stephen Wanhill**

Editor of Tourism Economics

Adjunct Professor of Tourism Economics, University of Limerick, Ireland

Emeritus Professor of Tourism Research, Bournemouth University, U.K.

The journal *Tourism Economics* was established in 1995. This address is a statistical report on the topics examined by tourism economists from the inception of the journal until the end of 2014. The tables are meant as a guide to research and not an overview of tourism economics as a subject, for which there are several textbooks and journal articles available. The main the discussion focuses on the popularity of research themes and areas where further investigation would appear worthwhile. It is noted that in many cases a major obstacle has been the availability of data to progress the applied nature of the discipline.

**Session Chair: Prof. Haiyan Song**  
The Hong Kong Polytechnic University

## Parallel Session [A1] -- Tourism Demand 1

[Tuesday, 30 June 16:00–17:30]

[Venue: B104]

**Session Chair: Haiyan Song**

The Hong Kong Polytechnic University

### **The Time-varying Dependences of Chinese Tourism Demand for Hainan Island and Three Asia Destinations**

Jiechen Tang, Ziqi Liao, Vicente Ramos, Songsak Sriboonchitta, and Wing-Keung Wong\*\*

This paper aims at examining conditional time-varying dependences of Chinese outbound tourism to Hainan Island and three Asian destinations, using dynamic copula-based GARCH model. The empirical results show that China outbound tourism has seasonal effects especially during Spring Festival and summer holiday. Second, the estimated conditional dependence between Hainan Island, Japan, Singapore, and Thailand changes over time. Third, the conditional dependences between Hainan and the three Asian destinations are negative in some period. The negative conditional dependences can be considered to be substitutes, which suggest that Hainan Island can be substituted by the three Asian destinations. Fourth, the conditional dependences among Japan, Singapore, and Thailand are positive, which indicates these destinations are complementarity, inferring the three Asian countries are complementary each other. The present findings contribute to literature and practice with managerial implications.

**Keywords:** Chinese outbound tourism, GARCH model, dynamic copula, time-varying dependence.

### **ASEAN Long-run Tourism Demand in Thailand**

Akarapong Untong, Vicente Ramos, Mingsarn Kaosa-ard, and Javier Rey-Maqueira

This paper develops a model of the long-run demand for tourism in Thailand from nine countries in ASEAN in order to measure the response of tourists' demand to changes in macroeconomic variables, including economic growth of ASEAN countries and relative price changes between Thailand and its major competitors. The study uses annual time-series data of tourist arrivals from 1987 to 2013 (for some countries the available sample is shorter) representing the tourism demand to Thailand and real gross domestic product (GDP) for the income variable. The relative prices were measured by the real exchange rate weighting the price of major competitors by their market share.

First, the paper presents a qualitative analysis of the data from the interviews with around 10 public and private experts. This allows for an understanding of the recent evolution of tourism in Thailand and an identification of the actual and potential trends in the different markets.

Then, aggregate tourism demand models with a log-linear functional form were developed, and the elasticities were estimated using appropriate econometric methods based on characteristics and limitation of the available data in each country. The standard procedure includes stationary testing, long-run equilibrium relationship testing (co-integration testing) and coefficient estimation.

Tourism demand is usually sensitive to crisis and uncertainty as well as political unrest, war and epidemic, which can cause structural changes in the demand model. Therefore, this study applied the unit root test proposed by Perron (1997) to test the stationary of the data with structural changes and also applied the Gregory and Hansen (1996)'s method to test the co-integration when the relationships of time-series data sets are changeable.

The long-run static model of time varying parameter (TVP-LRM) was applied to estimate the elasticity of the long-run tourism demand with the structural changes. To obtain robust results from a relatively small sample and solve the problems derived from not fulfilling the normality assumption of the errors this study applied bootstrapping approach. Finally, interval elasticity at a statistical confidence level of 95 percent is presented, as it is more useful to derive policy implications.

The main results of the paper are:

1. The economic growth of ASEAN countries in the last 2-3 decades helped stimulating the expansion of ASEAN tourist market in Thailand. In general, ASEAN tourism market grew faster than the expansion of its economy (except for Malaysia, Singapore and Vietnam).
2. Most ASEAN markets were sensitive to the Thai relative price ( $\varepsilon_{RPT} > -1$ ), except for the Philippines and Cambodia. Moreover, it was observed that for the bordering countries such as Lao PDR., Malaysia and Myanmar, their price elasticities were higher than for other countries. Probably because the people of these countries often traveled to Thailand on the weekend for shopping, relaxing and enjoying night entertainment.
3. The result of cross price elasticity estimation ( $\varepsilon_{RPC}$ ) showed that most ASEAN markets were insensitive to the competitors' price changes ( $\varepsilon_{RPC} < 1$  or  $\varepsilon_{RPC} = 1$ ), except for Lao PDR., Myanmar and the Philippine markets ( $\varepsilon_{RPC} > 1$ ).

Thailand had different competitors in each market. For example, Cambodia was a major competitor in the Lao PDR market while Malaysia and Singapore were main competitors in Myanmar and the Philippine markets.

Several policy implications can be derived from the paper:

1. Although the growth of ASEAN economies stimulated people to visit Thailand, the market is quite sensitive to the political unrest and festivals (events). Therefore, political stability and large events such as Royal Flora festival will motivate ASEAN people to visit Thailand more.
2. Different policies should be used to stimulate the ASEAN market. Price policies as "Thailand trip worth the money ready", "Mid-Year Sale", etc., should be applied to the markets responsive to price changes, such as Lao PDR, Myanmar and Malaysia. Promotion policies emphasizing other elements should be done in the markets that are insensitive to tourism price. Such as offering a picture of the diversity and attractiveness of tourism activities for Philippines, or presenting relaxation and night entertainment for Singapore and Vietnam. For Muslim market (Brunei and Indonesia), policy makers should firstly focus on developing the appropriate supply to meet the consumer needs in terms of food, praying areas, etc. before implementing marketing policies.
3. Thailand should take the opportunity of the expansion of the Asian markets due to economic growth and liberalization of ASEAN in 2015 in screening and marketing high-end segments by offering products and activities adapted to them. The policy should also promote ASEAN tourism market by combining tourism products that meet the specific needs of ASEAN residents. Product development should be based on ensuring the supply capacity for segments which are likely to grow after the liberalization of ASEAN. Such as restaurants for Muslims, hotels for group travelers or business meetings, etc.

Furthermore, the interviews with stakeholders revealed that ASEAN tourists visiting Thailand like shopping and prefer man-made products, services or activities over cultural products or activities which were similar in the region. Thus, to promote ASEAN markets in the future, the new tourism products should represent a modernization, shopping and entertainment attractions more than the cultural or natural attractions.

**Keywords:** Long-run elasticities, structural change, ASEAN, Thailand.

## Estimating the Interdependences of International Tourism Demand: A Global VAR Analysis

Zheng Cao, Gang Li, and Haiyan Song

Researchers have long strived to model tourism demand with a view to forming the basis of policy analysis. Although tourism demand studies are often conducted in an international context, few have adopted the international trade perspective, with such exceptions as Arthus (1972), Smeral and Witt (1996), and Smeral and Weber (2000). Tourism exports and tourism imports, as a pivotal part of the international service trade, deeply intertwine with the process of globalization. In an era characterized by cross-country interactions, a country's tourism sector is not only influenced by its external economic climate, but also generates spillovers to foreign economies via outbound tourist flows. As such, the tourism sector of a country becomes more and more *interdependent* on one another, and it tightly links the national economy to the increasingly integrated world economy. *Co-movements* of tourism exports, tourism imports and economic factors can thus be observed across countries, in the event of a shock to even a particular country. Hence, it would be in the interest of business practitioners as well as policy makers to gauge the impacts of a shock in foreign economies onto their native tourism market.

To empirically account for the *interdependencies* of tourism demand, advancement of tourism demand models is urgently needed to model the *endogeneity* between tourism demand variables and macroeconomic variables. Despite its tractability, the single-equation modelling approach is only suitable for modelling the one-way causation running from economic factors to tourism demand, as it restrictively assumes that the explanatory variables are *exogenously* decided. Hence, the possible bidirectional causation between tourism demand and its economic determinants is not captured or tested. To relax the restriction of *exogeneity*, a system-of-equations approach called the vector autoregressive (VAR) model has been developed. It is well suited to examine the *endogenous* relationships between tourism variables and economic variables for a specific destination-origin pair (for example, Song & Witt, 2006), and/or the interrelationships among tourism demand for a small number of destinations (for example, Seo, Park & Boo, 2010). But if the interdependencies are to be estimated among multi-destination/origin country pairs on the global scale, the traditional VAR model would be *over-parameterised* given the limited observations available over a certain sample period and the relatively large number of variables involved.

Hence, in attempting to fill the void that no previous study has modelled the interdependencies among global tourism demand, this study employs an innovative approach called the Global VAR (GVAR) model, which was developed by Pesaran, Schuermann and Weiner (2004) and Dee, Mauro, Pesaran and Smith (2007) and was later applied to an international trade context by Bussière, Chudik and Sestieri (2009). With the GVAR modelling approach, the study is able to conduct impulse response analysis in order to outline the impacts of country-specific shocks on a number of major economies.

The data set of the current study covers 25 major tourism countries/regions around the globe, and spans from 1986Q1 to 2011Q4. Quarterly data are collected from IMF's *International Financial Statistics Yearbook* and respective statistics authorities. A two-stage modelling strategy is taken, where country-specific vector error correction (VEC) models are separately estimated for individual countries and then the individual models are combined to form a global VAR system that includes all the country-specific

variables. Based on the global system, the impact elasticities of a variable on another are extracted. More importantly, the impulse responses of each country's tourism demand are simulated to delineate the impacts of a shock to China's GDP and a shock to China's exchange rate. Implications will be discussed on the responses of major economies.

## Parallel Session [A2] -- Tourism Competitiveness 1

[Tuesday, 30 June 16:00–17:30]

[Venue: B105]

**Session Chair: Mondher Sahli**

Victoria University of Wellington

### **A Modified Destination Competitiveness Ranking in European Union: The Measurement based on Crouch and Ritchie and ELECTRE III and Simultaneous Benchmark by Super-data Envelopment Analysis Input-Output Projection Approach**

P. Kongmanwatana\*\*

The major aim of this article is to elevate the accuracy in reflecting the tourism performance of European countries. According, to the Global Competitiveness Report presented the tourism performance ranking in European Union. This paper attempt to measures in European countries' performance and tries to explain the dispersion of the efficiency ranking scores with other factors. By using the different types of methodologies apply to establish in tourism performance of the destination, which could explained by tourism mobility factors analyses by Crouch and Ritchie model (1999) to assess the tourism destination competitive and performance with ELECTRE III to measure the ranking score in large and small countries in term of developments by using the Data Envelopment Analysis Projection to explore the strange and weakness criteria of each input to see which one need to pay attention most.

Results highlight the fact that twenty seven large and small countries of the EU, but excludes Malta could improve the utilization of their available tourism resources. Moreover, mean efficiency scores to discover the different factor apart of the factor used in Global Competitiveness Report.

**Keywords:** Performance, European Union, Tourism mobility, Tourism attraction, DEA Projection, ELECTRE III and destination competitiveness.

**Incidence of Innovation in Tourism: Evidence from Australia**

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Nguyen Khanh Van and Sarath Divisekera

Innovation plays a crucial role in growth, business improvement and competitive advantage (Schumpeter, 1934; OECD, 2004). Successful innovations raise productivity, bring profit to firms, and increase the value of product leading to enhanced competitiveness (ABS, 2006; Wong 2007; Hall, 2009). The Australian tourism sector, operating under a highly competitive global environment, has the low productivity levels compared with its competitors and the rest of the economy (TRA, 2014). Adoption of innovation is an effective solution for tourism firms to improve their productivity, achieve competitive advantages and sustainable growth. Little, however, is known about the innovativeness of the tourism sector globally and locally. Empirical research into the role of innovation in tourism is still limited. The objective of this study is to explore the current state of innovation in the Australian tourism sector. The study concentrates on identifying and quantifying the key determinants of innovation and the impact of innovation on the business performance and productivity among tourism firms. These are achieved by modelling and estimating two econometric models, one focussing on the determinants of innovation and the second the relationship between innovation and business performances.

The theoretical foundation for the study is drawn from the economic theory of innovation due to Schumpeter (1934). The study focuses on four types of innovation at the firm level: Product, Process, Organizational and Marketing. The key source of data for the study is obtained from the Business Characteristics Survey conducted by the Australian Bureau of Statistics. The survey provides micro data for a range of small and medium Australian businesses, including core business characteristics, financial data, annual indicators of innovation, and the use of information technology. The study focuses on tourism characteristic industries identified according to the Australian Tourism Satellite Account. They are Accommodation services; Cafes, restaurants and takeaway food services; Clubs, pubs, taverns and bars; Transportation; Motor vehicle hiring; Travel agency and tour operator services; Cultural services; Casinos and other gambling services; Other sports and recreation services. Each of the two models is applied to each sub sector individually and the aggregate model covering the whole sector based on a pooled sample. The findings of this study will enrich our understanding of the nature, current state, determinants and inhibitors of innovation in the wider Australian tourism sector, and serve as a benchmark for comparisons across similar studies locally and internationally. Further, it also serves as a catalyst for informed policy debates that facilitate the development of effective initiatives to redress innovation related issues.

**Keywords:** Innovation, tourism, determinants of innovation, business performance, Australia.

**Measurement Issues in Tourism Destination Competitiveness**

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Serena Volo and Daria Mendola

The role of indicators in assisting tourism planners and decision makers in evaluating performances, setting targets and anticipating future scenarios has been widely acknowledged by scholars (Mendola and Volo, 2015). Being a measure of the existence of some issues or phenomena of interest, indicators are used to describe an aspect of a society, some macro societal activity or geographical area, and to point out to changes in these elements (Volo, 2015). Composite indicators are a useful tool to synthetize and monitor multidimensional phenomena and in the last decade they are pervading several domains of tourism studies. Several studies have used indicators in relation to three major areas of investigation: sustainability, innovation and competitiveness (e.g.: Dwyer and Kim, 2003; Volo, 2006; Croes, 2011; Huang and Peng, 2012; Torres-Delgado and Saarinen, 2014). As Crouch (2011) pointed out the complexity of tourism creates several challenges in the evaluation of destination competitiveness. Conceptual models and theories have been framed around the highly diverse tourism destination's offerings, experiences, goals and actors. Hence, there is a pragmatic need for synthetic indicators that incorporate the elements characterizing destinations' attributes and their abilities to compete (Croes, 2011). Recent attempts recognize the complex and holistic nature of tourism destination competitiveness (TDC) and propose composite indicators to measure its multifaceted aspects (e.g.: Garau-Taberner, 2007; Cracolici and Nijkamp, 2008; Blanke, Chiesa, and Crotti, 2013; Croes and Kubickova, 2013). The application of these indicators to international tourism areas have provided preliminary rankings of destinations and offered relevant input attributes. Most importantly, it has also opened the debate on how appropriate the currently used definitions and measurements of destination competitiveness are (Croes, 2005 and 2011; Papatheodorou and Song, 2005). In this vein, it is relevant to approach this issue by evaluating the currently available indicators as their assessment –against currently available guidelines- can assist research in further indicators' development. Thus, the purpose of this study is twofold: (1) to offer a systematic review of destination competitiveness definitions, concepts and measures and (2) to provide an evaluation of existing composite indicators. This study uses a systematic review approach to achieve its aims. A "systematic review" is based on an explicit and organized evaluation of past research that encompasses the following steps: identification of the relevant studies, assessment of their quality and synthesis of the evidences by use of a protocol (Tranfield, Denyer and Smart, 2003). The study's protocol was built using an enriched version of the *OECD technical guideline to build composite indicators*. Ten studies were identified as providing a composite indicator of tourism destination competitiveness. The results and the knowledge gained through the analysis of the selected indicators provide tourism scholars and practitioners involved in measuring destinations' competitiveness with both an assessment of available indicators' ability to capture tourism competitiveness complexity and a statistical toolbox to assess their effectiveness in empirical evaluations.

**Keywords:** Destination competitiveness, composite indicators, competitiveness determinants, index tourism performance.

**Parallel Session [A3] – Hotel Economics 1**

[Tuesday, 30 June 16:00–17:30]

[Venue: B106]

**Session Chair: Sylvain Petit**

Universités de Lille

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**Moderating Impact of E-Commerce Expenses on Financial Performance: An Examination of Size in American Upper Upscale Hotels**

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Agnes L. DeFranco, Cristian Morosan, and Nan Hua\*\*

The heavily fragmented hotel industry, embracing the changes in their guests' use of electronic devices, has spent considerable resources to incorporate electronic commerce (e-commerce) practices. The extant literature offers inconclusive findings with regard to effect of e-commerce on firm performance, especially when firm size is considered. Given the high fragmentation of size in the hotel industry, understanding its role in the deployment of e-commerce could result in substantial benefits for both hotel firms and consumers. Using financial performance of 689 observations of over 110 hotels during the years of 2007 to 2012, this study find that e-commerce expenses positively impact firm performance, and that firm size moderates the relationship between e-commerce expenses and firm performance.

**Keywords:** E-commerce, marketing expenses, economies of scale, financial performance, hotel performance.

**Efficiency and Productivity Analysis of Japanese Ryokans**

Yasuo Ohe and Nicolas Peypoch

The purpose of this paper is to analyze efficiency and productivity of Japanese accommodations 'ryokans'. Ryokans are traditional Japanese style accommodations that are known as unique hospitality service different from western hotels. High-quality hospitality in ryokans is one of distinctive attractions not only for domestic tourists, but also for inbound tourists. In our knowledge, however, ryokans have not been studied previously from an economic perspective in the literature and this paper contributes to reduce this gap.

The nine regions of Japan are considered over the period from 2005 to 2010. On the one hand, a benchmarking of the Japanese ryokan sector is proposed by using the directional distance function and the Luenberger productivity indicator (Peypoch, 2007; Peypoch and Solonandrasana, 2008). This approach allows considering both input contraction and outputting expansion in the calculation of efficiency and is dual to the profit function. It's a non-parametric approach based on linear programming which presents key advantages (not necessary to specify a functional form *a priori*, characterization of multi-outputs production technologies). A production technology is constructed with inputs related to capital (number of rooms, square building, capacity, etc.) and labor (number of employees), and outputs characterized by (revenue, tourist arrivals, tourist bed-nights). Productivity changes of ryokans are decomposed into efficiency change and technological change and the nature of this last is analysed with a subdecomposition (Botti et al., 2010). On the other hand, several contextual variables (size and business status of the ryokan) are tested by using the non-parametric statistical test of Kruskall-Wallis (Botti et al., 2009) in order to identify what are the factors of the ryokans performance. Managerial recommendations are derived from the results.

The remainder of the paper is organized as follow. Section 2 surveys briefly the literature review on efficiency in hospitality sector and presents the specificity of the Japanese case. Section 3 introduces the methodological framework. Section 4 presents the data and the empirical results. Finally, conclusion and discussion are in section 5. The results are mixed and reveal that only some ryokans experienced positive productivity changes. The decomposition underlines that positive efficiency change is the result of a better management between the use of resources while technological progress indicates investments and adoption of new techniques. Inefficient ryokans should follow these best practices in order to improve their operational performance. Finally, the location of the ryokans plays a role in its productivity scores. Then managerial recommendations are provided for decision makers according to these findings.

**Keywords:** Efficiency, productivity, Japanese accommodation, ryokan, tourism.

**Hotel Classification Premium and Neighborhood Effects in a Mid-sized Tourism-Oriented Island: A Recursive Ordered Probit Approach**

Olivier Beaumais and Sauveur Giannoni

In 2009, a new law regarding hotel classification was enacted in France. The main objective of this law and its executive regulations was to harmonize the existing star ranking system. The previous four-star system has changed to a five star system. Accreditation relies on a voluntary process: hotels choose or not to apply for a classification.

Each voluntary hotel applies for classification through the website of the institution "Atout France" in charge of the classification procedure.

An accredited evaluator then controls the candidate hotel in site, in order to assess the quality and comfort levels offered to the customers. This evaluation is conducted using a referential that includes an important number of quantitative and qualitative criteria regarding hotel attributes, services to customers, accessibility and sustainability features.

In Corsica the ranking is delivered for five years by the regional authority in charge of tourism.

Numerous papers in the tourism literature investigate the effects of attributes on the prices of hotels using the classical hedonic price method (Espinet *et al.* 2003, Chen and Rothschild 2010, Abrate *et al.* 2011). Some of them even focus on neighborhood or agglomeration effects (Rigall-I-Torrent *et al.* 2011, Balaguer and Pernias 2013).

This paper uses an original method that, to our knowledge, has never been used in the tourism literature.

Using a unique data set of about 370 hotels in Corsica, we examine the effects of classification on the room rate structure across hotels. The data set comprises prices, which are broken into five categories (from less than €50 to more than €170 per night) and also numerous hotels attributes which enter the catalogue of criteria used during the classification process. Hotel location is captured through regional dummies, along with GPS coordinates.

In order to assess the premium provided by the classification and to test the presence of spatial/neighborhood effects on this premium, we estimate a recursive ordered probit model. This recursive ordered probit model is a system of two simultaneous equations: the dependent variable of the first equation takes the value of one if the hotel is classified and zero otherwise (about 20% of the hotels are not classified). The dependent variable of the second equation is the five price categories variable. The recursivity of our model arises because the first dependent variable is one of the independent variables of the second equation. This specification allows us to control for endogeneity issues while taking into account that classification is a strong predictor of prices.

First results show that the classification premium is significant and a strong determinant of prices. Not surprisingly, regional effects are very significant too: prices in south of Corsica tend to be higher. So far, the neighborhood effects are still under investigation.

**Parallel Session [B1] -- Wellness**

[Wednesday, 1 July 11:00–12:30]

[Venue: B104]

**Session Chair: Stephen Wanhill**

Bournemouth University

**The Effects of Travel-Related Illness on International Tourism**

Jaume Rosselló, Maria Santana-Gallego, and Aon Waqas

Trips to less development countries still growing. Using data of the UNWTO, Leder et al., (2013) points out how journeys to developing regions represented 47% of travel in 2010 a percentage that contrasts with the 31% in 1990. But favorable climatic conditions for tourism are also frequently favorable conditions for infectious diseases that, at the end, limit and restrict the tourism development possibilities of these less developed regions. Health problems are self-reported by 22 to 64 percent of travelers to the developing world (Steffen, deBernardis, & Baños, 2003). Given that the burden of disease remains high in the developing world, approximately 15% of the travelers reported health problems after a visit to developing countries Steffen, deBernardis and Baños.. In this context it is not surprising that, for instance, British are not willing to travel to countries with different infectious diseases (Page, 2009).

The aim of this paper is to evaluate the direct economic effects of Malaria, Dengue, Yellow Fever and the Ebola in the destination economies though the tourist industry. On the one hand, according to Freedman et al. (2006), Malaria and Dengue are the most prevalent pathogen among ill returned travelers that, probably, could be fight thought specific elimination health policies. On the other hand, although Yellow Fever is reported sporadically, it is very popular by travelers because of the requirement to be vaccinated for visitors to specific countries. Finally the Ebola has also been chosen because of its media impact during the last months.

To evaluate the economic effects, first, different gravity models for international tourism demand are considered providing an estimation of the impact of each one of the travel related diseases on international tourism arrivals. Second, simulations about potential incidence reduction or elimination of these diseases for different developing countries are evaluated. Finally, taking the weigh of the tourist industry for these countries, the impact on gross domestic product related to tourist demand impact is evaluated providing a direct quantification of the benefits of different potential health policies in economic terms.

**Keywords:** Travel-related illness, gravity model, economic impact, economic development.

## **The Competitiveness of Medical Tourism of Thailand**

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Kansinee Guntawongwan, Vicente Ramos, Akarapong Untong, and Mingsarn Kaosard

### ***INTRODUCTION***

Thailand is one of the countries that are centers for medical tourism in the world. Simultaneously, in Asia, Thailand has the highest market share of 38%, while Singapore and Malaysia have the market share about 33% and 19% respectively (RNCOS, 2009). That is because Thailand invested large amount of budget in health care infrastructures to accomplish the increased demand for accredited medical care through first class facilities and supported medical tourism more than decade.

However, nowadays Thailand confronts with intense competition from both domestic competition and other countries in Asia, especially the main competitors as Singapore, Malaysia, and India. Moreover, in the future Thailand has faced the competition with other countries that have the high expansion of medical tourism like United Arab Emirates and China. These competitors have different advantages in medical tourism, whether low cost, modern equipment and specialties, diversify of treatment or attractive destination.

Hence, Thailand has to position itself and determine its ability to compete in these services. As it is known, the potential for any country to develop their tourism sector depends substantially on its ability to maintain the competitive advantage in the delivery of tourism goods and services. For this reason, an analysis of what is the position of medical tourism competitiveness of Thailand provides some useful information to inform business strategy, and it is of additional value to the public authorities wishing to improve tourist performance.

The main objective of this paper is to benchmarking the competitiveness of medical tourism of Thailand with major competitors in Asia. That is because from the intense competition in medical tourism, Thailand has to enhance its competitiveness. The result of this study could be a benefit for the Thai Government and other relevant authority in promoting this type of tourism.

### ***METHODS***

This paper would like to develop the indicators to measure the competitiveness of medical tourism of Thailand base to the concept of destination competitiveness, which represents destination's capability to attract and satisfy its tourists (Ritchie and Crouch, 2000). The destination competitiveness concept that is applied in this paper is Ritchie and Crouch (2003) approach, which is the best-known conceptual framework. Ritchie and Crouch (2003) proposed that tourism destination competitiveness depended on comparative and competitive advantage, which derived from resource endowments and efficiency in resource deployment, and also obtain the impact of global (macro) environment and competitive (micro) environmental circumstances. The factors of destination competitiveness are determined by five major components: supporting factors and resources, core resources and attractors, destination management, destination policy, and qualifying and amplifying determinants (Ritchie and Crouch, 2003).

From Ritchie and Crouch (2003) approach, this paper applied some applications of this concept to benchmarking Thailand with other major competitors includes Singapore, Malaysia, and India by considered in two aspects: comparative advantage and

competitive advantage. We apply the idea of external benchmarking in the form of competitive benchmarking. This is because benchmarking is a tool for obtaining the competitive advantage (Dorsch and Yasin, 1998; Kozak, 2002) and achieving success in countries to develop medical tourism. The data used in this study obtained from various relevant authorities such as World Economic Forum, Boston Consulting Group, and Ministry of Public Health of Thailand.

### **FINDINGS**

Thailand has the more comparative advantage in medical tourism than other competitors when consider resource endowment such as the availability of medical personnel, medical equipments, and standards of hospital. Thailand is ready to provide medical services than its competitors like Malaysia and India in terms of the availability of medical personnel and the number of hospital beds that available to the population in the country. When compare with Singapore, Thailand has fewer numbers of doctors and hospital beds per population. However, each year Singapore has a lot of patients from neighboring country as Indonesia traveling to receive medical services. That results in the less capacity to support patients from other countries.

Moreover, Thailand has 28 private hospitals that receive the international certificate (Joint Commission International; JCI) which more than those three main competitors in Asia. This reflects that Thailand has an advantage in the quality and standard of hospital.

In addition to medical-related resources, we need to take into account the availability and the comparative advantage of tourism resources when consider the comparative advantage of medical tourism. Thailand has diverse tourism destinations such as natural sites, cultural attractions, and well-known shopping places. Simultaneously, Thailand also has the advantage in service mind and Thainess which are the important image of Thailand and recognized by the international tourists (Untong *et al.*, 2011). These make tourists who travel to receive medical services in Thailand can combine tourism activities with medical services in the same time as well as receive the great services from Thai people. This reflects the benefit of economic tourism arising from the combination of medical treatment and tourism.

In the competitive advantage, Thailand has lower medical cost than major competitor as Singapore that has the same standard of medical treatments, especially in cosmetics surgery and orthopedics. Although, Malaysia and India have minor medical cost than Thailand, but they are considered to be of lower standard of medical treatments than Thailand. However, Thailand has an advantage in price competitiveness over Singapore only when consider the score on the index of price competitiveness in the travel and tourism industry (World Economic Forum, 2013).

From the previous studies and the data from the above analysis, we will be found that this four leading provider of medical tourism in Asia has different market position. Thailand focused on the quality treatment with friendly service. Singapore, the major competitor of Thailand, concentrates in specific treatment in the high end while India offers medical outsourcing with low costs, and Malaysia focused on Islamic market that has the same culture as Indonesia.

The strengths of medical tourism in Thailand are high quality of medical treatment and friendly service together with long-standing reputation of Thailand as attractive destination. These are the driving factors to the competitiveness of medical tourism in Thailand. However, the shortage of doctors and medical staff, political uncertainty, and

medical staff lack of proficiency in foreign languages, especially Japanese and Middle Eastern are factors that can be reduced the competitiveness of medical tourism in Thailand.

#### **CONCLUSION**

The objective of this paper is to benchmarking the competitiveness of medical tourism of Thailand with major competitors in Asia by applied the Ritchie and Crouch (2003) conceptual model of destination competitiveness. The finding of this paper is that Thailand has an advantage over the competitors in the aspect of comparative advantage or resource endowment. However, there are some factors that may reduce the competitiveness of medical tourism in Thailand such as medical staff lack of proficiency in foreign languages, political uncertainty, and the shortage of doctors and medical staff. In the aspect of competitive advantage, Thailand has an advantage over competitors, especially in the aspect of medical treatment and tourism price.

Then to maintain the competitiveness of medical tourism in Thailand, Thai government should encourage and support the production of medical staff to solve the shortage of medical staff that led to the brain drain problem, especially from public to the private hospital. Moreover, they should promote Thailand as the world leader in medical tourism more aggressively, improve Thailand's image as a clean, healthy and safe travel destination, and educate the rest of the world about its medical tourism cluster.

## **Experiences and Behavior Intention of Medical Tourists in Thailand**

Kansinee Guntawongwan, Vicente Ramos Mir, Akarapong Untong, and Mingsarn Kaosa-ard

### ***INTRODUCTION***

Medical tourism is a form of tourism that has the growth of revenue increasing continuously. The Boston Consulting Group (2008) and RNCOS (2009) estimate that total market value of medical tourism will increase from US\$ 20 billion in 2006 to US\$ 58 billion in 2012 with a compound annual growth rate (CAGR) about 20% per year. While the information from Patient Beyond Borders (2014) found that the market size of medical tourism is around US\$ 38.5-55.0 billion in 2014. This information is based on approximately 11 million cross-border patients worldwide spending an average of US\$ 3,500-5,000 per visit, including all medically-related costs, cross-border and local transport, inpatient stay and accommodations.

Thailand is one of the countries that are the center for medical tourism in the world. Simultaneously, in Asia, Thailand is among the top three countries that have a higher market share of medical tourism market in 2008 (RNCOS, 2009). Regarding the information from Department of Health Service Support, Ministry of Public Health (2013), the number of foreign patients in Thailand has increased continuously from 1.38 million people in 2008 to 2.53 million people in 2012 or increase at a rate 10.6% by the year. From the interview with the administrator of leading private hospitals that are the medical tourism providers, they estimated that 10% of this number is expected to be the medical tourists. It means that Thailand had medical tourists about 2.53 hundred thousand people in 2012.

From previous studies, although the cheaper medical costs and the high medical technology at medical tourism destinations are the main factors that influence the decision to receive medical service outside the country, the reputation and capability of doctor, quality of the services, and attraction of destination may persuade the decision of medical tourists as well. Moreover, the previous studies found that understanding the obtaining service experience of customer is crucial to the marketing strategies.

The objective of this paper is to study the causal relationship between the experience in using medical services and behavior intention of medical tourists in Thailand. The result of this study will present the size of effect of service quality on perceived value, satisfaction, and behavior intention of medical tourists. This information will be important for placing market strategies and guideline the services that motivate the future behavior of medical tourists especially recommending medical services in Thailand to their friend and relatives or the revisit of themselves. Moreover, it could be benefited for the Thai Government and other relevant authority to rest the planning policy to enhance the competitiveness of medical tourism in Thailand.

### ***METHOD***

This paper develops a causal relationship model between experience and behavior intention of medical tourists in Thailand. The model is under the framework of the causal relationship between service quality, perceived value, satisfaction, and behavior intention of tourists (Yoon and Uysal, 2005; Lee, Yoon and Lee, 2007; Chen and Tsai, 2007; Chi and Qu, 2008; Chen and Chen, 2010). The data used in this study were collected from five private hospitals that permit us access to their patients. Two of these hospitals were located in Chon Buri (Pattaya) and two in Phuket while the rest located in Bangkok. Data were collected using a questionnaire to interview medical tourists by

depend on the voluntary of them. This survey was conducted during April-August 2013 and can collect 383 observations. However, the number of observation that can analyze with Structure Equation Model (SEM) is 351 observations or 91.64% of total observations.

The model used in this study consists of 16 observed variables (six of them are exogenous variables, and ten are endogenous variables) and four latent variables. These latent variables can divide in one exogenous variable (service quality) and three endogenous variables (perceive value, overall satisfaction and behavior intention).

### FINDINGS

The model is adjusted by adding the correlation between the measurement errors of each component construction. This is done to ensure that the model represents accurately the data derived from medical tourists' survey. The most commonly used goodness of fit statistics is presented in the last row of Table 1. The main one is the Chi-square test which measures the distance between the sample covariance matrix and the fitted covariance matrix. It should be noted that a small Chi-square corresponds to good fit (not significant) and a large Chi-square to a bad fit of the estimation (significant) (Jöreskog and Sörbom, 1996).

Providing quality service, adequate information of medical services, and good value for money are the key indicators of the experience in using medical services of medical tourists in Thailand. After using medical services, if the tourists satisfied with the service received and their satisfaction are greater than their expectation, they will recommend medical services in Thailand to their friend and relatives. This result shows that word of mouth (WOM) is the behavior intention which is important to medical tourism in Thailand. That is because the medical tourists will believe in information that received from the intimate friends or relatives who have experience in using medical services which they interested.

The result from the estimation of the standardized coefficients with maximum likelihood estimation with robust standard error (MLR) which shows in Table 1 found that service quality has the greatest total effect on overall satisfaction. The magnitude of its direct effect is 0.424, and the indirect effect is 0.395. While perceived value from using medical services has received the least total effect from service quality with the direct effect of 0.723. However, although service quality does not have the direct effect on behavior intention, its indirect effect, which passed from perceived value and overall satisfaction have the magnitude 0.739.

Table 1. The effect and squared multiple correlations ( $R^2$ ) of Service quality variable.

Endogenous variables	The effect of Service quality variable			Squared multiple correlation ( $R^2$ )
	Direct effect	Indirect effect	Total effect	
Perceived value	0.723	-	0.723	0.523
Overall satisfaction	0.424	0.395	0.819	0.815
Behavior intention	-	0.739	0.739	0.818

$$\chi^2 = 102.047 \text{ (P-value} = 0.100\text{), RMSEA} = 0.024, \text{ SRMR} = 0.025, \text{ CFI} = 0.994, \text{ TLI} = 0.991$$

Note: \*\*\* significant at 95% level of confidence.

Source: Author's calculation.

## CONCLUSION

Empirical study demonstrated that the perceived value of medical tourists about the good value for money when choose to receive medical services in Thailand is the main factor affecting to the satisfaction and behavior intention. This reflects the price competitiveness of medical services in Thailand for the medical tourists. Then, one of the policies to promote medical tourism of Thailand should focus on the good value for money when traveling to receive medical services in Thailand. The hospital should not present cheap price of medical services but not worth for money. In other words, the market position of medical tourism in Thailand is for a group of customers who want to use medical services that worth the money they paid but the prices of treatments are not as high as their country with better or same quality of services.

Moreover, medical tourism providers should focus on the adequate information of medical services and good environment of hospital with complete facilities. These actions will result in the increase satisfaction of medical tourists and lead to the recommendation of medical services in Thailand to friends and relatives or the revisit of himself. In addition, this also reflects the confidence in the quality of medical services in Thailand.

**Tourists' Arrivals' Impact on Satisfaction with Life of German Residents**

Oksana Tokarchuk, Roberto Gabriele, and Oswin Maurer

Tourism researchers, as well as policy makers, are interested in knowing the impact of tourism on residents' life. Countless studies in tourism research considered positive and negative impacts of tourism on the economic, social, environmental and cultural life of residents (Wal and Mathieson, 2006). These studies, however, provide an instant picture of the situation through a cross section analysis at one or several destinations. Meanwhile, developing tourism destination takes years and residents' wellbeing is affected differently, depending on the development stage of the destination (Kim et al., 2013). Tokarchuk, Gabriele and Maurer (2014) have investigated the direct impact of tourism flows on the overall utility of residents in tourism areas through the analysis of residents' satisfaction with life. The analysis was conducted on data from a large socio-economic panel of German citizens (GSOEP) and data on tourists' flows collected by the German statistical office. In this analysis, satisfaction with life of residents in relationship to tourism arrivals has been evaluated investigated over a time period of 5 years. The analysis involved the whole country, distinguishing tourism destinations at the level of regional political regions and a positive effect of tourism arrivals on residents' overall level of wellbeing was observed. However, analysis at ROR level takes place at an too aggregated level, as ROR includes several municipalities, while attitudes of residents and tourists' arrivals may differ between the municipalities that constitute one single ROR. The present paper extends the results observed in Tokarchuk et al. (2014) through the analysis of GSOEP data conducted at the municipality level. This investigation permits to distinguish between destinations at municipality level (the most detailed geographical level for which data on tourists' flows is available) for the whole of Germany. The detail of this analysis permits to introduce the variable of proximity to the tourist destination and to investigate the relationship between residing close to a tourist destination, attractiveness of the destination, and satisfaction with life of residents. Our analysis extends the results of previous literature in tourism research, as it considers all tourism destinations within whole country. At the same time, this study accounts for the dynamic nature of tourism development by considering the development of residents wellbeing over the period from 2005 to 2011.

**Keywords:** Tourism impact, residents' wellbeing, Germany, GSOEP.

**Parallel Session [B2] -- Tourism Impacts**

[Wednesday, 1 July 11:00–12:30]

[Venue: B105]

**Session Chair: Adam Blake**

Bournemouth University

**Tourism, Remittances or Foreign Direct Investment: What is the 'Best' Option for Fiji?**

Stephen Pratt

*Introduction*

Tourism, remittances and foreign direct investment are all external injections into an economy. However, the transition mechanism through which these external injections flow through the economy differ. Hence, they will have different impacts and affect different parts of the economy to varying degrees. While these three injections are not mutually exclusive, that is, there is no need to choose to specialize in tourism, remittances or foreign direct investment; it is of interest to policy makers to determine which avenue of external funds has the largest economic impact and who benefits the most from each mode of funds transfer.

*Tourism*

The economic benefits of tourism have been well articulated. They include the generation of income for the local community, creation of new opportunities for employment, fostering of entrepreneurial activity, improvements to the balance of payments and the construction or upgrading of infrastructure (Goeldner & Brent Ritchie, 2012 pp. 308-315; Page & Connell, 2009, pp. 391-394 pp. 391-394). Tourism can also be used as a tool for economic development (Walpole & Goodwin, 2000). Tourism is often promoted by a destination as it is seen to be able to spread economic development and reduce inequalities in income distribution by providing employment to people in a particular geographical area (Mbaiwa, 2005). Attracting tourists to a destination is obviously important but additionally the destination needs to offer attractions and activities as well as amenities, such as transportation systems and accommodation places that can facilitate tourists' experiencing the destination. Quantifying the tourism development is useful for policy makers, such as government and the public sector so that tax revenues can be estimated. Growth in taxes as a result of tourism development can lower the tax burden on residents (Tyrrell & Johnston, 2009).

*Foreign Direct Investment*

Foreign investment can play an important role in a country's economic development (Dwyer & Forsyth, 1994). It can aid economic growth, development and poverty reduction by enhancing the productivity, boosting competitiveness and entrepreneurship in host countries through the transfer of knowledge and technology (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2010; Selaya & Sunesen, 2012). For developing countries, there is often a gap between desired total investment and domestic savings. Foreign resource flows can fill this gap (Kasuga, 2007). The World Bank considers FDI as an effective way to fight poverty, encouraging less developed countries to pursue policies that enhance FDI flows (Asiedu & Lien, 2011). FDI can provide positive externalities or spill-overs in addition to providing direct capital financing (Gorg & Greenaway, 2004). Horizontal spill-overs are knowledge spill-overs within an industry due to the presence of multi-national corporations. Vertical spill-overs

occur between MNCs and domestic firms across enterprises. These vertical technology spill-overs may occur through both forward and backward linkages (Le & Pomfret, 2011). Yet, the benefits of FDI are not a *fait accompli*. Much depends on the prevailing characteristics of the host economy.

#### *Remittances*

Remittances are “the money and goods that are transmitted to households by migrant workers working outside of their origin countries” (Adams Jr & Cuecuecha, 2010, p.1626). For countries such as the Philippines, thousands of nationals have left the country for employment purposes and millions have families have received income from abroad – the income representing a significant proportion of their household income (Rodriguez, 1996). There has been extensive migration from small island states to metropolitan countries, resulting in absolute population decline in some states and new socioeconomic and cultural relationships between the island states and the host nations (Connell & Conway, 2000). While the poverty level in a country has no relationship with the amount of remittances received, for those countries who do receive remittances, the level and depth of poverty decreases (Adams Jr, 2006).

#### *Methodology*

This research employs a Computable General Equilibrium (CGE) model to examine the impacts of an increase in tourism, FDI and remittances. CGE models are a standard tool of empirical analysis, and are widely used to analyze the aggregate welfare and distributional impacts of exogenous shocks or policies whose effects may be transmitted throughout the economy. The simulations to be analyzed will be a 10% increase in each of the external stimuli to the economy as well as a \$1 million increase. The data for the Fiji economy originally comes from Kumar (2001). This original data set was constructed for the year 2002. The data has been updated to 2010 values. CGE analysis on this data set has been undertaken previously (Pratt, 2011).

#### *Findings*

The findings and analysis are still taking place.

## Convergence of Airline Types in Travel Budget Share. A Retrospective from 2006 to 2012, Before and During the Crisis

Ferrer-Rosell, Berta and Coenders, Germà

It has been acknowledged that after a period of economic crisis consumer patterns change, in parallel leading to new business paradigms aiming to satisfy emerging demands (Papatheodorou, Rosselló and Xiao, 2010). Far from being a luxury good, travelling is considered as a key factor affecting one's quality of life (Bronner and de Hoog, 2014). The economic crisis affects the tourist behaviour when travelling more than the decision on whether to travel or not, for instance reducing the length of stay at destination, or the trip budget, or travelling to short-distance destinations (Smeral, 2010). Eugenio-Martin and Campos-Soria (2014) and Bronner and de Hoog (2014) show that tourists are heterogeneous in the way they adapt their travel decisions to the crisis.

Regarding airline types, Low Cost Airline (LCA) have gone through the stages of growth and maturity from 2006 to 2012. The number of tourists arrived by LCA has increased year by year, thus making the differences between LCA and legacy airlines smaller (Ferrer-Rosell, Martínez-García and Coenders, 2014). The services offered by the companies themselves (legacy and LCA) are in some cases becoming increasingly similar (Jarach, Zerbini and Miniero, 2009; Lohmann and Koo, 2012), which contributes to observing few significant differences. Ferrer-Rosell and Seetaram (2014) found that legacy airline users spend more at destination only within certain income groups. Besides, LCA are progressively capturing different tourist segments, even business travellers and even more so during the crisis (Martínez-García, Ferrer-Rosell and Coenders, 2012; Neals and Kassens-Noor, 2011).

Tourist expenditure has been analysed globally, in absolute terms per trip budget parts, as a part in itself in family budgets, and in relative terms (share) per trip budget parts (share of transportation, share of accommodation and food, and share of activities). The aim of this paper is to segment air travellers according to how they distribute the trip budget per parts. We compare LCA and legacy airline users and study the evolution of the found market segments in terms of both size and total expenditure at destination per day between 2006 and 2012.

To treat the trip budget distribution, Ferrer-Rosell, Coenders & Martínez-García (2013) were first to use the Compositional Data Analysis (CODA) methodology. Share in budgets, as any other composition, is expressed as proportions or percentages of a total, whose sum can only be 1 or 100. Compositional data lie in a restricted non-normal space and only convey information regarding the relative size of components to one another: components cannot vary independently (*ceteris paribus*) but the relative importance of one component (budget share) can only increase if the relative importance of at least one other decreases. The seminal work of Aitchison (1986) started a fruitful tradition in CODA of which the most widely used technique is the transformation of compositions by means of logarithms of ratios.

K-means cluster analysis of logarithms of ratios is used to segment air passengers from both LCA and legacy airlines. The active variable is tourist expenditure composition, and year and type of company play the role of illustrative variables, as well as total expenditure and total expenditure at destination per day.

We use official statistics micro data, provided by the *Instituto de Estudios Turísticos* (IET) for 2006, 2008, 2010 and 2012. The IET is an official agency of the Spanish Ministry of Industry, Energy and Tourism and produces the bulk of tourism data in Spain.

The survey used for this paper is known as the *Encuesta de Gasto Turístico* (EGATUR), follows a repeated cross-section design and gathers information on tourism expenditure. The EGATUR survey is conducted in 23 major Spanish airports, using CAPI (Computer Assisted Personal Interview) to interview incoming tourists when starting their trip back. The sample is non-proportionally stratified by country of residence, airport and month.

The main results are:

- Characterization of different profiles according to trip budget composition.
- Relationship between total expenditure and expenditure composition.
- Evolution of expenditure composition along the crisis.
- Comparison of the found segments between legacy airline and LCA users.

Convergence or divergence of expenditure composition between legacy airline and LCA users.

**Keywords:** Segmentation, trip budget share, airline convergence, Compositional Data Analysis (CODA).

## **Displacement in Economic Impact Models**

Adam Blake

One of the more important advances in recent years in tourism economics has been the introduction and development of economic impact models that are able to take account of resource constraints and price changes. Different authors have demonstrated that the economic impact of tourism is partly displaced through these mechanisms, as competition for scarce resources leads to increased factor returns which in turn lead to increases in costs across the economy, and to increases in prices. This paper classifies different means through which such displacement of economic impact occurs and examines how much displacement occurs through these channels under different macroeconomic conditions. Finally, computable general equilibrium model results are used to quantify the level of displacement in different circumstances.

Economic impact assessment is still commonplace with models that do not include displacement effects. Using input-output models, authors are often left in a position where much time and effort is expended in making improvements to methodologies that have minor effects compared to the potential effects of displacement. The estimates in this paper demonstrate the size of displacement effects under different conditions, enabling a more general indication of the size of displacement effects where their estimation is not possible.

**Parallel Session [B3] -- Tourism Forecasting 1**

[Wednesday, 1 July 11:00–12:30]

[Venue: B106]

**Session Chair: Andrea Saayman**

North-West University

**Quarterly tourism demand modelling from United States to México**

Juan Manuel Tello Contreras\*\*

**Summary**

A vector autoregressive model (VAR) is estimated to forecast quarterly demand of United States tourists to Mexico, during the period 1996-2011. Causal relationships are established in the Granger sense, for tourism demand, the gross domestic product of the United States, the value of trade between Mexico and the U.S. and between the relative prices of both countries. An impulse-response analysis in demand is performed under shocks on the variables in the VAR model. It was estimated that over 50% of the variance of the errors of tourism demand, is explained by the past behavior of the same variable.

**Introduction**

Tourism demand is the basis on which, service providers within the tourism industry not only in Mexico but throughout the world, make decisions. The estimated demand is relevant because companies such as airlines, hotels, tour operators and governments need to meet the demand for their products and services by tourists. Moreover, tourism demand determines the profitability of the business and is an important element for planning. For governments, macroeconomic policies depend heavily on forecasts and decisions of individual sectors within the economy, in addition to accurate predictions help governments to formulate and implement strategies for the medium and long term.

The forecasting method used in this study is the vector autoregression modeling (VAR). The contribution of this paper to the literature is that there have been no previous studies of demand estimation for the case of Mexico, the innovative use of impulse response analysis in a context of analysis of the tourism industry.

**Research objectives**

- Understand the determinants of the demand for tourism to Mexico.
- Analize the impact of the exchange rate on the tourists arrivals to Mexico.
- Understanding the impact of the income of US residents in tourist arrivals to Mexico.
- And knowing the influence of trade volume between the US and Mexico over the tourist arrivals to Mexico.
- Forecasting tourism demand of Mexico.

**Literature review**

In recent years, the VAR technique has been associated with multivariate cointegration analysis as proposed by Johansen (1988). Although there have been numerous works by applying the VAR models in macroeconomic modeling and forecasting, few studies have been conducted using this methodology in the analysis of tourism demand, and none has been found for the case of Mexico. In the literature the following studies are : Dritsakis (2004 ) using annual data from 1963-2000 to forecast tourist arrivals to Greece

from Germany and the United Kingdom using a VAR model cointegrated and an error correction model with functional double logarithm (Kulendran, 1996), Kulendran and Wilson (2000), Kulendran and King (1997) and Webber (2001) use quarterly data for 1975-1994 to forecast tourist arrivals to Australia using a model of cointegration and error correction (ECM) with double logarithmic functional form.

#### Method

In this research a VAR model is used to forecast tourism demand in Mexico for US tourists. Some advantages of using the VAR model is the convenience that occurs when it is not possible to clearly define what are the endogenous variables and which are exogenous, even when it is of interest, the direction of causality of the variables in the demand for tourism and finally when you want to learn more about the effects of policy shocks on the demand forecasts.

#### Data

In this research, tourism demand is measured as the number of tourists visiting Mexico, from the United States by plane on a quarterly basis ( $InT$ ), from 1996 to 2011. According to the Ministry of Tourism of Mexico, the United States is the principal issuing country of tourists to Mexico, the series was obtained from United States Department of Commerce (2013). Since the arrival of tourists includes business and leisure, the Gross Domestic Product of USA ( $InPIBUSA$ ) is used as the income variable, instead of disposable personal income (United States Department of Commerce, 2013). To reflect the influence of business activities in demand for tourism, trade volume variable is used, ( $InVC$ ), measured as the sum of imports and exports between Mexico and the US (United States Census Bureau, 2013). The price variable ( $InPR$ ) is defined as:

$$PR_{it} = \frac{IPC_{México,t} / TC_{México,t}^{EUA,t}}{IPC_{EUA,t}}, \text{ where } IPC_{México} \text{ represents consumers price index for Mexico (Organisation for Economic Co-Operation and Development OECD, 2013) and}$$

IPCEUA represents consumer price index for United States (OECD, 2013) and  $TC_{México/EUA}$  stands for quarterly exchange rate between Mexican pesos and U.S. dollars (OECD, 2013).

#### Results and discussion

The results suggest that the impact of a unitary shock in the equation of demand for tourism from the US to Mexico, has a considerable impact within the same variable  $InT$ , which gradually decreases and practically disappears in 12 periods. Similarly, an impact shock on tourism demand equation has a relatively small impact on the value of trade between the two nations, which makes sense, since the largest percentage of tourists visiting Mexico from the United States, are leisure tourists and no business tourists, however, there appears to be a two-way causal relationship as more US tourists means more trade between the two countries and vice versa. Additionally the variance error decomposition is examined, with the objective of determining the ratio of movements in the time series that are caused by the own series or other series within the model for each point in time. It is observed that about 50% of the error variance  $InT$  variable is explained by its own behavior. In fact in the first 3 periods, over 80 % of the error variance is explained by the same number. This implies that for produce better forecasts of tourist arrivals from the US to Mexico, it is very important to study and understand the behavior and information within the same series.

**Keywords:** VAR Models, Tourism Demand, Granger Causality, México.

**Comparison of Forecasting Accuracy in City Tourism using Different Models**

Irem Onder and Egon Smeral

City tourism is rapidly gaining in importance. With its fast pace of growth, the city tourism industry needs reliable forecasting models to get useful information on future development trends. Although there are many tourism demand forecasting studies published, not many of them are focusing on city level demand using monthly data structured by source markets. In this study, five major European cities' tourism demand from five major foreign source markets are estimated by different ARIMA - and Holt Winter's-models. The purpose of this study is to compare the forecasting accuracy measures of RMSPE and MAPE ("Root Mean Square Percentage Error" and the "Mean Absolute Percentage Error") to find out what model has the better forecasting capability.

The data used are monthly arrivals of tourists in hotels or similar accommodation establishments in 5 major European cities (Barcelona, Budapest, Lisbon, Paris, Vienna) from 5 foreign source markets (Germany, Italy, Japan, United Kingdom, United States of America) between 2003 and 2013. The data has been retrieved from TourMIS (tourmis.info), which is an online tourism information system, publicly available for tourism statistics.

In all of the cities, the demand shows seasonality patterns; thus, all the time series from each market have been seasonally adjusted. Augmented Dickey Fuller (ADF) Unit Root Tests were conducted for each of the source markets and cities to see whether the data are stationary, and the results show that there are unit roots for some of the time series. To have a stationary time series and to be consistent with the analysis, the first difference of all the time series were taken and ADF Unit root tests have been conducted a second time. The results indicate that all the time series are stationary, results which then were used for further analysis in the study.

For forecasting tourism demand, Holt Winter's Multiplicative and five different ARIMA models for five cities and five different source markets were used in this study. The forecasting models were estimated between January 2003 and December 2011 and the accuracy of the models has been tested with "out of sample forecasting" for the period January 2012/December 2013.

The results revealed that Holt Winter's multiplicative models consistently outperformed the various ARIMA models for each city and each market. According to the data set, for city tourism demand forecasting using monthly time series, Holt Winter's models are an efficient tool. Compared to ARIMA-models, the Holt Winter's approach deals better with the high volatile time series of city tourism demand. In addition, these methods do not require any deseasonalization since they already take into account seasonality as part of the method. Thus, from tourism industry's perspective, these methods are also easier to apply since the raw data can be directly used for forecasting.

**Keywords:** Tourism demand forecasting, city tourism, monthly data, RMSPE, MAPE.

**Forecasting Tourist Arrivals Using Multivariate Singular Spectrum Analysis**

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Jacques de Klerk and Andrea Saayman

Forecasting tourist arrivals have received increased attention by government, business and academics over the past two decades. Since a large portion of the tourism product is perishable and the production-consumption process takes place at the same time, the accurate forecasts of tourist arrivals have become a necessity for destination managers and tourism businesses. In recent year, singular spectrum analysis (SSA) has been applied in forecasting in a number of industries. However, its application in tourism demand forecasting is still limited with only a couple of papers found (Benekci et al., 2009; Saayman & Botha, 2014; de Klerk, 2014, and Hassani, 2015). All of these papers focus only on the application of SSA using a single univariate time series. New developments in the field of SSA have allowed the extension of the univariate framework into a multivariate SSA (Hassani et al., 2013), although it has not been applied in tourism demand forecasting to date. This paper aims to forecasts tourist arrivals from five continents to South Africa using multivariate SSA and to compare the forecasting accuracy with that of univariate SSA. The continents are Europe, North America, South America, Australasia and Asia, while the variables included in the analysis are income, price, travel cost and climate. The preliminary results show that multivariate SSA leads to improved forecasting accuracy compared to univariate SSA.

**Keywords:** Tourist arrivals, tourism demand, forecasting, singular spectrum analysis.

**Parallel Session [B4] -- Hotel Economics 2**

[Wednesday, 1 July 11:00–12:30]

[Venue: B114]

**Session Chair: Bing Pan**

College of Charleston

**Hotel Efficiency in a Destination with Strong Seasonality: The Case of Corsica**

Sauveur Giannoni and Nicolas Peypoch

This paper studies hotel efficiency in the Corsican context characterized by a strong seasonality. Corsica is a small island with a population of 316 000 inhabitants and a tourism flow over 2.5 millions in 2013.

But this flow is highly seasonal. According to the data, the total number of night stays in 2013 for the 378 hotels of Corsica amounts to 2.8 millions (INSEE, ATC). The same data show that 69% of the night stays are realized between June and September. In a study for the Corsica Tourism Agency (UMR LISA, 2012), a Gini coefficient of 0.623 has been computed for the period 2005-2010. During this period, 71% of the night stays were realized in 3 months.

This high level of seasonality obviously impacts the efficiency of Corsican hotels and hotel owners develop a set of management strategies to account for seasonality.

The main aim of our paper is to investigate how some features related to seasonality affect efficiency.

A sample of 30 hotels from Corsica has been built.

This sample includes an important range of information: financial data, high season and low season rates, hotel features, occupancy rates and room characteristics.

In a first section, the Corsican hotel sector is briefly presented in order to highlight its specificities and especially the seasonality phenomenon.

In a second section, efficiency scores are computed by using Data Envelopment Analysis (DEA) in order to identify the benchmarks, that is hotels that achieve the best practices in terms of performance.

The impact on efficiency scores of contextual variables related to seasonality are analysed by following the recent approach of McDonald (2009). Some variables such as variability of occupancy rates, level of prices, length of opening of the hotel are considered.

The final section presents a discussion of the main findings and proposes some managerial recommendations and policy implications.

**Keywords:** Performance, Efficiency, DEA, Seasonality, Corsica.

**Forecasting Destination Weekly Hotel Demand with Big Data**

Bing Pan

*Introduction*

Traditional tourism demand forecasting relies on historic performance and general economic indicators to predict future needs (Song and Li 2008). However, these methods are usually in large time scale, lagging behind agile business operations, and possibly losing accuracy with structural economic changes (Yang, Pan et al. 2014). Recently, a series of studies have adopted big data sources, such as website traffic and search engine query volumes, to forecast tourism demand, including tourist arrivals or hotel demand to countries, areas, or cities (Choi and Varian 2009, Pan, Wu et al. 2012, Bangwayo-Skeete and Skeete 2015, Yang, Pan et al. 2015). This study combines two different big data sources, weather data and Google search data, to forecast hotel room demand for 1 to 8 weeks in the future in Charleston, South Carolina, USA and its four sub-areas. The models achieved excellent results with only a 1% forecasting error rate and the contribution of weather data and Google search volumes was significant. An automated R script is also in the work for the purpose of automatically generating the 8 week forecast every week. The study demonstrates: 1) the combination of multiple big data sources can achieve better forecasting accuracy; 2) different types of Google queries, such as searches on accommodation and other destinations, are needed; 3) different sub-areas of one destination need different query data and weather data.

*Methodology*

We chose Charleston, South Carolina, United States as the target destination, due to our access to hotel performance data in the area. There are four different types of data sources for this study.

1. The weekly performance data were obtained from STR Global, a commercial company specializing in hotel performance benchmarking. The weekly data range was from January 1, 2006 to November 9, 2014 and we used total roomnights sold as the indicator of hotel demand.
2. Charleston, SC holds many events every the year. These events could impact hotel occupancy in the area. The researchers created a list of events for the area, from 2006-2014. Also, different events may impact the hotel performance in different ways. The researchers separated the events into three types: a) large positive events, such as large festivals; b) small positive events, such college football homecoming day; c) negative events, such as Christmas Eve and Christmas Day.
3. Weather data. Daily weather data are obtained from forecast.io with an API access programmed in R. Weather data were obtained in January 1, 2005 to December 31, 2014.
4. Google query search volume. First, we used Google Correlate to identify correlated queries with Charleston County hotel demand. Since a 4 week lag between Google search and hotel demand can achieve the maximum correlation (Yang, Pan et al., 2015), thus, we specifically tested the prior1-4 weeks' query volumes in predicting hotel demand. A total of 36 Google queries were obtained which have the highest correlation with area hotel demand.

We assumed an ARIMAX model with one or more autoregressive and moving average terms. We also combined weather data and Google search volume data into the ARIMAX model. A list of 42 variables were available as candidates. Multi-collinearity tests among Google search volume data showed the existence of the problem. We

clustered the variables and picked the highest correlated predictor from each cluster. A stepwise selection method was used to pick the best models.

### *Results*

The results show a good fit for all five models: MAPE for out-of-sample forecast of around 1%. For example, for County hotel demand, the model contains 21 predictive variables, including 3 AR components, 5 MA components, one variable on the number of days of negative events, and 12 different Google search queries.

It's interesting to note that the relevant Google search queries include different types: certain hotel properties ("homewood suite"), event-related queries ("event insurance"), and other destinations ("hotels savannah" and "lake havasu"). In addition, the variables for the best fit model for the four sub-areas were different and also differed from the area model. For example, the number of negative event days is significant for County total model but not for the four sub-areas; instead, the number of rainy/snow days are significant predictors of hotel demand for four sub-areas.

### *Conclusions*

The combination of big data sources could produce accurate near-term forecasting for local hotel demand. The nature of the events, the weather in a week, and relevant Google search volumes will help with forecasting accuracy, combined with moving average and autoregressive terms. However, certain Google queries possess predictive power, but their face validity raises questions: how does search query of "lake havasu" (located in Arizona) affect hotel demand in Charleston, South Carolina? The nature of the correlation needs to be further investigated.

### *Future Research and Development*

The automated R and Python script for running 8-weeks forecasting is still in progress and we plan to release the script freely on the Web. Furthermore, a more user-friendly web-interface could be developed to reduce the complexity of adopting the forecasting methods for other destinations.

**Parallel Session [C1] -- Tourism Expenditures**

[Wednesday, 1 July 14:00–15:30]

[Venue: B104]

**Session Chair: Neelu Seetaram**

Bournemouth University

**Modeling Tourism Expenditures Using a Fuzzy Approach**

Pierpaolo D'Urso, Marta Disegna, and Riccardo Massari

In tourism literature, it is widely acknowledged that tourists' satisfaction with a destination is a crucial issue for destination managers to maintain and/or increase local economy. In fact, as extensively shown in the literature, a high level of satisfaction is able to stimulate repeat visits, positive recommendations, new tourists, reputation enhancement, it is also able to produce an higher acceptance of price increases, and overall higher profitability (Anderson et al. 1994; Baker and Crompton, 2000; Kozak and Rimmington, 2000; Homburg et al., 2005; Zhang et al., 2010; Munier and Camelis, 2013).

However, as suggested by Zhang et al., (2010), very few studies have investigated the direct relationship between satisfaction with the destination and their expenditure. In fact, the triangular relationship in which satisfaction affects loyalty which in turn affects economic returns has been extensively proved in the economic and tourism literature (see for instance Baker and Crompton, 2000; Bigné, Andreu and Gnoth, 2005; Hui, Wan and Ho, 2007; Mendes et al., 2010; Kim, Suh and Eves, 2010; Yuksel, Yuksel and Bilim, 2010; Marcusen, 2011; Anil, 2012) but less is known about the direct influence of satisfaction on economic returns (Zhang et al., 2010; Kim, Prideaux and Chon, 2010; Chen and Chang, 2012; Disegna and Osti, 2014).

The few studies regarding the direct influence of satisfaction on expenditures differ for the type of regression model, for the dependent variable, and for the set of independent variables chosen. In detail, the overall expenditure was used as dependent variable of a multiple regression model by Zhang et al. (2010) and of a quantile regression model by Chen and Chang (2012). Different tourists' expenditure categories, and their total expenditure, are investigated through three different linear and non-linear regression models (i.e. Logit, OLS, Tobit) by Kim et al. (2010) and through a Double-Hurdle model by Disegna and Osti (2014). The overall satisfaction (measured by a suitable Likert-type scale) has been included as independent variable, among others variables, in the researches made by Kim et al. (2010) and Chen and Chang (2012). Zhang et al. (2010) investigated the effect on overall expenditure of 21 variables that describe satisfaction with different aspects of an exhibition performing a factor analysis before to use as independent variables in the regression models in order to obtain a cleaner factor structure. Disegna and Osti (2014) included, without any transformation, the level of satisfaction, measured on a 10-point Likert scale, with ten different aspects of the destination in the set of independent variables used to estimate the tourists' expenditure behaviour.

The present study adds to this latter literature by examining how the level of satisfaction (measured on a 10-point Likert scale) with the different aspects that characterize a destination affect tourists' expenditure behavior for different categories taking into account the uncertainty and vagueness that characterized linguistic variables such as the levels of satisfaction. Oftentimes, information regarding opinions, satisfaction,

emotions, and other aspects that involve a personal judgement are vaguely defined and captured through imprecise measurements (D'Urso, 2007). These kinds of uncertainty are the origin of the applicability of the fuzzy set theory firstly proposed by Zadeh (1965), which allows to capture and represent, in a easy to understand form, fuzzy, vague, imprecise, and uncertain domain knowledge, such as opinions/perceptions, and provides a useful tool to make decisions based on imprecise and/or incomplete information (Wang et al., 2014).

In this study we propose a novel fuzzy regression model able to analyse all the situations in which researchers aim to investigate the relationship between fuzzy and crisp variables, such as the relationship between levels of satisfaction and expenditure.

Data collected by Banca d'Italia in 2013 on international tourists who visited one of the city in the Bolzano province are examined in this study. The dependent variable of the suggested model is natural logarithms of per person per night expenditure in order to better handle possible non-linear relationships between the independent and dependent variables (Thrane and Farstad, 2011; Chen and Chang, 2012). The set of independent variables include some crisp variables (like socio-demographic variables and trip related variables) and fuzzy variables, i.e. the ten levels of satisfaction previously transformed into fuzzy numbers. Different regression analysis are performed, one per each tourists' expenditure categories.

The results of this study can help the policy makers and marketing experts to have a more realistic knowledge on the relationship between satisfaction and expenditure, allowing them to improve the touristic supply and to implement specific consumer-based marketing campaign offering a combination of different services.

**Keywords:** Tourism expenditures, fuzzy regression, linguistic variables, satisfaction.

**Determinants of Per Diem Tourism Expenditure in Spain**

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Berta Ferrer-Rosell, and Neelu Seetaram

Income is not only the most commonly used explanatory variable in models of tourism demand but empirically it is often found to be the most important determinant of tourism demand. Income elasticity of demand is often found to be more than 1 implying that tourist view tourism products as luxury items. This paper however, asks the question whether expenditure pattern of tourist of different income groups differs. The paper uses survey data from Spain and the ANCOVA approach to determine whether self-reported income group has an effect on the expenditure per day of leisure tourists.

The novel aspect of this paper is that it uses the consumers' self-reported income category, low, medium and high to stratify the sample and assess the per diem expenditure of the tourist. Data on self-reporting income category take from the researcher the responsibility of assessing a category to the respondent. It is expected that behaviour of an individual is more likely to be dependent on the individual's self-perception of the individual's income group than on the actual income of the individual. Actual income is crucial for estimating income elasticity of demand. However, in the paper the aim is to assess whether there is a distinction in behaviour among the income classes and therefore, the data from Encuesta de Gasto Turístico survey which reports this is deemed appropriate. The Encuesta de Gasto Turístico is a survey of tourism expenditure performed by Institute for Tourism Studies of the Spanish Ministry of Industry, Energy and Tourism, which regularly collects data from tourism arriving by air to 23 main Spanish airports. The sample size is 17,602 respondents.

A number of explanatory variables including, social demography characteristics of the tourist, country of origin and type of expenditure are used as determinant of tourism expenditure per day. Results show that which self-report income groups have a significant effect on per diem expenditure; the direction of the effect does not always conform to expectations. The use of expenditure per day instead of total expenditure at the destination takes into account phenomena such as a long trip per year, or many short trips per year and time restriction whereby tourists who has a lot of time but spend less at destination, or tourists who stay shorter, but spend a lot in the destination. Results show that which self-report income groups have a significant effect on per diem expenditure; the direction of the effect however, does not always conform to expectations.

**Keywords:** Tourism demand, income, daily tourist expenditure, moderating effect, MANCOVA.

**Parallel Session [C2] -- Pricing**

[Wednesday, 1 July 14:00–15:30]

[Venue: B105]

**Session Chair: Gang Li**

University of Surrey

**Efficient Pricing for Sectors with Interdependent Demands: A Model of Optimal Tourism Taxes**

Sarah Divisekera \*\*

Maximisation of gains from foreign tourists, through various tax measures, is a common practice among many host countries of the world. These include; entry, departure and airport taxes, taxes on hotel rooms and other goods and services consumed by foreigners. While the arguments for taxing tourists vary, the central concern among economists has focused on deriving appropriate pricing (tax) rules that maximise gains from tourism. Much of the existing literature, which considers the tourism sector as an independent economic unit, proposes efficient pricing/tax rules which are equivalent to the conventional *optimum tariff* formula: tourists should be taxed in accordance with the elasticity of demand for tourism. This popular result, notwithstanding its theoretical appeal, is questionable as it overlooks one unique and fundamental characteristic of international tourism demand: that is, the interdependency (or complementarity) of tourism with its counterpart, international travel. The implication of this omission is that the tax policies based on the demand for tourism at a particular destination alone may not necessarily be efficient/optimal from the nation's point of view as the taxes on one sector affect the demand for the complementary sector as well.

The objective of this paper is to examine the efficient pricing of tourism services by explicitly incorporating interdependency of demand for tourism with its counterpart travel (transportation). In the spirit of conventional optimum tariff theory, a model of optimal pricing is developed. This analysis demonstrates that the issue of rent extraction from foreign tourists as a means of maximising gains is a complex one. The complication arises from the inherent complementarity of tourism demands with its counterpart, travel. So, one has to consider not only the demand for and the existing market structures of the sector targeted for taxation, but also that of the complementary sector. This creates significant practical difficulties in determining optimum rent-maximising taxes across sectors and it appears that it is more practical to target one of the complementary sectors for rent extraction rather than targeting both sectors. If the prevailing market structure of the two sectors is competitive, one of the sectors may be targeted for taxation and the rents associated with unique tourism attributes may be extracted efficiently. Given the diversity of demands from tourists of different origins, and the inability to discriminate both between locals and foreigners and foreigners from different origins, the most appropriate sector to be targeted for taxation appears to be the international aviation sector. Tax policies combined with other policy instruments directed towards the international aviation sector can be used not only to maximise rents but to achieve much broader national objectives directed towards the international tourism sector.

**Household Expenditure Patterns for Tourism in China, 2002–2009**

Vera Shanshan Lin, Rui Mao, and Haiyan Song

Given the importance of Chinese travel, coupled with social-demographic and economic changes, understanding tourism expenditure patterns is vital to travel organizers and destination marketers in yield maximizing and product development. Using urban household survey data carried out by the National Bureau of Statistics of China over the period 2002–2009, this study aims to compare different impacts of household economic and socio-demographic characteristics on tourism expenditure of Chinese urban residents at different age cohort.

The method of Mankiw and Weil (1989) who derived personal housing demand from the total value of a family's house was adopted to decompose household expenditures to constituent household members to establish the link between the consumer's age and the amount of spending. The life-cycle age-profiles of total tourism expenditure and its group-tour and non-group-tour expenditure were obtained by decomposing relevant total household expenditure to it. The results show that the estimated age profile of the total tourism expenditure is hump-shaped, indicating that tourism-related consumption may be income elastic. The age profile of group-tour expenditure is hump-shaped whereas the age profile of non-group-tour expenditure is S-shaped. The increase of the total tourism spending is the most salient for the middle-aged.

It was also found that East China consume more than their counterparts in the Middle, and even more than their counterparts in the West at each age cohort. Males and females shared the similar age profile of the total tourism spending over the life cycle, although females always spent more on group tours and males began to spend more non-group tours since the middle age. The implications of the findings are discussed in the context of tourism research and marketing, which help to provide useful market segmentation information for tourism policy-makers and marketers.

Despite the usefulness of the UHS data, the study has some limitations primarily due to the data collected. Future research can be aided by including more travel-related variables and psychological variables. This study provides a descriptive analysis of the relationship between household expenditure for tourism products/services and socio-demographic and economic attributes, future studies can employ advanced econometric modeling methods such as panel data models for exploring the quantitative relationship between household expenditure for tourism and its determinants over constituent time periods in Chinese tourism context.

**Keywords:** Tourism expenditure, urban household surveys, socio-demographic and economic characteristics, Hodrick-Prescott filter.

**Industrial Legacy and Tourism: An Application of Hedonic Pricing Analysis to the Case of Hotel Rooms in Nord-Pas De Calais, France**

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Hakim Hammadou, Lévi Loïc, Jean Jacques Nowak, and Sylvain Petit

The room rates that hotels charge is determine by a large number of valued attributes. These attributes include not only room quality characteristics, but also access to various shared hotel facilities such as network externalities, attractive tourism endowments (beaches, museums) and repellent public goods (slag heaps, brownfields, industrial seaports). In this paper, we investigate the effect of industrial legacy on the tourism industry by assessing its influence on hotel rates using a dataset from Nord-Pas de Calais (France). The hedonic pricing method is used to examine the effect of proximity to these attributes on the prices of rooms. Moreover, we took into consideration the possibility that exogenous spatial factors jointly influence the prices of nearby hotels. The results clearly indicate that the industrial past has a negative impact on hotel rates because of the repellent public goods.

**Keywords:** Pricing, hedonic functions, hotels, Nord-Pas-de-Calais, repellent public goods, tourism.

## Parallel Session [C3] -- Tourism Flows

[Wednesday, 1 July 14:00–15:30]

[Venue: B114]

**Session Chair: Stephen Pratt**

The Hong Kong Polytechnic University

### **The Influence of Trade and Currency Agreements on International Tourism Flows**

Silvio Cassella, Paolo Figini, and Andrea Saayman

In economic theory the advantages of forming trading blocks are widely discussed and one of the main advantages identified of a currency union is the positive effect that it has on international trade flows. Rose (2000) was one of the first authors to empirically test the positive relationship within the European Monetary Union (EMU) by applying the gravity model, and this set in motion a flurry of research on trade flows and trading blocks. But it was only in 2007 that Gil-Pareja *et al.* studied the influence of the EMU on tourism flows, followed by Santana Gallego *et al.* (2010, 2012).

This paper aims at contributing to this literature about the effects of trade and currency agreement on international tourism flows. In particular this research expands previous research in both the period under investigation as well as number of countries, in order to: (i) capture the introduction of another European country (Slovenia), and the effect played by other non-European countries (Australia, Brazil, Chile, China, Russia, India and Israel); (ii) test the robustness of their findings through the use of alternative econometric methods. Additionally, this research also captures the effect of the economic crisis' worst phase, especially among the Eurozone. Moreover, a unique contribution of this research relates to identifying the influence of the BRIC (Brazil, Russia, India and China) countries, both on international and European tourism flows (called in this work, the "BRIC effect"). Panel data from 1995 to 2010 for 37 countries are used in the estimation and a typical gravity approach is followed.

**Keywords:** Tourism arrivals, trade agreements, currency unions, gravity model, panel data.

**The Opportunity Costs of Visa Restrictions in Europe: An Analysis of International Tourism**

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Johan Fourie, Jaume Rosselló, and María Santana-Gallego

Source markets for international tourism have traditionally been largely concentrated in the advanced economies of Europe and the Americas. However over recent years, with rising levels of disposable income, many emerging economies in Asia and the Pacific and countries in Central and Eastern Europe have shown fast growth in outbound tourism figures. Visa policies are one of the most important administration formalities influencing international tourism flows and European destinations have been recently characterized among the more restrictive ones. To that respect, European countries tackle the dilemma between, facilitating the cross-border flow of people for its own economic and political benefit, and monitoring, restricting and limiting that same flow mainly for security (including undesirable individuals and threats to national security by politically motivated violence), immigration control, limitation of entry, duration of stay, revenue generation and carrying capacity or control of demand (Neumayer, 2006).

The main aim of this paper is to estimate the effect of visa restrictions on international tourism flows to European countries. To that end, the *European Visa Database* elaborated by the London School of Economics and Political Science (LSE) is used. This recent database provides information about visa requirements as well as an index of barriers to free movement of people for 30 European countries covering the period from 2001 to 2012. The empirical analysis uses a gravity model for international tourism flows to estimate how visa restrictions reduce international trips to Europe. The analysis allows to quantify the effect of visa restrictions on bilateral travel as well as to simulate the effect of different visa policies evaluating the effects in terms of international tourist arrivals.

**Keywords:** Visa policies, international tourism, gravity model.

**Assessment Index of International Tourism Hub and its Application**

Tongqian Zou, Yaqing Ren, Hengyun Li, Fang Meng, and Pei Zhang

*Introduction*

Lohmann and Pearce (2010) conceptualized and operationalized nodal tourism functions, which include various origins, destinations, gateways, hubs, stopovers and other sub-categorizations. Hub is one of the most important functions, referring to special nodes that are part of a network and is located to facilitate connectivity among interacting places (O'Kelly, 1998). Because of the direct connection among many cities, hubs are ideal accessible places to gather and distribute materials (O'Kelly, 1998). Therefore, a number of international tourism cities aim to serve as tourism destinations as well as international tourism hubs so as to control the regional tourism flows. The aim of this study is to establish an assessment index to evaluate the functions of international tourism hubs, and make a quantitative comparison between Beijing and Shanghai, two primary international tourism cities/hubs in China. The expected contributions of this research are multi-folded. First, this study makes an initial attempt to define "international tourism hub", and distinguish it from "transportation hub". Second, this study provides a new and comprehensive assessment index for international tourism hub. Third, this study makes an innovative comparison between Beijing and Shanghai based on the proposed assessment index.

*Literature Review*

Previous studies on assessment of international tourism hubs present certain limitations (Toh, 1984; O'Kelly and Miller, 1994; Lew and McKercher, 2002; Button, 2002; Fleming and Hayuth, 1994;). First, most studies on international cities define them as merely tourism destinations, and establish the corresponding assessment indicators from the perspective of improving their competitiveness. Thus the functions of tourism hub for the international cities are neglected. Second, most previous studies focus on transportation hub, but only few relate to theoretical and empirical studies on international tourism hub. Currently, the definition, connotation, characteristics and the functions for tourism hub are blind spots in the literature. Third, extant studies on construction of tourism hub cities are mostly case studies or purely descriptive in nature. The theoretical foundations of this study are based on the three functions of tourism hub. They are: gathering and distributing function, transferring function, and service and management function.

*Methodology*

Based on previous literature of transportation hub functions and international tourism city characteristics, this study establishes an assessment index of tourism hub. The assessment index of international tourism hub is established from the aspects of gathering and distributing, transferring, and management service. Analytic Hierarchy Process (AHP) is used to determine the weight for each measurement indicator. Beijing and Shanghai were chosen as the cases for quantitative analysis and comparison. Secondary data of public statistics were used in this study. Example data sources include China Transportation Statistics, China National Tourism Administration, Beijing Statistics Bureau, and Shanghai Statistics Bureau.

*Results*

Three functions of tourism hub for Beijing and Shanghai were compared. Firstly, the gathering and distributing function was measured by two dimensions, namely "passenger transport capacity between tourism hub and international cities" and "passenger transport capacity between tourism hub and domestic cities". The results

indicate that domestic passenger transport capacity for Beijing is better than that of Shanghai, while Shanghai is better than Beijing on international passenger transport capacity. Secondly, the transferring function was measured by three dimensions, including transferring efficiency, transferring cost, and transferring comfort. The results demonstrate that the transit efficiency of Shanghai is better than that of Beijing. Additionally, the transit cost is similar for Beijing and Shanghai, while the transit comfort for Beijing is slightly better than that of Shanghai. Thirdly, the scores on government management are the same for Beijing and Shanghai, while it is higher for Beijing on the score of tourism enterprises' service than that on Shanghai.

### *Conclusion*

Several conclusions are made followed by implications. First, Transportation is the basic requirement for the establishment of international tourism hub, so it is critical to improve the connection between hub city and other international cities, especially for Beijing. In order to improve the transportation capacity, cities should enhance aviation hub establishment by including more international flights and networks. In addition, Beijing could take the best advantage of Tianjin Port by constructing convenient transportation link, to achieve the comprehensive development of both sea and air transportation. Second, Transferring is an important determinant of the success of international tourism hub. Compared with Shanghai, Beijing has two major challenges in transferring, namely inconvenience of transferring and congestion. It is critical to improve the direct access between Beijing Airport and other transportation hubs. Third, regional tourism cooperation is a good solution to improve resource sharing, market expansion, and city attractiveness and brand development.

**Parallel Session [D1] -- Tourism & Economic Growth 1**

[Wednesday, 1 July 16:00–17:30]

[Venue: B104]

**Session Chair: Gang Li<sup>1</sup> / ShiNa Li<sup>2</sup>**<sup>1</sup>University of Surrey<sup>2</sup>Leeds Beckett University**The Relationship among Tourism Competitiveness, Poverty, and Economic Growth in Developing Countries: A Panel Data Regression Analysis**

Namhyun Kim, Hak Jun Song, and Ju Hyun Pyun \*\*

*Introduction*

Tourism development has been a widely used strategy to improve economic conditions in many developing countries aiming to reduce the level of poverty in a country. However, there are still debates on whether tourism contributes to economic development and even poverty alleviation. Some empirical studies support a tourism led growth hypothesis (e.g., Balaguer & Cantavella-Jordá, 2002; Dritsakis, 2004; Kim, Chen & Jang, 2006), while others oppose (e.g., Oh, 2005). From the perspective of pro-poor tourism, it is more questionable if tourism can contribute to reducing poverty rate in a country. This study aims to empirically test whether tourism competitiveness has a positive impact on poverty alleviation and if then, whether this positive relationship is constant according to economic condition, income level, of a country.

*Literature review*

Reducing poverty has been a global agenda and challenges for governments, non-governmental organizations, and international organization such as United Nation, World Bank, etc. The relationship between tourism and poverty has brought much interest to above organizations who adopt sustainable tourism development as a strategy to help the poor and reduce poverty rate in developing countries. Recent literature on the tourism and poverty relationship has conducted by two types: empirical tests at a macro-level (e.g., Blake, Arbache, Sinclair, & Teles, 2008; Croes, 2014; Croes & Vanegas, 2008; Vanegas, 2014; Wattanakuljarus & Coxhead, 2008); and case studies by qualitative approach (e.g., Briedenhann, 2011; Holden, Sonne,& Novelli, 2011; Manyara & Jones, 2007; Tucker & Boonabaana, 2012). Researchers have conducted empirical studies applying either simulation models-simple input-output models or computable general equilibrium models- or econometric analysis using time-series macroeconomic data (Winters, Corral, & Mora, 2013). Most empirical studies focused on case studies of specific regions, so it lacks global understanding of tourism-poverty link. For example, Saayman et al. (2012) shows that when tourism increases in South Africa the real GDP increases at a macro level. That is, the impact on poverty alleviation would be greater when tourist numbers increase. However, the results showed the poor experiences decrease in household expenditure and increase in unemployment when tourism increases. Winters et al. (2013) argue that existing empirical literature is insufficient to understand the tourism-poverty link. They suggested that the question should be under what conditions this link is likely to be strongest. Therefore, this study aims to expand existing literature by bringing the triangle of tourism, poverty and economic growth and using panel data from 69 developing countries.

*Empirical model and data*

We set up the regression equation as follows to investigate the effect of tourism on national poverty ratio using observations for 69 emerging and developing countries except sub-Saharan Africa countries from 1995 to 2012:

$$\text{Poverty ratio}_{it} = \alpha + \beta \cdot \text{Tourism}_{it} + X_{it} \cdot \gamma + \kappa_i + \phi_t + \varepsilon_{ijt} \quad (1)$$

where the dependent variable,  $\text{Poverty ratio}_{it}$ , is poverty headcount ratio (%) at 1.25\$ a day of country  $i$  in year  $t$ .  $\alpha$  is constant term.  $\text{Tourism}_{it}$  is a variable of our main interest, tourism receipts per arrivals in country  $i$  at  $t$ . We also include tourism receipts, and number of arrivals as the alternative measures of tourism variable.  $X_{it}$  is a vector of variables that affects poverty ratio such as GDP per capita, GDP growth. We include geographical factors that influence country's poverty ratio such as landlocked dummy, island dummy, distance from equator and distance from the United States. We control

$$\kappa_i$$

for country fixed effects with  $\kappa_i$ , which captures a country's unobserved and time-invariant characteristics. We also include year fixed effects (year dummy) that absorb the common effects of external, or global, factors that are common to all countries. The variable  $\varepsilon_{ijt}$  is a random error term.

The income level or the level of country's development, however, may have changed the effect of tourism on poverty ratio. In order to test this predication, the model (2) proposed includes interaction terms for tourism variable with (log) GDP per capita:

$$\text{Poverty ratio}_{it} = \alpha + \beta_1 \cdot \text{Tourism}_{it} + \beta_2 \cdot \text{Tourism}_{it} \times \text{GDPPC}_{it} + X_{it} \cdot \gamma + \kappa_i + \phi_t + \varepsilon_{ijt} \quad (2)$$

*Results*

The results of testing model (1) show followings. First, the estimated coefficient on tourism—tourism receipts over arrivals—is negative and significant at the 1% critical level, indicating that an increase in per capita tourist expense is positively related to a decrease in poverty ratio in that country. Second finding shows that the coefficients on other factors are statistically significant and have negative signs, indicating that GDP per capita and distance from the equator have negative effect on poverty. Third finding shows that the level of country's income (GDPPC) influences the effect of tourism on poverty ratio.

From the result of model (2), both tourism and its interaction term with GDPPC exhibited significantly negative and positive coefficients respectively. Together, these two estimates indicate that the effect of tourism receipts per arrivals on poverty ratio starts negative, and the negative effect shrinks with an increase in the level of country's income. Finally, the effect of tourism on poverty even switches to positive over some threshold of income level. Column (4), our preferred results with fixed effects, shows that

$$\frac{\partial \text{Poverty ratio}_{it}}{\partial \text{Tourism}_{it}} = -17.864 + 2.115 \cdot \overline{\text{GDPPC}}_{it}$$

the threshold of (log) GDPPC is 8.45, which is close to the mean of our sample. Hence, about half countries whose income level is less than 8.45 shows that tourism contributes to reducing poverty ratio, while the rest of countries with higher income level exhibits that tourism rather deteriorates poverty ratio.

*Conclusion*

Findings indicate that tourism expenditure, GDP per capita, and geographical variable have direct impacts on a decrease in poverty ratio. Furthermore, the finding suggests the mediating role of economic level of a country in reducing poverty ratio through tourism. That is, the positive effect of tourism on poverty alleviation switches to negative over some threshold of income level of a country. Only least developed countries under mean of (log) GDP per capita have really benefited from tourism industry in reducing poverty ratio.

From the macroeconomic perspective, this study focused on the direct impacts of tourism competitiveness with three different indicators and the mediating effects of economic level of a country on the relationship between tourism and poverty. To identify whether tourism directly contributes to the livelihood of the poor, future research needs to test the impacts of tourism on poverty in micro-level.

**Multivariate Granger Causality between Tourism Receipts, Poverty and growth:  
Evidence for less developed country as Madagascar**

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Rakotondramaro H.H. and Andriamasy L.R.\*\*

In this paper, we examine this causal relationship between tourism, economic growth and poverty in Madagascar. Recognizing the causal relationship between economic growth and tourism expansion is of great importance as it can provide useful implications for relevant destination decision makers. We use Engle and Granger two-stage approach and a bivariate Vector Autoregression (VAR) model to investigate the causal relations between tourism, poverty and economic growth. The results show that tourism significantly contributes to the economic growth of less developed country, like Madagascar. Moreover, the tourist-growth nexus is observed to be a dynamic phenomenon and granger causality analysis reveals a bi-causal relationship between tourist and growth. We find also that there are statistically significant feedback effects between growth, tourism and poverty.

**Keywords:** Tourism expansion, economic growth, Granger causality, VAR, Madagascar.

**Where Can Tourism-Led Growth Occur? Evidence from the Chinese Regional Data**

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Yang Yang and Vera Shanshan Lin

By recognizing the tourism industry as a catalyst to economic growth, the tourism-led growth (TLG) hypothesis was first proposed by postulating a unidirectional causal relationship from tourism expansion to economic growth. Conversely, the economic-driven tourism growth (EDTG) hypothesis assumes that the local economic development facilitates the growth of the tourism industry because of the accumulated physical and human capitals that support tourism in turn. The past literature has provided mixed findings on the validity of TLG and EDTG hypotheses. To fill the research gap in the literature and impart insight on the determinants of different growth trajectory of tourism and economy, this study aims to contribute to the current debate on TLG hypothesis and economic underpinnings of TLG and EDTG by comparing the causality results across different regions within a country.

We first apply cointegration and Granger causality analysis to test the presence of TLG and EDTG using regional data in China. According to the empirical results, eight out of 28 regions are found to experience a TLG during the study period, whereas four regions witness an EDTG. Several probit models are estimated to investigate factors influencing the occurrence of different growth patterns. Our results suggest that regions with a less developed economy are more likely to witness a TLG, whereas regions with a less developed tourism industry are more likely to witness an EDTG. Moreover, we find that regions experiencing an EDTG have significant improved their relative standings in terms of tourism revenue when compared to other regions. However, those regions experiencing a TLG have not changed their relative standings in terms of economic development level.

## Parallel Session [D2] – Pricing & Tourism Efficiency

[Wednesday, 1 July 16:00–17:30]

[Venue: B105]

**Session Chair: Adam Blake<sup>1</sup> / Haiyan Song<sup>2</sup>**

<sup>1</sup>Bournemouth University

<sup>2</sup>The Hong Kong Polytechnic University

### VAT and Tourism: Results from a Survey of Holiday Intentions

Teresa Robinson and Adam Blake

The system of value added taxation in the European Union allows different member states to apply different levels of VAT on tourism products, and allows defined products to be taxed at a rate below the standard rate of VAT. The vast majority of EU member states have reduced rates of VAT for tourism products, with one notable exception being the United Kingdom. One of the important differences between VAT on tourism and VAT on other products is that as the rate paid by tourists is the tax rate in the destination, tourists face a choice between domestic consumption (domestic tourism) and consumption of imports (foreign tourism trips) at different rates of VAT. If the UK were to reduce its rate of VAT on tourism in line with other EU nations there might be a switch from holidaying abroad to taking domestic holidays as these would become cheaper, but when analysing the extent to which this switch would occur standard methods of analysis need to rely on elasticities that are estimated during time periods where tax rates have not changed to examine the influences of change in prices on tourism demand. This is clearly inadequate in predicting how strong the switch to domestic holidays might be. This paper examines the issue through a survey of UK resident households conducted in 2015 about their travel intentions and how these intentions would change under different scenarios of price and tax changes, examining how these changes depend on the size of the price or tax change and how the change is presented.

## **Destination Performance: Introducing the Utility Function in the Mean-Variance Space**

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Zhang, Botti, and Petit \*\*

Tourism demand over time can vary considerably between tourists from different countries. These variations can be caused by the different economic characteristics between the origins. Meanwhile, the average level of expenditure per tourist also differs among the origins of the tourist. Thus different tourist nationalities are associated with different level of revenue and risk, for a host country or a host region. Then the strategy to attract tourist by nationalities in order to maximize the total tourist expenditure and minimize the variation become an important issue for the policy makers. In this paper, we aim to apply a productivity measurement theory in a mean-variance space to a French region (Nord Pas-de-Calais) by introducing the utility function in a mean-variance framework, and to give some useful political advices to the policy decision makers to improve the performance of the tourist sector.

**Keywords:** Productivity Measurement, mean-variance, tourism efficiency, efficiency decomposition, utility function, Nord Pas-de-Calais.

**Parallel Session [D3] -- Tourism Behavior 1**

[Wednesday, 1 July 16:00–17:30]

[Venue: B106]

**Session Chair: Vicente Ramos**

Universitat de les Illes Balears

**Decision-Making in Daily Life and in Tourism**

Sharon Teitler-Regev and Tchai Tavor

The tourism industry is one of the world's most important industries. Its major contribution to the global GDP is growing from year to year. Tourism influences a country's economy in many ways, among them through the employment of almost nine percent of the labor market. This influence has led many researchers to focus on tourism and specifically on what affects a tourist's choice of destination.

When deciding to travel to a certain destination, a potential tourist has to compare the benefits of travel, such as relaxation, change of scenery, new experiences, adventures or the possibility of participating in certain activities, against the risks, such as the prices of travel and accommodations, health issues and risk of terrorism and natural disasters. The decision to travel involves a great deal of uncertainty revolving around two factors: risks related to going to unfamiliar places and general uncertainty in life, including the weather and unpredicted events (Chang, 2009).

Therefore, understanding how people, and specifically potential tourists, perceive and evaluate different risks is very important. One of the basic and widely accepted approaches to risk assessment is the prospect theory developed by Kahneman and Tversky (1984). This theory contends that there is a difference in the effect of winning and of losing, with losing usually assigned a higher weight. Tourists are expected to agree to a certain level of risk attached to the desired target. Risk, however, can be overrated, meaning that it will affect a decision more than is to be expected by the objective risk.

The purpose of the current research is to measure tourists' potential risk tolerance for tourism and to determine whether this is consistent with the general risk tolerance among tourists. The assumptions of the research are that individuals are consistent with their usual preferences. That is, individuals with high general risk tolerance will have high risk tolerance in tourism and vice versa. In addition, past experience with travel (domestic or foreign) will lead to higher risk tolerance.

The research took place in different academic departments at several institutions of higher education in Israel and included 256 undergraduate students. Of these, 49.2% were men and 50.4% were women, with an average age of 24.61; 76% were single and 24% were married; most of the respondents (90%) had no children.

The results of the analytical model support the hypothesis. The research results indicate that an individual's preferences are consistent. Individuals with higher general risk aversion also have higher tourism risk aversion. In addition, individuals with previous experience with domestic and foreign travel have higher risk tolerance.

These results can provide tourist suppliers more insight into how tourists make decisions. Based on this insight, they can offer tourists personally adjusted destinations based on their past travel experience and their general risk tolerance.

## **The Effect of Country Motivation on Experiences and Behavior Intention of Medical Tourists in Thailand**

Kansinee Guntawongwan, Vicente Ramos Mir, Akarapong Untong, and Mingsarn Kaosa-ard

### **INTRODUCTION**

After the economic crisis in 1997, tourism sector has become one of the most important economic sectors of Thailand. Thailand tourism has grown steadily for more than three decades as a result of an advantage in location, diversity of tourism resources, availability of factors supporting tourism, and the recognized hospitality of Thai people. In 2013, the number of foreign tourists who visit Thailand was about 26.5 million, generating revenue of 1.3 trillion Baht (US\$ 42.31 billion dollar<sup>1</sup>). This flow of tourists ranked the country in the tenth position as a destination in the world; second in Asia (after China). The revenue from tourism was ranked seventh in the world and also second in Asia (after China). Moreover, Thailand has advantaged in tourism balance as rank fourth in the world after United States, Macau, and Spain respectively (worth as US\$ 35.4 billion or about 1.1 trillion Baht) (UNWTO, 2014).

Besides natural, cultural, or historical attractions, the tourism promotion of Thailand also focuses on specific tourism segments as sport tourism, eco-tourism, or medical tourism. Thai government establishes strategic plans since 2004 to promote Thailand as a leading medical tourism destination, especially in Asia. This "Medical Hub" plan covered five years (2004-2008), and focused on general foreign tourists, foreigners working or living in Thailand or its neighboring countries, and medical tourists. Since then, the country has enjoyed a large number of visitors in this category. From the report of the Department of Export Promotion and the Department of Health Service Support, in 2007 there were 1.37 million foreign patients and increased to 2.53 million in 2012, which generated more than 121 billion Baht (US\$ 3.89 billion<sup>2</sup>). However, these amounts of foreign patients include medical tourists, general tourists and foreigners working or living in Thailand or its neighboring countries.

Thailand is one of the centers of medical tourism in the world. Particularly in Asia, Thailand was among the top three countries in terms of higher market share of medical tourism in 2008 (RNCOS, 2009). In the context of the research for this paper, the authors realized in deep interviews with some stakeholders of the medical tourism industry in Thailand that 10% of this number is expected to be the medical tourists. It means that Thailand had medical tourists about 2.53 hundred thousand people in 2012.

Previous studies (Connell, 2006; Cohen, 2008; Voigh et al., 2010) indicated that cheaper medical costs and high medical technology are the main factors that influence the decision to receive medical service outside the country. However, the attraction of the destination may also be a relevant determinant of the choice of tourism destination.

The objective of this paper is to study the causal relationship between country motivation, hospital motivation, the experience in using medical services and future behavior intention of medical tourists in Thailand. The result of this study will quantify the effects of country motivation on hospital motivation, medical experience, perceived value, overall satisfaction, and future behavior intention of medical tourists. This information will be important for designing the appropriate tourism policies to increase the competitiveness of the medical tourism industry in Thailand.

<sup>1</sup> The average exchange rate in 2013 is 30.726 Baht = US\$ 1

<sup>2</sup> The average exchange rate in 2012 is 31.083 Baht = US\$ 1

## METHOD

This paper develops a causal relationship model between country motivation, hospital motivation, experience, and future behavior intention of medical tourists in Thailand. The model is adapted from previous literature that covers similar relations (Yoon and Uysal, 2005; Lee, Yoon and Lee, 2007; Chen and Tsai, 2007; Chi and Qu, 2008; Chen and Chen, 2010).

The data used in this study were collected from five private hospitals that permitted the researchers to access to their patients. Two of these hospitals are located in Chon Buri (Pattaya), two in Phuket, and one in Bangkok. Data were collected using a questionnaire to interview medical tourists. The survey collected 383 observations from April to August of 2013. However, due to lack of relevant data, the number of observation that was analyzed with Structure Equation Model (SEM) is 351 observations or 91.64% of total observations.

The model used in this study consists of 24 observed variables (four exogenous variables, and twenty endogenous variables) and six latent variables. These latent variables are divided into one exogenous variable (country motivation) and five endogenous variables (hospital motivation, medical experience, perceive value, overall satisfaction, and behavior intention).

## FINDINGS

The model is adjusted by adding the correlation between the measurement errors of each component construction. This is done to ensure that the model represents accurately the data derived from medical tourists' survey. The most commonly used goodness of fit statistics is presented in the last row of Table 1. The main one is the Chi-square test which measures the distance between the sample covariance matrix and the fitted covariance matrix. It should be noted that a small Chi-square corresponds to good fit (not significant) and a large Chi-square to a bad fit of the estimation (significant) (Jöreskog and Sörbom, 1996).

The results of the study show that country motivation is the exogenous variable that influences experience in using medical services and behavior intention of medical tourists by passed its effect through hospital motivation. Hospital motivation works as the mediator that passes the effect of country motivation to medical experience. While medical experience is the main mediator that passes the effect of country motivation and hospital motivation to perceive value before passing its effect to overall satisfaction and behavior intention.

The result from the estimation of the standardized coefficients with maximum likelihood estimation with robust standard error (MLR) is shown in Table 1. It found that country motivation has the greatest effect on perceive value while hospital motivation has the greatest effect on medical experience. Medical experience has more effect on overall satisfaction than behavior intention and perceive value. It is noteworthy that medical experience is the variable with the highest effect on overall satisfaction.

The effect of country motivation on other variables shown in Table 2 indicates that country motivation has the greatest total effect on perceive value. The magnitude of its direct effect is 0.433, and the indirect effect is 0.188. While medical experience from using medical services has received the least total effect from country motivation with the indirect effect of 0.341.

Table 1: Standardized coefficients of the structural equation model

Exogenous Variables	Symbol	Direct effect	Indirect effect	Total effect
Endogenous variables				
<b>1. Country motivation</b>	<b>CM</b>			
- Hospital motivation	HM	0.497*	-	0.497*
- Medical experience	ME	-	0.341*	0.341*
- Perceive value	PV	0.433*	0.188*	0.621*
- Overall satisfaction	OS	-	0.477*	0.477*
- Behavior intention	BI	-	0.478*	0.478*
<b>2. Hospital motivation</b>	<b>HM</b>			
- Medical experience	ME	0.687*	-	0.687*
- Perceive value	PV	-	0.378*	0.378*
- Overall satisfaction	OS	-	0.493*	0.493*
- Behavior intention	BI	-	0.434*	0.434*
<b>3. Medical experience</b>	<b>ME</b>			
- Perceive value	PV	0.550*	-	0.550*
- Overall satisfaction	OS	0.422*	0.295*	0.717*
- Behavior intention	BI	-	0.632*	0.632
<b>4. Perceive value</b>	<b>PV</b>			
- Overall satisfaction	OS	0.537*	-	0.537*
- Behavior intention	BI	0.225*	0.381*	0.606*
<b>5. Overall satisfaction</b>	<b>OS</b>			
- Behavior intention	BI	0.709*	-	0.709*

Note: \* = statistically significant at 95% level of confidence.

Source: Author's calculation.

Table 2: The effect and squared multiple correlations ( $R^2$ ) of country motivation

Endogenous variables	The effect of country motivation variable			Squared multiple correlation ( $R^2$ )
	Direct effect	Indirect effect	Total effect	
Hospital motivation	0.497	-	0.497	0.247
Medical experience	-	0.341	0.341	0.472
Perceive value	0.433	0.188	0.621	0.651
Overall satisfaction	-	0.477	0.477	0.783
Behavior intention	-	0.478	0.478	0.817

Source: Author's calculation.

## CONCLUSION

Empirical study demonstrated that medical experience is the main factor affecting the satisfaction of the medical tourists in Thailand (qualities of the medical services and effectiveness of treatments are the indicators of medical experience of medical tourists). While hospital motivation (mainly captured by effectiveness of treatment) is the major factor that affects medical experience.

The results reflect that Thai government should emphasize the reasonable price of medical treatment in Thailand, as it is a key component of country motivation to raise the perceive value from using medical treatments in Thailand. Simultaneously, Thai

government should support and encourage the private hospitals to provide the efficient services. These will allow medical tourists to receive worthwhile experience from using medical treatment in Thailand, especially the experience on the quality of the services and effectiveness of the treatment. These actions will result in an increase of medical tourists' satisfaction and lead them to recommend medical services in Thailand to friends and relatives as well as come back to receive medical services in the future.

**A Measurement Tool for the Tourist Experience**

Natalia Tur, Javier Rey-Maqueira, and Vicente Ramos

Experience design is increasingly viewed as a useful and innovative strategy to enhance tourism competitiveness by means of differentiation. The search for new managerial tools available for the private industry is recognized as one of the key challenges of tourism experience economy literature. Despite the usefulness of the findings extracted in the academy, the need to transfer these contributions to the private tourism industry is still present. In this context, this study aims to achieve two key objectives: 1) to provide new empirical evidence of the theoretical contributions developed in the experience economy field, and 2) to bridge the gap between the knowledge extracted from the academy and the needs of the tourism stakeholders, providing a new tool to tourism managers and technicians to assess the different dimensions of the tourist experience.

This study takes prior research as departure point and re-specifies the different elements of the tourist experience for the hotel sector. The overall experience is conceptualized as a higher order factor and operationalized as a second-order construct, with the following first-order variables: 1) main room, 2) food and beverage, 3) hotel services, 4) location, 5) staff, 6) scenery, 7) sensory design, 8) hospitality, 9) happiness, 10) interest, 11) anger, and 12) sociability. These dimensions are assumed to be jointly co-created by the hotel supplier and every singular guest. The data available for the study was extracted from a demand scope, highlighting the importance of subjectivity and the active role of the tourist in the very definition of the product. The data encompasses traditional cognitive assessments about the different attributes of the hotel, other sensory and affective reactions, the specific context of the stay, and single personal traits. The research applies Structural Equation Modeling to test the hypotheses using data collected from a random sample in Ibiza (Spain). Respondents from three different hotel market segments (three-star, four-star, and five-star) were randomly selected and asked to complete a standardized, self-administered questionnaire at the end of their stay. The study comprises 500 questionnaires in the final data set. A positive association between every element and the overall experience was assumed, except for the case of anger.

A measurement model was evaluated for the data set, applying Generalized Least Squares estimation method. All the hypotheses were supported, indicating that the different elements co-created during stay enhance the tourist's overall experience with the hotel, except for the case of anger. Two relevant interpretations of the results were analyzed. On one hand, factor loadings allowed the authors to interpret what the latent construct "tourist experience" was by judging the relative size of the different components. High standardized loadings in hospitality, sensory design, and happiness indicated that the experience was well-represented by these variables. The tourist's experience in Ibiza is the staff's sympathy and friendliness (0.96), the set of sensory stimuli received from the hotel (0.94); and the tourist's and his relatives' feelings of happiness (0.90). Traditional supply-side indicators –main room (0.7), food and beverage (0.67), hotel services (0.73), location (0.77), scenery (0.73), staff's skills and efficiency (0.86) –accounted for less variance from the overall experience. On the other hand, factor scores allowed the authors to set different weights to each dimension in producing a score representing the experience. In sum, the different dimensions explain the 91.6% of the variability of the overall experience. The sensory design intentionally enhanced by the hotel through architecture, décor, music, fragrance, etc. (15.7%), the tourist's affective reactions about the staff (14.6%), rational thinking about their skills

(13%), and his or his relatives' feelings of happiness/joy (10.5%) account for the largest rates. Traditional elements, such as the main room (6.5%), food and beverage (5.7%), hotel services (5.4%), location (5.8%), or surrounding scenery (6.5%) show lower rates. Finally, additional emotional messages of interest (4.1%) or anger (2%), or personal traits such as the tourist's sociability and empathy (1.8%), must also be considered as part of the tourist's experience.

Several implications for Experiential Marketing can be derived from the results extracted. Experience economy is based on the recognition of the sensory and emotional aspects of products, beyond its technical attributes. This study provides new evidence about the effects of certain sensory and emotional stimuli on the overall tourist's experience. Firstly, positive basic emotions –e.g. happiness, interest – drive much of the behavior in leisure time activities, against certain negative basic emotions –e.g. anger. Secondly, the tourist's cognitive and affective reactions about the staff are separate but intertwined channels. Hospitality, which represents the tourist's reaction about the staff's sympathy and friendship, shares more variance with the overall experience than staff dimension, which represents the tourist's rational opinions of their skills and efficiency. Thirdly, the high contribution of the sensory aspects of the product is also relevant when managing tourist experiences. Finally, traditional indicators widely extended among the tourism industry seem to be limited when explaining the behavior in experiential markets. This measurement tool was aimed at opening a range of new possibilities for managers and practitioners to measure the experiential aspects of tourism with quantitative verifiable data. Further research is currently being developed to test the impact of the different dimensions of the experience on the tourist's total perceived value –in emotional and cognitive terms –, his final satisfaction, and behavioral intentions (e.g. repetition, recommendation, upper willingness to pay, ...).

## Parallel Session [E1] -- Tourism Demand 2

[Thursday, 2 July 11:00–12:30]

[Venue: B104]

**Session Chair: Paolo Figini**

University of Bologna

### **Interdependencies of Demand for International Air Transportation and International Tourism**

Sarath Divisekera \*\*

This paper analyses the interdependency of demand for two of the world's leading traded services: international transportation and international tourism. Based on the Almost Ideal Demand System, the study models transport and tourism demand simultaneously, for a range of countries: Australia, New Zealand, the United States, and the United Kingdom. Overall, tourism demand is found to be relatively more sensitive to price and expenditures than is the demand for transport services to the same destination. The cross-price elasticities indicate significant interdependencies of demand between transport and tourism, and between destinations. Overall, the cross-price elasticities confirm the complementarity between transport demand and tourism demand. However, in the cases of the UK demand for the United States, the US demand for the United Kingdom, substitutability between the two demand types is found. The finding that the two elements of total tourism demand are substitutes is an indication that the travellers from respective origins have strong preferences for tourism services of the destinations concerned. Moreover, in cases where substitutability of transport and tourism is evident, we also find that that the destinations face relatively price-inelastic demand from the respective origin countries. These, in turn, imply that the respective destinations have some market power in the provision of tourism services. Thus, there is a case for considering appropriate pricing strategies—for example, tourist taxes—to exploit market power as a means of maximising the gains from foreign tourism. The observation that Australia and New Zealand are complementary destinations would suggest that a joint promotional strategy could be beneficial to both countries, rather than promoting the two destinations separately. Overall, the results from this study may guide policy makers in respective destination countries in developing national tourism and aviation policies directed towards promoting and maximising the gains from inbound tourism.

**Keywords:** Demand for international air transport, transport and tourism demand, demand systems, interdependent demand, travel and tourism policies.

**Domestic Tourism Demand of Chinese Citizens with Structural Cost and Income:  
A Panel Spatial Econometric Approach**

Huiming Xie, Mengqi Yu, and Manhong Shen

This paper estimates the tourism demand function of Chinese citizens using the travel cost model with on-site time exogenous or endogenous. As of the core research question: "Will your neighbors' travelling decision have a significant effect on you", we designed three types of spatial weights (geographic weight, income weight and comprehensive weight) and conducted the panel spatial econometric analysis based on the two kinds of travel cost models using the panel data of 39 cities from 2000 to 2007. The results show that, (1) total cost, or travelling cost and opportunity cost has significantly negative impact on tourism demand among all the models with kinds of spatial weight, the cost elasticity is less than 1 while the elasticity of travelling cost is larger than the opportunity's in the model with on-site time endogenous; (2) tourism demand is positively determined by the tourist's income when the geographic weight is considered, the spatial autoregressive coefficient with income nested is significantly positive which indicates that the "neighbor effect" of travelling empirically exists; (3) the on-site time has a directly positive impact on tourism demand while the indirect effect with average wage considered is significantly negative, which implies that the heterogeneity of cities or tourists is very important for estimating the tourism demand with the consideration of structural costs; (4) such social demographic variables as age also has a robust impact on tourism demand in all the models of different spatial weights and the negative coefficients mean that people of a city with a more aging population tend to travel less.

## A Regional Dynamic Shift-Share Analysis of Long-Run Trends in the Austrian Tourism Sector

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Matthias Firgo and Oliver Fritz

Tourism is one of the key sectors of the Austrian economy: According to estimates by Statistics Austria its contribution to total value added was about 7.4% in 2012, including direct and indirect effects. In the same year more than 36 mio. people of both domestic and foreign origin spent their holidays in Austria, the corresponding number of overnight stays amounted to 131 mio. Furthermore, tourism is one of the sectors that contributed significantly to the success story of the Austrian economy over the last years: Overnight stays increased by 20% in the last twelve years.

Tourism demand, however, is not spread evenly across space: 75% of overnight stays are concentrated in four of the nine Austrian provinces; intraregional divergence is even more pronounced. Both the economic importance of the tourism sector for the Austrian economy as a whole as well as the regional differences observed with respect to tourism indicators motivate a closer look at past developments in order to assess possible future trends and challenges lying ahead for both the industry and supporting policy makers alike.

The paper thus attempts to analyze longer term patterns of tourism demand observed in Austria at a sub-regional level relying on data on overnight stays for NUTS-3 regions by countries of origin of visitors to Austria ranging from 1995 to 2014. Annual growth rates of overnight stays will be decomposed into regional, structural and temporal components using an extended econometric dynamic shift-share approach that has been applied before in the context of regional employment and value added growth patterns at the sectoral level – see, for example, the work by Marimon and Zilibotti (1998), Toulemonde (2001), and Fritz and Streicher (2005). Among the structural components the countries of origin of Austrian tourists will be the key explanatory variable corresponding to the sectoral mix component in shift-share applications focusing on regional economic growth. The results of this type of analysis will enable us to distinguish region-*idiosyncratic* from structural growth determinants.

In addition, region-*idiosyncratic* growth components may be further explained by a number of variables some of which are in the domain of policy makers at the regional or national level. For that reason a second regression analysis is conducted to identify those variables and to assess their level of influence on the region-*idiosyncratic* growth of overnight stays that is not induced by the regional structure of guests.

## Parallel Session [E2] -- Tourism Satellite Accounts

[Thursday, 2 July 11:00–12:30]

[Venue: B105]

**Session Chair: ShiNa Li**

Leeds Beckett University

### **Regional Tourism Satellite Account (TSA): Guangdong, China**

Doris Chenguang Wu and Haiyan Song

Tourism satellite account (TSA) has been widely recognized as a standard tool for measuring the contribution of tourism to national economies, as it aims at separating the aggregate output generated from the consumption related to tourism activities with a view to assessing tourism generated GDP, tax and jobs. In the case of China where significant imbalance of tourism development cross different regions exists, it is particularly important for the regions to construct regional TSAs in order to assess the importance of the tourism industry in these regions. In this study, we report the experience of compiling a regional TSA for Guangdong Province, which is the largest economy within China in terms of GDP. Guangdong TSA is compiled according to *TSA: Recommended Methodological Framework 2008*, which is introduced by the Statistics Divisions of the United Nations, Commission of the European Communities, Organization for Economic Cooperation and Development, and UNWTO jointly. The compilation of Guangdong TSA also takes into consideration of some unique features of the Guangdong tourism industry. Firstly, apart from the officially recognized tourism characteristic goods, Guangdong TSA has identified its regional-specific tourism characteristic goods with their economic contributions being measured and assessed. These goods include hot spring services, Golf, and conferences and exhibitions. Secondly, seasonal TSAs are developed instead of the traditional annual ones in order to capture the seasonal dynamics of the contribution of tourism to the local economy. Quarterly TSAs shows that the impacts of tourism to the regional economics have strong seasonal characteristics. Thirdly, online data collection is combined with offline data collection, which is one of the unique features of this TSA development. Finally, an information system is developed to maintain the data needed for the compilation of the seasonal TSAs. The results of Guangdong TSA are reported and the experience gained from this process can provide useful information for other regional governments and business practitioners within China and beyond to develop their own regional TSAs.

**Keywords:** Regional TSA, regional-specific tourism characteristic goods, seasonality, Guangdong China.

## **Estimating the Economic Impact of Meetings and Conventions: A Satellite Account Approach**

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Calvin Jones and ShiNa Li

Business tourism, and specifically meetings, conventions and exhibitions (MICE) activities have long been targeted for growth by governments, industry and other responsible agencies. It is unfortunate then that it has traditionally been difficult, if not impossible, to transparently and consistently measure the economic significance of MICE activity for a destination – be that a nation, region or country. Without such measurement, the information necessary to make good policy will not exist – as Sanders (2002) pointed out in a wide review. There is then a significant gap in policymakers' armoury of evidence to assess the economic (and potentially developmental) impact of new visitor facing infrastructure. This is important, with conference facilities and related infrastructure often costing very significant sums, and the potential for poor policy and costly implementation in this area well recognised (Flyvbjerg, 2008).

Meetings and conventions (MICE) visitation and related expenditure is often considered an important element of the travel economy, and destinations often target such activities to encourage their growth. It has hitherto, however, been difficult to measure the economic significance of such activity at any spatial scale: quite apart from data collection issues, the appropriate conceptual and statistical approach has been unclear, with MICE involving both the generation of economic demand and of business-to-business transactions. Latterly, the development and codification of tourism satellite account (TSA) approaches offers an opportunity to develop a parallel approach to the MICE economy.

This paper presents an approach to measuring the economic impact of MICE activity in terms of the employment and gross value added supported in a reference economy. Here we seek to provide two key contributions. Firstly, to establish whether conference activity can be measured in a transparent and replicable fashion, enabling reliable comparison between MICE and other economic activities, and between MICE activities in different places; and secondly to assess whether such analysis is cost effective and useful given prevailing policy context (and at different spatial scales). This paper develops an innovative method – Meetings Tourism Satellite Account to evaluate the economic impact of the meetings industry, which could provide useful policy implications to the governments for investing in building MICE facilities.

**Parallel Session [E3] -- Tourism Competitiveness 2**

[Thursday, 2 July 11:00–12:30]

[Venue: B106]

**Session Chair: Lorenzo Masiero<sup>1</sup> / Mondher Sahli<sup>2</sup>**

<sup>1</sup>The Hong Kong Polytechnic University

<sup>2</sup>Victoria University of Wellington

**The Perception of Destination Competitiveness by Host Population and Tourists**

Carlos Mario Amaya Molinar, Ana Pricila Sosa Ferreira, Ileana Ochoa Llamas, and Nel Schmidt Cornejo

Based on a review of academic literature, the study identifies the indicators and factors of competitiveness most commonly used in the field of study of tourist destination competitiveness, proceeding to make an empirical investigation among tourists and the local population in two Mexican destinations for Sun and Beach through an exploratory factor analysis. The main findings of the study include the perception of tourism as a source of social well-being and quality of life among the local population and concern of the crisis on insecurity currently affecting the country.

**Keywords:** Competitiveness, destination, well-being, sustainability, population, tourists.

**The French Tourism Paradox: A MCDA Analysis**

Laurent Botti and Nicolas Peypoch

France is the country the most visited in the world by international tourists. According to the WTO statistics, this first position of France regarding international tourist arrivals can be continuously observed from 1980. But the world ranking about international tourism receipts indicates that France was only 2<sup>nd</sup> in the 80' before to fail down in 3<sup>rd</sup> position, after US and Spain. And all the forecast from statistical institutes confirm that France will lose its third place in favor of China soon. These facts are well known under the name of French paradox (Botti et al., 2009) which characterizes the relative France lack of performance as it obtains relative few economic receipts with more tourist than some other countries. The French tourism situation is deteriorating from 35 years and few researchers paid attention to this phenomenon. Indeed the literature about tourism in France is restricted to few contributions and most of the time the French paradox is not the key point. The purpose of this paper is to reduce this gap by analyzing the French tourism paradox. To do so, it proposes a global reflection on the tourism performance of countries.

This paper adopts two multi-criteria decision analysis (MCDA) approaches which permit to obtain an international ranking. First, an efficiency analysis is conducted. Efficiency means the capacity of optimising the resources (inputs) in order to achieve results (outputs). In this perspective, this paper proposes a tourism production technology adapted at the country level. It then enriches previous contributions in the literature like Barros et al. (2011). Second, ELECTRE III (Roy, 1991) is used to obtain a ranking of countries from few criterions. These ones are based on the Ritchie and Crouch (2003) model. In order to permit this second performance analysis, weights of criteria are given by using the Analytic Hierarchy Process (AHP) method on a questionnaire submitted to tourism experts (scientists and professionals) around the world.

The paper is organized around four sections. The first section depicts the context of tourism in France and discusses the main existing rankings of countries. The light is shed on the World Economic Forum ranking ("Travel and Tourism Competitiveness Index") in which 140 countries are ranked. Our paper argues for a criticism of this ranking which is not based on a robust theoretical model and used arithmetic mean (without weights for criterion). In the second section, the two multi-criteria methods are exposed: super-efficiency DEA model (Andersen and Petersen, 1993; Tone, 2002) and ELECTRE III. The section 3 exposes the data on international countries. The results are presented in section 4. Section 5 concludes and discusses countries tourism performance.

**Benchmarking in European City Tourism: Lessons Learned**

Bozana Zekan, M.S.

The presented study builds upon the research presented at IATE 2013, both of which are part of the author's ongoing doctoral dissertation research that looks into identification of optimal benchmarking variables for destinations and their stakeholders, primarily city tourism organizations/convention and visitor bureaux (CTOs/CVBs) who are members of the European Cities Marketing (ECM) organization. More specifically, the aim of the previously presented study was to involve the cities' representatives in the decision-making process on the selection of variables in order to set the stage for the benchmarking modelling in a Data Envelopment Analysis (DEA) environment that is the focus of the current study.

Hence, 22 indicators that relate both to organizations and destinations were identified as important by the CTOs/CVBs of European cities and the actual data for each were collected for the multiple years (2007, 2008 and 2009) with the purpose of conducting longitudinal analyses. Examples of such indicators include number of employees on full-time basis, budget of the organization, annual bednights, number of incoming markets, etc. and these have been collected over period of 10 months. DEA cannot handle missing values, although debatable alternative remedies to elimination do exist (for example, using averages as the meaningful substitutes); however, the most objective approach was still to eliminate all the cities that had any missing values. Thus, the final sample for DEA satisfying all criteria included 43 cities (DMUs), which were benchmarked on 10 indicators (inputs/outputs) by applying two models: output-oriented and non-oriented BCC radial DEA models. Corresponding findings were therefore compared for corroboration.

Findings bring the overview of efficient (i.e. more competitive) and inefficient (i.e. less competitive) cities, as well as a proposal of optimal benchmarking partners for all inefficient ones, along with the virtual benchmarks, and suggested best practices. As the analyses have been conducted on 3 individual years, a comparison of results could be made for each city over time; and consequently, suggestions for the efficiency improvement given on a city-by-city basis. Another layer of DEA analysis has been added by not presupposing that every indicator is equally important for every city, but instead adding the weight factors identified in the previous study to each indicator included in the case cluster of cities. Hence, efficiency scores of the cities included in the weighed DEA could be compared to the non-weighted scores and checked for any discrepancies.

Overall contributions of this research are both theoretical and methodological. From the theoretical perspective, this study sheds light on benchmarking literature by taking a comprehensive approach of involving the actual stakeholders of European city tourism into identification of the meaningful benchmarking variables and adding to the body of knowledge when it comes to the best practices within the domain of destination competitiveness. When it comes to methodological contribution, the current study does not only corroborate the findings by applying two DEA models, but also adds the importance factors for each indicator into analysis, which make the findings on proposed optimal benchmarking partners, virtual benchmarks and best practices even more meaningful for the involved cities – particularly, for the inefficient ones. As such, this study is a valuable tool in the hands of CTOs/CVBs and further highlights the importance of destination benchmarking in overall tourism planning and policy.

**Keywords:** Benchmarking, optimal variables, DEA, stakeholders, weights, best practices.

## Parallel Session [E4] -- Cultural Tourism 1

[Thursday, 2 July 11:00–12:30]

[Venue: B114]

**Session Chair: Neelu Seetaram**

Bournemouth University

### **The Effect of Tourism Development on Qiang Embroidery Industries after the 2008 Wenchuan Earthquake**

Chuntao Wu, Xi Li, and Jingting Yuan \*\*

This paper studies the effects of tourism development on the design and distribution of ethnic handcrafts - Qiang embroidery in Beichuan Qiang Ethnic city, Sichuan, China. Beichuan was one of the worst hit areas in the 2008 Wenchuan earthquake. During the recovery period, both of tourism and Qiang embroidery industries have witnessed great development in this area. The study aims to find out that to which extend that tourism could promote ethnic handcrafts development. Participation observation, semi-structure interview and tourists' questionnaires survey are research methods used. The results indicate that tourism development has led to a diversity of the ethnic embroidery products; an innovation in the production process, but crowded out the locals. There outside entrepreneurs established the embroidery company after the earthquake. They complex the production processes to add value to the products as well as to get the highest margins. As about two-third of those interviewed appreciate the embroidery product but seldom buy the product, the authors suggest that the embroidery entrepreneur should tailor the products to meet tourists requirements. Otherwise, local handcrafts groups should establish distribution channel with outside market directly to emphasize the higher quality and authenticity of their product.

**Keywords:** Beichuan, dark tourism, Qiang embroidery, distribution channel.

**Cultural Proximity and Bilateral Tourism Flows**

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Sylvain Petit and Neelu Seetaram

Cultural proximity has been found to be beneficial to international trade by reducing barriers to international exchange. In the empirical literature, cultural proximity has traditionally been proxied by variables such as common language, colonial links, immigration, religion and ethnicity and it has been shown to be trade enhancing by reducing the transaction cost of trade (Disdier et al. 2009; Felbermayr and Toubal, 2009). Disdier et al. (2009) and Felbermayr and Toubal, (2009) proposes that these above measures of cultural proximity can be limited in that they are either unobservable or are fixed over time. In this context Disdier et al. (2009) proposed new measures of cultural proximity which are time variant and are available for a wide range of countries. In their paper they use the UNESCO list of core and cultural goods to create a measure cultural proximity. They used variables such as cultural heritage, import of books, newspapers period, printed matter, recorded media, visual arts and audivision media to quantify the link between cultural exchange and trade between countries. Their findings confirm that these variables are positive and significant in explaining bilateral trade.

This paper, proposes to test the effect of cultural proximity as defined by Disdier et al. 2009 on bilateral tourism flows among European countries. Cultural proximity has been found to be an important determinant of tourism flows in the tourism literature in that the stock of culture at the destination is positively related to the destination image and competitiveness. However, there is very little empirical evidence on the extent to which cultural proximity is in fact influencing demand for a destination. This paper seeks to address this gap by developing a bilateral tourism trade model which will be empirically tested using the dynamic panel data technique. It is expected that the result will shed more lights on the extent to which tourism are influence by cultural proximity when travelling to a destination.

**Parallel Session [F1] -- Tourism Forecasting 2**

[Thursday, 2 July 14:00–15:30]

[Venue: B104]

**Session Chair: Haiyan Song**

The Hong Kong Polytechnic University

**Forecasting Pleasure Traveler Arrivals to the U.S. from Mainland of China with Baidu Index**

Yasong (Alex) Wang and Yongtao Cao

Recent work in tourism economics has emphasized the importance of using search engine queries to forecast tourism demand (Xiang & Pan, 2011; Yang, Pan, Evans, & Lv, 2015). When studying the forecast of tourism demand with search engine queries, researchers have predominantly adopted the model-driven techniques, such as structural equation, exponential smoothing, and autoregressive models (Andrew, Cranage, & Lee, 1990; Song & Witt, 2000; Bangwayo-Skeete & Skeete, 2015). Going beyond the previous studies, the present research takes the data-driven approach by utilizing both text mining technique and machine learning method to examine the data from Baidu, a dominant search engine in China, in forecasting the pleasure visitor arrivals to the United States from the mainland of China.

Since a search engine query is not independent but related to a number of similar queries, the conventional methods of adopting only a few users-specified queries in forecasting tourism demand cannot reflect the complexity of interrelationship among the various queries. In this paper, the authors utilized text mining technique to locate 16 most popular search queries entered by searchers in Baidu to look for information about pleasure travel to the United States. To assess the correlations among the 16 search queries, cluster analysis was conducted and two primary predictors were identified. The 6 search queries, which include tour, tourist visa, weather, weather forecast, shopping tips, and US airlines, form the first predictor. The rest 10 search queries, which encompasses travel, travel guides, travel tips, maps, itineraries, air tickets, popular destinations, attractions, hotels, and culinary culture, shape the second predictor.

Furthermore, to examine the effectiveness of the two identified predictors in forecasting tourism demand, the data of monthly pleasure travel arrivals between 2011 and 2014 from the mainland of China to the United States were collected from the Visitation to the United States Report published by the Office of Travel & Tourism Industries in the U.S. Department of Commerce. Meanwhile, the authors developed a machine learning algorithm. This algorithm has two unique characteristics. First, there is no need to select a pre-determined model for the data, because this algorithm is data-driven instead of model-driven. Second, different from the previous studies, the present research selected the entry frequencies of search queries in the previous months (more than one lag) rather than including the current month to predict the future tourism demand.

To identify the appropriate model to fit the data, three machine learning methods, which include Recursive Partitioning and Regression Trees, Neural Network, and Random Forest, were employed and the authors found that Random Forest provided the most promising results and was the most effective method to identify the appropriate model to fit the data. By conducting the present research, the authors do not only verify the significant roles played by search queries located from Baidu Index in forecasting tourism demand, but also introduce a novel approach in developing the appropriate forecast model for tourism demand. In particular, the present study provides policymakers and business practitioners especially focusing on newly emerging tourist-generating market, like China, an in-depth understanding of the forecasting capability of search engines data for their planning purposes.

## Forecasting Tourist Arrivals in China Using Daily Search Engine Data – A FaMIDAS Modelling Approach

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Han Liu and Haiyan Song

China has achieved tremendous growth in its tourism industry over the past two decades due to an impressive increase in Chinese citizens' disposable income and government policies that encourage tourism consumption. Tourism, a smokeless industry, has become a pillar industry in China's development toward the experience economy. In order to plan for the future growth of the tourism industry in China, it is important to generate accurate forecasts of tourism demand. This paper investigates the application of a dynamic factor-based mixed data sampling model, namely FaMIDAS, to predict tourist arrivals from different countries or regions to mainland China and evaluate the forecasting performance of this model using the web search data. MIDAS is a time series approach that is particularly useful for extracting information from high frequency indicators that are used as proxies of the target variables observed at lower frequency. This approach has been proved to be useful for various forecasting applications. The factor component in FaMIDAS represents the dynamic information collected from large high-frequency web search queries, which not only reflects the trends of the searchers' preferences, but also offers predictions of their future travel behaviors. In this paper, we discuss the different methods for extracting factors from large high-frequency web-search data, and to see how these factors can be used for nowcasting the low-frequency variables like monthly tourist arrivals. A two-step approach is followed in this study. The first step is to estimate the factors while the second step involves incorporating these estimated factors in the MIDAS to generate forecasts.

The short-term forecasting performance of the FaMIDAS model is evaluated. The results show that the mixed frequency FaMIDAS model estimated using the Baidu index data generate relatively accurate nine-month out-of-sample forecasts of tourist arrivals to China as compared with the forecasts generated by alternative time series models. The contribution of this study is three folds. First, this is the first time a mixed frequency dynamic model is used in tourism forecasting; secondly, the study opens a new avenue for future tourism forecasting research using the search engine data; and thirdly, the empirical results of the study provide useful information for decision-makers in terms of formulating useful strategies for the future development of China's tourism.

**Keywords:** Tourist arrivals, forecasting, mixed frequency modeling, FaMIDAS.

**Ex-post Three Stage Public Tourism Infrastructure Project Assessment:  
The Case of Malaga Airport**

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Juan L. Eugenio-Martin and Ginés de Rus

Ex-ante tourism infrastructure project assessment depends on uncertainties. The main ones are related with tourism demand behavior, wider economic impacts and the relevance and role of tourists within the analysis. This paper pursues the development of a methodology, where forecasting demand, wider economic impacts and project assessment are integrated. Each of them corresponds to a different stage of the assessment. First stage deals with ex-post analysis of the tourism demand impact. It is measured by interventions within structural time series models. Interventions are usually concerned with stochastic level shifts or slope changes. The second stage takes into account the wider economic effects. It measures the impact on GDP, employment, exchange rates and prices. Depending on the nature of the project, either Input-Output models, Tourism Satellite Accounts or Computable General Equilibrium models may be applied. The output of this stage is inputted into the third stage, which is a cost-benefit analysis. Transferring the impacts from stage 2 to stage 3 is not straightforward and a methodology is developed for this purpose. CBA is approached by surpluses from key agents, such as capital surplus and Government surplus in particular. The methodology is applied to assess the Malaga airport enlargement. The results show the relevance of the impact in terms of tourism demand, GDP, employment and cost-benefit analysis.

**Keywords:** Forecasting, tourism satellite account, cost-benefit analysis, tourism infrastructure, project assessment.

**Parallel Session [F2] -- Cultural Tourism 2**

[Thursday, 2 July 14:00–15:30]

[Venue: B105]

**Session Chair: Stephen Pratt**

The Hong Kong Polytechnic University

**Are You Willing to Pay More for the Arts?**

Martinette Kruger and Melville Saayman

Apart from the economic or financial benefits that the arts and heritage provide, they also supply non-market goods such as pleasure, national pride, building and expressing of community identity (Throsby, 2001; Kruger, 2010; Kruger & Saayman, 2012). The arts in many countries are however coming under increasing financial pressure (Snowball & Antrobus, 2001; Snowball & Willis, 2006). This is particularly true of developing countries, like South Africa, where the arts must compete with sectors such as housing, education and health for very limited public funds (Snowball, 2005). In these countries the continuation of the arts are becoming more dependent on private sponsors and loyalty clubs. This situation adds pressure on the over 300 arts festivals held in the country to survive among an increasingly crowded market place (Kruger, 2010). However, the questions that remain unanswered are visitors willing to pay to sustain the arts and if so how much are they willing to pay? The purpose of this paper is therefore to provide answers to these questions. Willingness to pay (WTP) studies has been used extensively in the valuation of both mixed and public goods in cultural economies with fairly good success rates (Throsby, 1984; Whitehead & Finney, 2003; Noonan, 2003; Snowball, 2005). They are part of a group of stated preference methods that elicit the value of non-market externalities by directly asking respondents what they would be willing to pay to bring about or avoid a certain scenario (Snowball, 2005). Responses are therefore contingent on the scenario stated. The Contingent Valuation Method (CV) is the most used method to determine willingness to pay despite criticism and will be applied in this study. This research was conducted at one of South Africa's largest national arts festivals namely Aardklop which is held in the town of Potchefstroom in the North West Province. Self-administered questionnaires were distributed at the festival during 2014 (7 to 10 October) and in total 390 usable questionnaires were obtained to be included in further analysis. The statistical analyses included factor analyses and Heckmans two step procedure.

Results of this analyses will show to what extent visitors are willing to pay an additional amount over and above their current taxes per month to support the arts, their reasons for this support as well as the reasons for not being willing to pay extra. The analyses will also reveal the profile of those that are willing to pay as well as those that are not. With the exception of Snowball's research nearly 10 years ago, no other studies have to date focused on the willingness to pay to support the arts in a developing country such as South Africa. This research will thus fill this gap in current literature by providing strategic implications on how to sustain the arts in South Africa which is extremely important and can help event managers in identifying markets that are willing to pay more to sustain the arts.

**Keywords:** National arts festival, Aardklop festival, tourism, willingness to pay, Contingent Valuation Method.

## **The Economic Impact of an Art Festival in Japan: A Case Study of Roppongi Art Night**

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Tatsuo Oi

Currently, tourism promotion and community planning by art festival have received a lot of attention in Japan. A typical example of the art festival is Setouchi International Art Festival (Setouchi Triennale). It has been held in the seven islands in the Seto Inland Sea and Takamatsu and Uno ports every three years. Setouchi Triennale blends the folk customs, entertainment, festivals, and regional characteristics that have transcended the ages with the art, architecture, and drama that evoke the feeling of the contemporary times. The number of visitors to the 2013 festival is estimated to be about 1.07 million. As a result, the total expenditure of visitors is calculated to be about 7.7 billion yen (approximately 64.2 million US dollars), and the economic impact is expected to reach about 13.2 billion yen (approximately 110 million US dollars). High multiplier ratio (1.71) empowers the regional economy. Therefore, not only local communities, but also urban areas have been planning various art festivals. However, there has been little study done concerning empirical analysis of art festivals.

Roppongi district is located in the central part of Tokyo's wards and includes three major museums (Mori Art Museum, National Art Center, and Suntory Museum of Art). The area surrounded by these museums is called "Roppongi Art Triangle", and is well known in art circles. These museums worked together with local governments, commercial facilities, community residents, and so on, and set up Roppongi Art Night. It has been held annually in March or April since 2009. Roppongi Art Night is a one-night, all-night, art extravaganza that celebrates the enjoyment of art in everyday living, and serves as a trailblazing model for local initiatives in the Japanese capital. It offers an extraordinary one-night-only full-on blast of contemporary art, design, music, video and performance art via a huge range of works dotted around the streets. In 2014, More than half million people participated in various types of events.

This paper focuses on Roppongi Art Night 2014 (or 2015) and aims at examining the economic impact. This paper collects data (operating cost, questionnaire, and interview) and uses the analysis method of input-output tables.

## Exploring Determinant Factors toward Formation of Farmers' New Identity Doing Educational Tourism

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Yasuo Ohe

**Background and hypothesis:** Although farm visiting is gaining popularity as a type of experience-oriented tourism, this new service has not yet become an economically viable activity for farmers. In this context, the educational services, i.e., the educational externality in agriculture, should be internalized as a new pillar of farm business eventually.

For this purpose, in the author's view, it is not enough to solely address this issue from a technical aspect, such as improving skills, we also need to approach it from the aspect of the operator's identity, a factor that has been addressed rarely in the arena of rural tourism. Farmer's identity stipulates his/her behaviour and identity matters when farmers try to diversify farm activity especially toward tourism related ones that are new to them. This is because if farmers have an appropriate identity that allows them to have a wider scope for a new tourism activity, which enables them to see a new opportunity and to develop a new tourism activity better than those who do not.

From this perspective, this paper statistically compared differences between Educational Dairy Farms (EDF), i.e., a well-organized dairy farmers' network that provides educational services to visitors in Japan, and ordinary dairy farms by focusing on the views and experiences of the next-generation successors because the next-generation successors are more suitable for the evaluation of identity formation than those of older generations. For empirical evaluation, the author considered three different farmers' identities depending on how farmers deal with the educational activity; 1) providing no educational service, 2) voluntarily providing the service, and 3) seeking viability of the service. These three cases correspond to the traditional identity, transitional identity, and enlarged identity, respectively. The author theoretically clarifies how these identities are connected with the level of internalization of the educational externality.

**Data and methods:** Data were collected by surface-mail questionnaire surveys to these two types of dairy farmers. The survey was conducted from September to December in 2012 to 248 EDFs and 470 ordinary dairy farms and the response rates were 56.8% and 48.5% respectively. Statistical tests were employed to find the differences between the EDF and ordinary dairy farms and probit model was estimated to identify the factors that determine the identity formation toward viable educational tourism.

**Results:** First, the results revealed that EDF operators were more experienced in job-training abroad, and had a positive attitude toward farm diversification. EDF operators also had a higher percentage of female involvement in the educational activity as compared with their counterparts of ordinary dairy farms who are considered to have a traditional identity.

Second, as a result of the probit estimation model to investigate what factors influence service-charging behaviour among EDFs because those EDF operators who levy a charge for the educational service are considered to have an enlarged identity. A number of factors were revealed to be influential, indicating that it is crucial both to widen operators' perspective through social learning opportunities and expansion of human networks and to establish skills of farm management. The study also clarified

that female operators and experienced operators have a more positive attitude toward charging for the educational activity. Therefore, these aspects are effective factors that lead to the development of an enlarged identity.

**Conclusion:** Consequently, because simply looking at the charging issue does not provide a solution to the viability of the educational service in the farm sector, it will be necessary to redefine an operator's identity in line with the sustainable development of educational activity in the farmyard, in addition to improving technical skills for that activity. For this purpose, it is effective to design support measures toward widening the perspective of young operators, providing more job-training opportunities especially for learning farm management skills, and nurturing female facilitators. Thus, it is safe to say that we need to consider all of these comprehensive measures in the continuing development of educational tourism in agriculture.

**Keywords:** Educational tourism, agritourism, identity, internalization, farm tourism.

**Parallel Session [F3] -- Length of Stay**

[Thursday, 2 July 14:00–15:30]

[Venue: B106]

**Session Chair: Vicente Ramos**

Universitat de les Illes Balears

**Factors Influencing Tourists' Length of Stay in Venice**

Reza Mortazavi and Catia Cialani \*\*

The determinants of tourists' length of stay are important elements of successful management for any tourism destination. This paper concerns factors influencing international tourists' length of stay in Venice, one of the most visited cities in the world. As far as we know, there are no studies on the tourists' length of stay in Venice. The data of the study are from a sample survey conducted by the Bank of Italy on international tourism at the country's main border crossings between January the 1<sup>st</sup>, 2012 and January 31<sup>st</sup>, 2013. To our knowledge this rich data base has not been employed previously for such an investigation. The length of stay, measured as number of overnight stays, is modelled as a count variable with no zeros and estimations are based on truncated Poisson and truncated negative binomial distributional assumptions. Results suggest, among others, that age, travelling alone, and high season have a positive and significant influence on the length of stay. On the other hand, international tourists' expenditures and whether other places than Venice were visited have a negative and significant impact on the length of stay. Moreover, the average number of overnight stays differs among nationalities and those who have visited Venice previously tend, on average, to stay longer. Our findings could be informative for the private and public stakeholders for future tourism marketing of Venice. For instance, one of the findings is that visitors from North America and Australia stay on average longer, and spend more, than visitors coming from neighbouring countries. This would imply that tourism campaigns should be conducted strategically when targeting different countries to promote Venice.

**Keywords:** Venice, survey, international tourism, length of stay, negative binomial.

**The Determinants of Length of Stay of ASEAN Tourists in Thailand:  
A Survival Analysis**

Piyaluk Buddhawongsa, Akarapong Untong, Vicente Ramos, and Mingsarn Kaosa-ard

This article aims to determine factors influencing the length of stay of ASEAN tourists traveling to Thailand. The sample comprises 3,089 interviewed non-business tourists from 8 ASEAN countries with a duration of stay not greater than 30 days. The questionnaire was done at the moment of leaving Thailand; therefore, all observations in the sample had ended their stay. Since the length of stay cannot be negative, the result based on regression analysis would be bias. Therefore, this study used Survival Analysis instead. A duration model was applied to measure the amount of time visitors stay at the destination (number of nights). The results of the analysis indicate the determinants of the length of stay, which is one of the components of total tourism expenditure. In this sense, it can provide insights on how to increase tourists' expenditure which will be useful for sustainable tourism development planning in Thailand.

The explanatory variables in the model were divided into two major groups: (1) socioeconomic factors such as age, gender, income, marital status, educational level, occupation, nationality and tourism preference, and (2) the characteristics of the trip, including travel purposes, travel patterns (traveling alone or as a group), means of transportation (by air or ground), using travel agency services, first time or repeat tourists and the intention to return to Thailand in the future.

The study found that the social and economic factors that affected the length of stay were age, educational level and occupation of tourists. Tourists aged 60 years or more, and with high education stayed longer than others. While those private employees and laborer/agricultural workers would stay shorter than others. Considering countries of origin, tourists from Vietnam and Malaysia spent more time than others while Lao tourists spent less time than others. In addition, tourists who prefer entertainment only, stayed shorter than other tourists. For trip characteristic factors, the paper founds that most variables were statistically significant. Tourists who traveled alone, and used ground transportation spent less time than others. First-time tourists stayed longer than repeated tourists while those who intended to come back to Thailand had fewer nights of stay.

Following the above results, policy makers can identify those segments with a higher propensity to increase their length of stay to set an effective marketing plan to promote those markets. For example, people who travel in groups stayed longer than those who travel alone. Therefore, the promotion or activities for ASEAN tourist should take the form of a group such as a discount for two or more people.

**Keywords:** Length of stay, survival analysis, ASEAN, Thailand.

## Parallel Session [F4] -- Tourism &amp; the Environment 2

[Thursday, 2 July 14:00–15:30]

[Venue: B114]

**Session Chair: Tanja Mihalič**

University of Ljubljana

**Importance of Early Snow Fall for Swedish Ski Resorts: Evidence Based on Monthly Data**

Martin Falk and Eva Hagsten \*\*

In the wake of the ski legend Ingemar Stenmark, Sweden experienced a series of years with increased demand for downhill skiing and an expansion of ski resorts, starting in the 1970s. However, after the most recent surge including the years 2009-10, Swedish ski lift operators seem to have entered a stage of stagnation

This paper aims at investigating the determinants of lift ticket sales in Sweden by using monthly data and with a special emphasis on the availability of snow in early winter seasons. The empirical approach is based on a seemingly unrelated regression (SUR) model. Models of this kind allow snow conditions to differ across winter months while the economic factors are kept identical across the winter months within a year.

Numerous studies have examined the determinants of snow based winter tourism (see Pickering, 2011; Steiger, 2011 and Damm et al. 2014 for Austria; Falk, 2014 for France, Fukushima et al. 2002 for Japan; Gonseth, 2013 for Switzerland; Dawson, 2009; Hamilton, 2007; Holmgren & McCracken 2014, Shih et al., 2009 all for the US). Lift ticket sales, skier visits or number of passengers transported uphill are commonly employed as the measure of winter tourism demand. Income, relative prices, temperatures and snow depth are found to be significant determinants of winter tourism demand. However, the majority of studies focus on the relationship between weather conditions (e.g. temperatures and snow conditions) and winter tourism demand neglecting the role of lift ticket prices and real income. It should be emphasised that relative prices and real income are the central determinants of tourism demand (see Song and Li, 2008 for a survey; Peng et al. 2014 for a meta-analysis).

Currently, there is no consensus about the role of weather conditions for the performance of ski lift operators. Unfortunately, available studies are not fully comparable because of the use of different time scales (daily, monthly or annual data), different definitions of the dependent variable (skier visits, lift ticket sales or number of passengers) inclusion or exclusion of prices and real income and different methods.

The main contribution of this study is the opportunity to distinguish between impacts of snow condition on skiing demand for the early, mid and late winter seasons, based on a new and unique dataset. We argue that the use of monthly data gives a more detailed picture of the relationship between weather and snow based winter tourism demand. The other goal of the paper is to investigate the impact of early snowfall on output of ski lift operators. It is often argued that early snowfall is important for the performance of ski lift companies.

Using seemingly unrelated regression models estimated for five months for the winter seasons 1993-1994 to 2013-2014 we find, as expected, that lift ticket sales depends significantly negatively on lift ticket prices and significantly positively on real

GDP. Both income and price elasticities are quite low in absolute terms. A new empirical result is that a decline in snow depth in the early season has a strong negative impact on lift ticket sales. In particular a reduction in snow depth by one standard deviation (equal to 7 cm in November-December and 10 cm in January) leads to a decline in the growth rate of lift ticket sales by 5 and 2 percentage points respectively. Furthermore, there is strong decline in lift ticket sales from the season 2010-2011 onwards when controlled for relative prices, real income and snow depth indicating that the decline of lift ticket sales is caused by an exogenous shift in leisure preferences towards other activities. Another reason for the relative low growth rate of lift ticket sales or its decline is the prices of lift tickets rose faster than the inflation rate.

The results may indicate that downhill skiing and related activities such as snowboarding have entered the decline phase and have reached the end of their tourism life cycle. The key cause of the stagnation of lift ticket sales is the low income elasticity, exogenous shift in leisure activities, significant price sensitivity and increase in green early winter seasons. The future prospects for ski lift operators are poor given moderate growth in real income and further price increases in lift tickets following huge investments in snow making and new lifts.

The decline in lift ticket sales has several implications for managers and policy makers. Investment plans in snow making equipment should be carefully considered given the importance of natural snowfall in the early season. Swedish ski resorts managers could also develop new marketing strategies to attract new visitors from abroad. Another adaptation strategy is to focus on year-round tourism.

**Linking between Carbon Dioxide Emission and Tourism Economy Growth in Low Carbon Model Area of Tourism: Based on the Data of Confucius Temple Scenic Area, Nan Jing**

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Zeng Cheng

Low carbon has become an inevitable trend of tourism development in China recently. In 2011, 19 scenic sites were chosen to establish low carbon model areas of tourism by All-China Environment Federation (ACEF) and China Tourist Attractions Association (CTAA). Apart from the ecological and social reasons, whether or not to maintain an economy growth is also a significant factor when developing the low carbon tourism in scenic sites. In order to find out the link between CO<sub>2</sub> emission and tourism economy in this situation, this paper uses certain data of Confucius Temple Scenic Area, which is a low carbon model area of tourism in China. Based on the quantitative analysis and evaluation of carbon emissions of Confucius Temple Scenic Area during 2004-2014 as well as the link between CO<sub>2</sub> emission and tourism income growth, an empirical analysis is given to the relationship between tourism economic growth and carbon dioxide emission in the low carbon model area. It might also be helpful to recognize the system of energy consumption & carbon emission, and give quantitative as well as theoretical evidences to support the low carbon model area of tourism in China.

*Methodology:*

By using the bottom-up approach to investigate main parts of carbon dioxide emission in Confucius Temple Scenic Area (including tourism transportation, tourism accommodation, tourism attraction, tourism activities), this paper estimates carbon dioxide emission of tourism industry and its subsectors during the period of 2004-2014.

Additionally, it uses the decoupling theory to describe the differentiation of economy growth and carbon emission. By calculating de-coupling indicators for CO<sub>2</sub> emission, the balance situation between the rate speed of economy growth and carbon emission could be reflected.

The last part is to use ADF unit root test, co-integration theory and Granger causality test to identify and analyze the link between economic growth of tourism and carbon dioxide emission in Confucius Temple Scenic Area.

**Touristic Resources and Factor Intensity in the Province of Buenos Aires**

Natalía Porto and Bárbara González

The travel and tourism industry is one of the most important activities and with the highest rate of growth in the world and in Argentina. It is the world's largest employer: one in every ten jobs belongs to it and it is a source of important international receipts in some countries. This sector is also one of the most vulnerable to external effects of political or economic kind. At the same time, it is one of the activities which has significant opportunities to generate touristic products involving new scenarios and taking into account different characteristics of demand. Ecotourism, rural tourism, and green tourism are some of the answers to social consciousness about environment and sustainable growth; regional products were born as a mechanism to diversify regional economies and satisfy visitors' whishes.

Both from the viewpoint of factors affecting tourism production as well as from that affecting tourism consumption- tourism is a sector that experiences important and dynamic changes and mutations. From a perspective based on the theory of international trade, these changes in tourism production and consumption imply changes in the structure of factors of production that are embodied in them: the factor content of trade (Helpman, 1984; Leamer, 1984; Vanek, 1968). The aim of this paper is to quantify, in a preliminary way, one of the characteristics of the tourism production function of the municipalities of the Province of Buenos Aires. It is the dominant factor content of their touristic resources (Berlinsky, 1989). In particular, we analyze the relationship between factors of production and touristic resources through the touristic characterization of the municipalities of Buenos Aires. The dominant factor content and this characterization use the inventory of touristic resources of the municipalities of the province of Buenos Aires, their classification into the five categories of resources embraced by OEA, and the factor intensity assigned to each category.

Although tourism is a sector to which basic economic principles are applied, it presents some peculiarities and different features that distinguish it from the other sectors of the economy. Tourism transforms and exploits resources and touristic attractions. Tourism generates goods and services' consumption. Tourism implies movements from places of origin to touristic destinations (Lanquar, 1991). These facts make the trade of tourism possible and allow for the transformation of this activity –which was traditionally considered as belonging to services' economy and characterized as non-tradable- into a tradable good. In this way, tourism is considered a non-traditional export, an invisible export that –different from industrial goods- is consumed in the country or region to which touristic demand arrives, with the movement of foreign consumers to the country or region of destination (Gibson, 1993; Sessa, 1983; Pedreño Muñoz y Monfort Mir, 1996; Copeland, 1991). In this paper we refer to the endowments of touristic resources for each municipality of the Province of Buenos Aires, which are crucially responsible for the consumers' movements from other regions or countries towards the touristic destination. Having in mind the peculiarities related with tourism definitions, some difficulties arise when one attempts to define tourism factor intensity. Not only could factor intensity of tourism production be different between countries, but also between regions within a country, or through time, depending on the stage in the cycle of tourism of the considered destination. In this paper the approach is different from the usual ones and we follow a particular definition of factor intensity of touristic resources in order to quantify their dominant factor content for each municipality of the Province of Buenos Aires. We then look for a relationship between this diagnosis and different measures of the relative importance of tourism as an economic activity.

In the paper, we define the factor content of trade and the dominant factor content of trade presenting a brief literature review in those topics. Then, we identify and classify the touristic resources of the municipalities of the Province of Buenos Aires and, after defining their factor intensity, we calculate the dominant factor content of those touristic resources for each of the municipalities of the province. Finally, we present a relationship between dominant factor content and touristic GDP of each municipality. We find that there is a significant correlation between touristic GDP and the resources intensive in capital. In that way, most municipalities with a high touristic GDP have touristic attractions specialized in capital.

**Parallel Session [G1] -- Tourism Governance**

[Thursday, 2 July 16:00–17:30]

[Venue: B104]

**Session Chair: Paolo Figini<sup>1</sup>**

<sup>1</sup> University of Bologna

**Centralized vs. Decentralized Tourism Policies: A Spatial Interaction Model Framework**

Guido Candela, Maurizio Mussoni, and Roberto Patuelli \*\*

The choice of centralizing tourism policies at the national level or, on the contrary, of decentralizing them at the local level is widely discussed in the literature, which highlights the related pros and cons. In fact, the simultaneous role of originator and attractor of tourism of each spatial unit may imply a range of complex and competing interests at various geographical scales. In particular, in a framework of regional competition, a central (national) policy may be necessary to offset or coordinate the clashing regional interests. We stress that more profound insights into the problems and challenges of (de)centralized tourism policies can be gained by examining the national-regional choice, and in particular by using as a modelling framework, the 'normative' spatial interaction model.

**Keywords:** Centralized and decentralized tourism governance, tourism policies, spatial interaction model, regional spillovers.

**Place Attachment and Community Attitude toward (Re)positioning Chinatown as a Site for Tourism: Evidence from Three Chinatowns in Australia**

Bixia Xu, Karine Dupre, and Hing-wah Chau \*\*

Chinatowns are commonly known as compact and comparatively exclusive settlements of Chinese emigrants living in cities beyond China (Yeoh & Kong, 2012). Ever since the first Chinatown being established in the city of Manila in Philippines in 1594, the nature and functions of Chinatowns in cities around the world have changed dramatically. Historically, Chinatowns served as transitional places into a new culture for early Chinese diaspora. This initial mission has been lost leaving Chinatowns as pure historical enclaves. In contemporary Australia, the very 'Chinatown' concept has recently been adopted for tourism marketing. Based on a systematic quantitative literature review on previous Chinatown research, Chinatowns, as tourist attractions, are comparatively poorly studied (notable exceptions include Mak, 2003; Rast, 2007; Santos, Bellassen & Caton 2008; Yeoh & Kong, 2012). The scant existing tourism research on Chinatowns has found that it is practical to transform existing Chinatowns into sites for tourism and leisure whilst creating tourists-oriented Chinatowns. This paper reports on research identifying factors influencing public attitude toward this important transformation and (re)positioning of Chinatowns in a compact urban milieu. Chinatowns in Melbourne, Brisbane and the Gold Coast were selected as case studies to represent different development stages of Chinatowns in Australia. Evidence was solicited from a structured questionnaire survey involving visitors and local residents in those three cities. Survey results indicate that visitors and residents generally appreciate the existence of Chinatowns and their services to the community. Income, age and length of residence are contributing factors to participants' attitude toward (re)positioning China as a site for tourism. Community attachment had positive effects across all resident groups, but length of residence was not a key factor. This suggests that further research is needed to investigate whether deeper engagement with the local community would elevate public desire for (re)positioning Chinatown as a site for tourism. The findings are important for understanding public perception and enlisting support from the larger society for promoting Chinatown tourism.

**Keywords:** Chinatown, place attachment, public perception, tourism.

**Parallel Session [G2] -- Human Resources**

[Thursday, 2 July 16:00–17:30]

[Venue: B105]

**Session Chair: Stephen Wanhill**

Bournemouth University

**Human Resources Policy in the Tourism Industry of the Republic of Kazakhstan:  
Problems and Ways to Improve**

Tleuberdinova, Shayekina, and Abylkair \*\*

The growth of competitiveness of tourism industry of the Republic of Kazakhstan primarily depends on solvation of the issues of personnel policy. Problems of personnel policy and its implementation in this sector of the economy have not been adequately studied. Therefore, it becomes an urgent need for a deep theoretical analysis of all aspects of the industry subjects. Study the nature of employment in the tourism sector, analysis of problems and trends of employment, expert and consumer survey as well as the experience of countries with highly developed tourism allows authors quantitatively estimate the level of competitiveness of Kazakhstani tourist personnel and make suggestions to improve personnel policy of the tourism industry of the country.

**Keywords:** Personnel policy, tourism industry, competitiveness of tourism services, expert and consumer survey, employment issues.

## Improving the Positive Economic Impact of Tourism by Enhancing Tourism Labor Compensation and Status

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Brian J. Hill and Ty Turley

Tourism delivers jobs and has often been positively characterized for its significant employment, specifically as a high employer of labor per dollar of sector income (Bull, 1995). Nevertheless, low-wage occupations drive down income associated with the tourism industry, and part-time employment and seasonality lead to fewer hours worked per tourism employee. Thus, tourism employment may be viewed favorably in comparison to other sectors as a source of economic development, but individual earnings and total hours worked reduce the overall economic benefit to individuals supplying labor in this industry. As economically valuable as tourism is to communities, regions, and nations, these benefits are damped by low incomes and import leakages.

Leakages are those expenditures by tourism businesses and employees as well as expenditures in successive rounds of spending made outside of the local economy. Examples include hotel cleaning supplies imported from outside the region or district restaurant managers living away from the local area. Paying for insurance or banking services from other nations are examples of leakages in successive rounds of spending. Various sources of leakage from direct tourist spending have been identified. These include foreign direct investment, package tours, international tour operations, poor connections between foreign-owned hotels and local suppliers, the demand for imported luxury goods by tourists, and the nature of tourism employment (Hemmati & Koehler, 2000).

One way that leakages might be reduced and economic benefits improved for local economies is enhancing tourism labor compensation and status. If the status and wages associated with tourism were enhanced, individual workers, local economies, and the overall stature of tourism as an economic base would be improved.

Tourism labor research has received increasing interest recently (Ladkin, 2011) across various themes including management (Tribe & Airey, 2007), human capital accumulation (Riley & Scivas, 2003), the economic value of tourism employment (Tribe & Airey, 2007), labor mobility (Liu & Wall, 2005; Scivas & Riley, 1999, Vaugeios & Rollins, 2007), and tourism as gendered, new work (Veijola, 2009). Other scholars have called for the development and planning of tourism employment, especially in developing countries (Baum, 2007; Liu & Wall, 2006). Yet, despite previous scholarly work and the importance of employment generation to tourism host economies, Ladkin (2011) suggests that tourism labor research is underrepresented in the literature and calls for increasing attention by tourism scholarship.

Earnings discrepancies in tourism are widely apparent. Tourism jobs are often considered unskilled or compensated by employers as if they were unskilled (Bull, 1995). Paradoxically, many tourism workers have significant education (Scivas, Riley & Airey, 2003) that is not proportionately rewarded. Genuine customer service skills are regularly disregarded in financial compensation. Nevertheless, growing tourist demands for meaningful experiences suggest that tourism workers with the ability to stage desirable experiences should receive better treatment in the future. Other economic sectors have successfully raised the compensation and status for its workers. Various policies and strategies have been successfully employed to increase earnings (Ehrenberg & Smith, 2012). These same policies and strategies as well as unique possibilities might also be applied to tourism labor enhancement.

Recently, scholars have suggested a growing need to look beyond the traditional management positivist approaches to studying tourism labor and look to alternative approaches as well (Ladkin, 2011). The objectives of this paper take a more normative approach. Assumptions about the inherent value of tourism as a viable economic sector and the desirability of enhancing compensation and status for tourism labor are implicit.

The purpose of this paper, then, is to propose a theoretical model of the exogenous factors and policy levers that could potentially increase tourism labor wages and status. We will use the model to better understand how the following mechanisms could affect wages and status in tourism: education and training, professionalism through certification and licensure, collective bargaining, minimum or set wage laws, general economic development leading to rising opportunity costs, reductions in geopolitical and infrastructure-based risk, and a social venture model for employing tourism labor (charging higher-than-market prices and paying higher-than-market wages to promote a social mission). The model details the potential efficacy of each of these factors as well as its practical feasibility. Key conditions associated with each factor that moderate its influence on changes to tourism labor wages and status are also built into the model. For example, education and professionalism among tourism workers are increasing, but they have not yet been fully effective as labor enhancers. It may be that they will prove to be successful in time, despite the current lag in appropriate rewards for education, training, and certification, or it may be that they work only in particular circumstances when necessary conditions are in place. Also, collective bargaining is practically and theoretically difficult within the tourism industry because of the industry's fragmented nature and the predominance of small businesses. This leads to predictions on what types of tourism jobs are best suited to collective bargaining.

The full paper provides a graphical representation of the proposed model with detailed explanations of the hypothesized factors and conditions and the assumed strength of their influence. A case study is used to further explain how the model might be understood and applied to developing economies attempting to foster eco-tourism opportunities. The model is prepared with the expectation that it will be tested empirically as a whole or in part. Further research by the authors is planned to quantitatively test the proposed theoretical model.

In summary, there are no obvious answers or golden tickets that would raise the stature and compensation for tourism jobs, but a better understanding of the policies and strategies that might exert positive influence and steady pressure from those with an interest in the tourism industry and the economic benefits that can sustain tourism dependent economies may yet bring change in tourism labor. Further experimental research of current strategies and policies that may be more effective and practically feasible as well as new and innovative strategies or policies seems like an important next step.

**Parallel Session [G3] -- Service Quality**

[Thursday, 2 July 16:00–17:30]

[Venue: B114]

**Session Chair: Sylvain Petit<sup>1</sup> / Vicente Ramos<sup>2</sup>**<sup>1</sup>Universités de Lille<sup>2</sup>Universitat de les Illes Balears**There Is No Fuzziness when It Comes to Measuring Quality Service**

Melville Saayman, Juan Carlos Martin, and Concepcion Roman \*\*

The aim of this paper is to apply fuzzy numbers to determine how service quality evolves in South Africa's largest national park namely Kruger National Park. Kruger is not only South Africa's largest national park but is also one of the most profitable parks in the world and in order to sustain its income quality service remains paramount. Managing a park this size with many activities and services is a challenge especially when park management needs to ensure quality services as well as to detect where services are great or not that great. The literature review is clear that without quality service tourism products will not be able to sustain themselves. One of the reasons for this is the very competitive environment that tourism and in this case national parks functions within. A decline in tourists' numbers will have a direct impact on the income of the Park as well as the ability of the Park to sustain its conservation efforts.

The literature furthermore state that measuring service quality is not that easy since what one person rates as good can be average for the next and it is in this context that fuzzy numbers play an important role, since fuzzy set theory aids in measuring the ambiguity of concepts that are associated with human beings subjective judgments. Modeling using fuzzy sets has proven to be an effective way for formulating decision problems where the information available is subjective and imprecise. The data were derived from a survey that was conducted from April 2012 – March 2013 at Kruger National Park where 28 641 completed questionnaires were obtained and used in the statistical analysis. Nine (9) different dimensions using 31 service quality attributed that was rated using a 4 point Likert scale were used (poor, fair, good and excellent). Service dimensions include booking and reservation system, staff friendliness, game drives, cleanliness of facilities, activities on offer, accommodation, dining and shopping experiences. The results clearly showed which areas or variables require attention and which variables are currently well managed. In addition the paper makes a contribution to the methodological advancement of service quality and tourism management literature especially in a nature-based context, where this is the first time that this type of analyses has been done. The paper also highlights that service quality differs depending on which time of the year one visits.

**Keywords:** Tourism management, tourism economics, service quality, nature-based tourism, national parks.

**Service Quality Improving Effects and Recreational Benefits for Sport Tourism**

Chun-Chu Yeh and Chin-Huang Huang \*\*

Sport tourism has already been the most common activity in the worldwide society and tourism. Swimming across Sun-Moon Lake is one of the global famous swim events which takes place in a fantastic scene in Taiwan, attracting more than 20 thousand participants in recent decade. Service quality is crucial to develop management strategies for increasing attendance and retention of participants. A participant with positive service quality perception leads to reporting high levels of satisfaction and, is willing to pay more to increase the service quality of sport events. This study tries to explore the perception of service quality of participants who actively attend swimming across Sun-Moon Lake. The first step of exploring visitor perceptions of service quality is using exploratory factor analysis, which extracts the major factorial dimensions and obtains the factor score for the demand model. The programs of quality improvement are surveyed from perceived quality of participants. This study will adopt a contingent behaviour method that combines actual and intended behaviour data to measure the service quality effects of different improvement programs and to compare the recreational benefits with different demand models. The contingent behaviour model adopts pooled data that contains the actual number of swimming times under current service quality, plus the intended number for expected scenarios of service quality improvement. The empirical model is performed by on-site Poisson to estimate the momentary value of service quality and recreational benefits, which corrects the problems of truncated and endogenous stratification for on-site surveys. The service quality effects to participants are communicated based on the programs that change in service quality. However, the contingent behaviour model supports more information than traditional travel cost model that helps managers to develop a useful strategy policy, concerning quality improvement for sport events sustainability. The important managerial implication of this study is that managers may improve the programs of service quality, which leads to increase in the satisfaction of participants and attracting more swimmers to join the event.

**Keywords:** Sport tourism, service quality, contingent behaviour model, travel cost method.

## Parallel Session [H1] -- Tourism &amp; the Environment

[Friday, 3 July 09:30–11:00]

[Venue: B104]

**Session Chair: Tanja Mihalič**

University of Ljubljana

**The Stagnation of Summer Glacier Skiing**

Martin Falk \*\*

*1. Introduction*

There is declining interest in skiing on Austrian glaciers during the summer season. Possible reasons are changes in leisure preferences towards other outdoor activities, global warming with an increase in snow poor summer seasons and increases in lift ticket prices combined with high price sensitivity. Another reason might be low income elasticities resulting in the number of visits not increasing by the same proportion as real income rises.

This paper investigates the demand for transported passengers for 12 lifts in six Austrian glacier ski areas during the summer season for the period 1972–2007. The empirical model is based on a dynamic panel data model. The explanatory variables include average snow depth in the ski area itself, private consumption in constant prices as a measure of real income, and prices of tourism services. Knowledge of the sensitivity of lift transports with respect to natural snow depth is interesting given that climate change scenarios predict a reduction of snowfall and rapid glacier melting in the next 50 years. To our knowledge no study has rigorously investigated the factors determining the number of skier visits or lift transports in glacier ski areas in the summer season.

*2. Empirical model*

Favorable natural snow conditions are not only important for winter sport activities in the winter season but also for skiing on glaciers during the summer season. If there is less snowfall glaciers could shrink, threatening ski lift operations. Summer seasons with poor snow conditions in the glacier ski area itself may lead to a decline in interest for skiing activities in favor of other leisure activities. Gilbert and Hudson (2000) find that economic factors such as high expenses and high costs are the major constraints for skiing participation. A static tourism demand model is specified to investigate the determinants of lift transports in the summer season:

$$\ln NT_{it} = \alpha_i + \alpha_1 \ln P_t + \alpha_2 \ln Y_t + \alpha_3 \ln SD_t + \alpha_4 t + \varepsilon_{it}$$

where  $i$  stand for the cross-section unit, here ski lifts (with  $i=1,\dots,12$ ) and  $t$  denotes the time periods (with  $t=1972,\dots,2007$ ).  $NT$  denotes the number of lift transports in persons.  $\alpha_i$  denotes the individual (ski-lift) effects,  $P$  stands for prices of tourism services (mean of domestic price index and that of foreigners in Austria), and  $Y$  is the real private consumption index (unweighted mean for Austria and Germany).  $SD$  is average snow depth for the months May to September in cm and  $t$  is the time trend. Given that average snow depth shows positive values, its logarithm can be used. The static model can be transformed into a dynamic model using an autoregressive distributive lag

specification. After some transformations the following dynamic tourism demand equation is obtained:

$$\Delta \ln NT_{it} = \alpha_{oi} - \phi_i NT_{i,t-1} + \alpha_{1,i} \ln Y_t - \alpha_{2,i} \ln P_t + \alpha_{3,i} \ln SD_t + \alpha_{4,i} t_t + \theta_{5,i} + \beta_{1i} \Delta \ln Y_t + \beta_{2i} \Delta \ln P_t + \beta_{3i} \Delta \ln SD_t + v_{it},$$

where subscripts  $i$  indicate ski lift and  $t$  equals time.  $\Delta$  denotes the first difference operator. The panel data model can be estimated by several methods. Given that  $T$  is much larger than  $N$  we employ the pooled mean group estimator developed by Pesaran et al. (1999). This leads to following specification:

$$\Delta \ln NT_{it} = -\phi_i (NT_{i,t-1} - \theta_1 \ln Y_t + \theta_2 \ln P_t - \theta_3 \ln SD_t - \theta_4 t_t + \theta_{5,i}) + \beta_{1i} \Delta \ln Y_t + \beta_{2i} \Delta \ln P_t + \beta_{3i} \Delta \ln SD_t + v_{it},$$

where  $\phi$  denotes the error-correction coefficient, which is allowed to vary across cross-section unit. The long-run elasticities,  $\phi_1$ ,  $\phi_2$ ,  $\phi_3$ , and  $\phi_4$  are assumed to be similar across individuals (here ski lifts). The error correction model can be estimated by maximum likelihood under the non-linear restrictions  $\alpha_{k,i} / \phi_i = \alpha_k$

### 3. Empirical results

The results show that the number of transported passengers depends significantly positively on real private consumption and significantly negatively on tourism prices. Furthermore, the long-run coefficient of natural snow depth measured at the Sonnblick weather station at 2,950 metres is 0.13 and significant at the 10 percent level. When dividing that sample by elevation, one can see that snow depth is only significant for the sample with an uphill lift station of 3,000 metres or above. Here the snow depth coefficient is 0.19 and significant at the 5 percent level. This clearly indicates that the effect of snow depth is larger in the highest sections of the glacier ski areas.

Furthermore, there is a significantly negative long-run impact of tourism prices on skier visits. The price elasticity is quite large in absolute terms of -1.38. Thus one main reason for the stagnation of summer visitors in glacier ski areas is the relative high price sensitivity combined with the price increase which exceeds the consumer inflation rate.

The elasticity of number of transported passengers with respect to private consumption in constant prices is 1.22 and significant at the 10 percent level. The finding of an income elasticity of about one shows that skiing in summer ski areas cannot be regarded as a luxury product. Based on meta-analysis Peng et al. (2014) find for European destinations an average income elasticity of 3.4. Given that growth prospects of the main visitor countries - Austria and Germany - are quite modest with about 2 percent per year, ski lift operators cannot expect a huge decrease in the number of transported passengers in the summer season in the future.

### 4. Conclusions

This paper provides first insights into the reasons for the stagnation in the demand for summer skiing in Austrian glacier ski areas. Using dynamic panel data models the results show that the number of transported passengers depends negatively on tourism

prices and positively on real private consumption of the main visitor countries. The main reasons for the stagnation of lift transports in glacier ski areas in the summer season are the high price sensitivity of tourism demand and to a lesser extent the low income elasticity. The findings of high price sensitivity of summer skiing combined with a relatively low income elasticity stand in contrast to recent tourism demand studies based on city level data.

**Keywords:** Summer ski areas, glacier skiing, tourism demand, income and price elasticities.

**Determinants of Land Use Conversion from Tourist to Residential**

Hernández, Juan M. and Santana-Jiménez, Yolanda

This paper analyzes the forces that drive the conversion of tourist complexes into residential lodgings. The existence of an increasing offer of residential tourist homes converted from tourist to private use affect the area in the following way: (a) Since the residential tourist is characterized by keeping a high seasonal behavior, during the low season residential resorts and their surroundings look abandoned and bleak; (b) The residential tourist's expenditure is lower than the traditional tourist and consequently the substitution of the tourist by the resident profile is negative for the economy of the zone (restaurants, shops, etc.); (c) In many occasions, these lodgings are rented, competing unfairly with the official tourist beds, which have to pay taxes and are required to offer a standard of quality and services.

The phenomenon is framed into the literature based on land use change, which has applied mainly to the change from agricultural to urban land. To our knowledge, there are no antecedents from previous studies concerning tourist to residential land use conversion. In our study, a probit model is applied to a sample of 60 non-hotel complexes (apartments or bungalows) which operated as official tourist offer in 2005, located in the Municipality of San Bartolomé de Tirajana, Gran Canaria, Spain. This area has suffered a relevant closure of the non-hotel resorts in the last decade. Specifically, approximately 30% of non-hotel resorts (apartments and bungalows) have turned into residential housing in the last 10 years. Their status (whether they remain opened or they have closed their activity) has been studied in the time interval 2005-2012. Their probability of closing during that time period has been estimated, finding that bungalows have higher probability of closing than apartments, higher categories reduces the probability of closing and there are spillover effects since the higher the number of complexes closed within a buffer, the higher the probability of closing.

It is remarkable the fact that distance to shopping centers does not affect the probability of closing of a non-hotel accommodation. This result implies that building new shopping centers does not seem to be an adequate policy of encouraging a non-hotel tourist area, at least in the tourist area analyzed.

Some recommendations to local authorities and private entrepreneurs are extracted from these empirical results.

## **Estimating the Carbon Footprint of Tourism in South Tyrol, Italy**

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Mattia Cai

This study aims at developing estimates of the greenhouse gas (GHG) emission intensity of the tourism industry of South Tyrol, in northern Italy. Because tourism does not feature as a distinct industry in the system of national accounts, its GHG emission level cannot be readily obtained from official statistics.

The analysis seeks to quantify both the direct emissions arising from supplying tourists with goods and services, and the indirect emissions associated with producing those goods and services. To this end, a five-region (South Tyrol, northwest Italy, northeast Italy, rest of the country, rest of the World) input-output (IO) model is developed. The model is constructed by integrating existing data from a number of sources.

Direct and indirect carbon emissions are computed by linking the IO model with estimates of tourist demand obtained from South Tyrol's tourism satellite account. In this way, it is possible to examine the emissions associated with different types of tourists and tourism-related industries, inspect the breakdown of emissions by industry, and compare the performance of tourism with that of other economic sectors.

Only few analyses have attempted to measure the carbon footprint of tourism. Even fewer have sought to do so at the subnational level. Applications of multi-regional IO modeling – which allows locally produced output and imports to have different carbon intensities – to this issue are particularly rare. Also, this study explores the potential for linking a number of datasets into a coherent IO model.

In addition, to the extent that the necessary environmental impact data are available, the IO model could be extended to analyze of tourism externalities other than GHG emissions (e.g. waste).

Sustainability is becoming increasingly important as a factor of destination competitiveness. Modeling tools such as that developed in this study can help tourism policy-makers analyze and communicate the environmental performance of the industry.

**Parallel Session [H2] -- Tourism & Economic Growth 2**

[Friday, 3 July 09:30–11:00]

[Venue: B105]

**Session Chair: Adam Blake**

Bournemouth University

**Tourist Attractions Agglomeration and Economical Performance**

Bo Zhou, Hailin Qu, and Ningqiao Li\*\*

Although the concept of agglomeration has been introduced into tourism research field for a period of time, the research on tourism industry agglomeration is still on the initial stage due to lack of empirical studies to quantify its economic influence. This study fills a research gap by quantifying the economic impact of tourist attractions agglomeration. Employing a panel with 239 administrative cities in China over a period of 11 years, this study finds the relationship between tourist attractions agglomeration and tourism economy performance is the U-shaped. It suggests that only when the density of tourist attractions agglomeration surpasses a minimum threshold, can the synergy effect arising from agglomeration overtake the competition effect, and hence can net positive performance be achieved. In light of this, significant management implications can be derived.

**Keywords:** Tourist attractions agglomeration, tourism industry agglomeration, tourism economy performance, synergy effect, competition effect.

**Tourism: Economic Growth, Employment and Dutch Disease**

Federico Inchausti-Sintes

Since 2008, Spain has sustained a significant economic recession (a 0.92% reduction in real GDP from 2008 to 2012 and an unemployment rate of 24.3% in 2012). The main causes and effects of the actual downturn situation are the following: high levels of private debt (driven by years of low interest rates, which also spurred a real estate bubble), a high unemployment rate, lower wages, low levels of private consumption, credit shrinkage (banking crisis) and higher interest rates for public bond emissions.

Beyond this brief diagnosis, the Spanish crisis has two characteristic factors: Spain's membership in the European currency union (euro) and, as a consequence, a public control deficit to fulfil the EU deficit commitment. The first factor implies that Spain acts as if it had a fixed exchange rate, forcing internal devaluation through lower salaries to earn external competitiveness. The second factor does not permit Spain to fall into persistent public budget deficits and reduces the possibility of carrying out demand policies to foster economic growth. Internal devaluation is already reducing the country's deficit and salaries, but it is also causing domestic demand to falter. Spain, as with most of developed economies, relies strongly on the domestic demand to boost the economy.

Paralleling the economic situation described above, tourism in Spain has been increasing since 2010 as a consequence of the Arab Spring that began on December of 2010 in Tunisia and rapidly spread to other Arab countries in the region. The United Nations World Tourism Organisation (United Nations World Tourism Organisation, 2013) does not share this point of view and asserts that the rise in tourism in Spain beyond the regional average (i.e., the Mediterranean area) is due to internal improvements, such as the modernisation of supply, human resource training, quality improvements and improvements in marketing and promotion. This new situation, together with more optimistic economic forecasts (International Monetary Fund, 2013), has fed the idea that tourism could substitute for weakened domestic demand and revitalise the economy.

The success of some Asian countries in the eighties in promoting economic growth through export-oriented industries (World Bank, 1993) and the export orientation of tourism has guided studies about tourism and economic growth around the export-led hypothesis (Balassa, 1978). Authors such as Sequeira and Maças (2008) and Dritsakis (2004) agree that tourism, a non-technology-intensive sector, can promote economic growth and enhance capital accumulation. These conclusions contradict Solow (1956) and some other authors' findings, such as those of Aghion and Howitt (1998) and Grossman and Helpman (1991), about the relation between high-technology sectors and long-term growth. Lanza, Temple and Urga (2003) affirm that the lower growth in productivity in tourism-based economy could be overcome by a progressive specialisation on tourism that could improve the terms of trade and compensate the lost in productivity. Moreover, these authors also highlight the importance of the high price elasticity and income elasticity of demand for tourism that may compensate the loss in productivity in the long term.

Additionally, there are more profound consequences to the relationship between tourism and the economy beyond enhanced growth or the productivity gains that should not be neglected. Differences in the intensive use of capital and labour also have important implications at the sectorial level. Copeland (1991) and Chao, Hazari,

Laffargue, Sgro and Yu (2006) underscore the importance of non-tradable goods in tourism-based economies. According to these authors, tourism enhances the consumption of nontradable goods and improves the terms of trade, although it could produce capital *decumulation* from the manufacturing sector (capital intensive) to the non-tradable sectors (labour intensives). Moreover, the appreciation of the real exchange rate because of tourism can also undermine the external competitiveness of traditional exports. Both the displacement of capital and labour endowment from traditional sectors to the nontradable sectors and the appreciation of the real exchange rate can generate an economic "*illness*" known as Dutch Disease, by which the positive effect of tourism on the economy in the short term causes the economy to shrink in the long term (Corden & Neary, 1982).

Towards this end, a recursive-dynamic model with five periods is developed. The scenario is based on the projections of the International Monetary Fund (International Monetary Fund, 2013) and the Economic Bulletin of the Bank of Spain (Bank of Spain, 2013), i.e., *post-crisis* scenario. Additionally, the model is based on three datasets: the Input-Output Table (IOT), the Tourism Satellite Account (TSA) and the National Account for Spain. According to Blake, Durbarry, Sinclair and Sugiyarto (2001), the Input-Output framework overestimates the total effect of GDP and underestimates the total effect on the tourism sector. The TSA is the dataset that is able to compensate for the lack of tourism information in the IOT. Thus, the IOT and the TSA are combined to obtain a deeper representation of the tourism sector that the IOT is not able to provide. The results show that tourism provides economic growth, reduces the unemployment rate, improves the terms of trade and boosts the domestic demand in the medium term in Spain. The effect on these macroeconomic variables varies in intensity. For highly indebted countries like Spain, improvement in the current account deficit is very beneficial in the short and medium term. The effect on real gross value added is also positive and remarkable. Although the effect on unemployment is not a solution, it is a relief.

Nonetheless, at microeconomic level, the positive effects of the tourism sector are not as clear and positive as they are at macroeconomic level. Tourism fosters the appreciation of the real exchange rate, which erodes the potential advantages of the high unemployment and capital accumulation levels generated by tourism. Thus, tourism-led growth undermines traditional sectors such as agriculture, energy and mining and industry—a clear consequence of the Dutch Disease.

**A Re-examination of the Tourism-led Growth Hypothesis: The case of New Zealand**

Giuliano Bianchi, Mondher Sahli and Laura Vici

This study seeks to examine the causal relationships among changes in inbound tourism, economic growth and the real exchange rate in New Zealand from 1987 to 2013. We use the vector autoregressive model (VAR) to test the impact of tourism on the New Zealand economy. The variables of interest used in this study are: the index of real exchange rate between the NZ dollar and currencies of the 14 New Zealand's top trading partners, the travel export in New Zealand and the real GDP of New Zealand. The variables contain all a unit root and are collected at quarterly frequency from 1990 to 2013. The model is fitted first for the whole period from 1990 to 2013 and then for the two sub periods anticipating and following the 2008 financial meltdown (i.e. 1990-2008 and 2008-2013). The results show that before the global financial crisis (GFC) the variables were linked by long run relationships that then disappeared once the GFC hit New Zealand. Between 1990 and 2008, an increase in GDP leaded to an appreciation while a depreciation of the exchange rate leaded to an increase in tourist receipts in the long run. In the short run, an increase of tourist receipts leaded to an appreciation for both the entire period and the sub period following the financial crisis while an increase in GDP leaded to an appreciation only for the sub-period from 2008 to 2013.

**Parallel Session [H3] -- Socio-Economics**

[Friday, 3 July 09:30–11:00]

[Venue: B106]

**Session Chair: Stephen Wanhill**

Bournemouth University

**Do Tourism Firms with Female CEOs Hold a Higher Level of Cash?**

Markku Vieru \*\*

Using firm level data over a ten-year period from the Finnish tourism sector, with more than 15 000 firm-year observations, and various panel data models, this paper studies whether firms with female CEO (Chief Executive Officer) hold a larger level of cash while controlling for various firm characteristics (e.g. size, growth opportunities, profitability, leverage, and debt structure as well as board size and CEO's age). Since females are generally regarded as more risk averse it is hypothesised that firms which are run by female managers are more prone to have larger cash balance. In line with hypothesis, results indicated that firm with female managers hold significantly larger level of cash. The study demonstrates also that the proportion of firms with female CEOs in Finnish tourism firms has somewhat increased during the sample period of 2000–2012.

**Keywords:** Cash holdings, gender, corporate governance, tourism business.

**Business Travel: Do the Benefits Offset the Downsides? The Study of International 'Road Warriors'**

Natalia Tretyakevich

Presently, multiple companies are organized the way that requires sustaining regular contacts between people located in geographically dispersed locations (Gustafson, 2012). One of the serious consequences of the necessity to maintain this interaction is increasing volume of business travel. Business travel represents an important industry worldwide, the value of which in terms of global expenses exceeded USD 1'100 billion in 2013 (WTTC). It contributes to global trade and brings sizeable return on investment: according to NBTA (2009), for every \$1 spent on business travel, the average ROI is \$15.

Business travel is often associated with twofold effects. Amongst its positive outcomes there can be named getting new partners and clients and, thus, growing the business volume, developing interpersonal trust with the existing stakeholders, acquiring new knowledge, solving existing strategic and daily problems, stimulating personnel (Faulknerbridge et al., 2009; Beaverstock et al., 2009). However, business travel is not only connected with positive effects of being away from the regular workplace and visiting new exciting destinations, it is a source of extra expenses for the employer (Advito, 2013) and a cause of additional stress, fatigue and challenges to personal life of the employee (DeFrank et al., 2000). Deteriorating with the increase of the number of trips, work-life balance of the travelers is getting to be a serious concern for the employers that are constantly looking for new ways of supporting travelers' well-being, which, among the rest, might influence their success in accomplishing organizational goals (Westman et al., 2012).

There exist diverse potentially risky stress issues connected with business trips, among which journey preparation in terms of work and family arrangements (Westman et al., 2012), physical and psychological problems accompanying travel (Rogers, 1998), decreased performance at work (Espino et al., 2002) could be mentioned. Negative impacts of frequent flying on private life arise from scarcity of time for family and household, friends and social obligations (Mayo et al., 2011), as well as stress and lacking periods of rest and recreation (Demel & Mayerhofer, 2010). On the contrary, when stress-reduction work management is applied allowing employees to recover from exhaustion, they are twice as likely to be engaged into their work (Cheese et al., 2009). Therefore, from the corporate prospective, supporting employees' well-being, which contributes to enhancing their job satisfaction and rising productivity, has been recognized as an essential responsibility of many organizations. However, till now the topic has received limited attention in the literature.

Quite a limited body of literature is available in the field of business travel, despite the fact that many professions nowadays foresee necessary international mobility. Moreover, major studies in the field have been primarily focusing on the negative aspects of business travel, overlooking its positive features. Along with increasing attention to its negative characteristics, it is important to better study its positive outcomes, which might create opportunities for stress-reduction and elimination of work-family conflict. These possibilities emerge due to the arising learning occasions, exposure to new cultures, meeting new people, career growth chances and having some time off routine generated by work-related journeys (Westman et al., 2012). Business travel is undoubtedly becoming a regular work activity for many people nowadays; however, it still bears the elements of 'escape from daily routine, exploration,

excitement and even erotocism' (Wickham & Vecchi, 2009). Yet, despite high potential of the topic in terms of theoretical exploration and practical application, few papers so far concentrated on the positive effects of business travel (Westman et al., 2009).

Therefore, present research has as its goal to explore both positive and negative impacts of business travel on the companies' employees analyzing the influence of frequent trips on job outcome, family life and personal well-being, for the sake of uncovering particular economic and social effects of work-related travel and their relevance for the companies and their employees. The study seeks to explore the role of work-related trips in deteriorating WLB, and possibilities for its improvement for the travelers in a wider framework. Business travel might be stressful in one way, yet rewarding in another; therefore, I seek to reveal possibilities for exploiting satisfying elements of work-related journeys, which might be successfully used in order to compensate for the downsides.

Using primary data, the research investigates business travel from the travelers' perspective, deriving implications for organizations and their travel and HR policies. The data is collected via interviews with the employees of large multinational companies whose job requires extensive international business trips. Male and female frequent travelers of different age groups, family status and professions are represented among the interviewees. The collected data is analyzed by means of NVivo software for qualitative analysis.

The results obtained shed some light on the effects of work-related trips on work and private life of mobile employees focusing on manifold positive and negative impacts, which are shown to vary for the travelers of diverse profiles. The study outcome demonstrate the necessity of careful management of all passages of business trips, allowing some flexibility in this regards, which would be beneficial for keeping the equilibrium between work and life domains and for leveling the consequences of high work intensity and travel stress. Their moderation and correct utilization in different job situations might elevate travel management policies of the companies rising the satisfaction and efficiency of the travelling employees and the return on investment of business travel as such, thus improving economic and social sustainability of business travel.

**Keywords:** Frequent business travel, impacts on job, family life and personal well-being, work-life balance.

**Factors Affecting Use of the Internet to Plan and Purchase Tourism Services among Older Adults**

Shlomit Hon-Snir, Shosh Shahrabani, Sharon Teitler Regev, and Anabel Lifszyc Friedlander

The international tourism industry is one of the world's largest industries. This industry has grown by 3-5% per annum and constitutes a significant component of the economies of many countries.

Older adults constitute around 10.5% of the population in Israel today and their population segment is expected to grow to 14% within ten years.

About 47% of senior citizens report that they have traveled within Israel. Moreover, 30% of this population group took a trip or a vacation abroad within the last 12 months.

Today, online travel sites account for a large share of the orders for tourism goods and services, leading to the expectation that many traditional travel agencies will become redundant in the future. Nevertheless, the senior citizen population is known to have difficulties in adapting to technology use and Internet access.

The purpose of this study is to identify the factors that affect the collection of data and the purchase of tourism products online among older adults and in particular to identify the barriers and limitations to the use of technology among this age group. The results of the current research are of great importance both economically and socially and may help improve the quality of life of the senior population.

In the study, we analyze three groups of factors: *demographics*, *Internet usage* and *customer and product types*. The *demographics* group includes the following parameters: gender, age, income level, health status and education level. The *Internet usage* group includes the following parameters: computer usage (information seeking, social networks, email, games, communication, online purchasing), proficiency in English, use of email, use of computer at last place of employment, frequency and duration of Internet usage, recommendations, physical ability to use computer (view, mouse and keyboard control). The *customer and product types* group includes the following parameters: price, product type (car rental, hotel, flight, entertainment, shopping, city or site tour), consumer type, travel alone or within a group and physical ability to travel.

The main research hypotheses are:

- H1: Recommendations from family or friends have a positive influence on the probability to seek information online and to purchase travel products online.
- H2: Use of computers at last place of employment has a positive influence on the probability to seek information online and to purchase travel products online.
- H3: Complexity of the travel product has a negative influence on the probability to seek information online and to purchase travel products online.
- H4: Frequency and duration of Internet usage have a positive influence on the probability to seek information online and to purchase travel products online.
- H5: Disabilities among the senior population have an influence on the probability to seek information online and to purchase travel products online.
- H6: Type of consumer has an influence on the probability to seek information online and to purchase travel products online.

Data will be collected using an online questionnaire distributed among a representative sample of 600 senior citizens in Israel.

It is important for decision-makers in the field of tourism to investigate and understand the barriers and limitations to Internet use among the third-age population group. This is also important for those interested in understanding web accessibility among senior citizens.

Implementation of the research results will enable older adults to more easily seek information and purchase tourism products online.

**Factors Affecting Young People Decisions to Travel to Risky Destinations**

Shosh Shahrabani, Sharon Teitler Regev, and Helena Desivilya Syna

**Background**

Tourism is one of the major economic sectors which many countries depends on. Yet, incomes attained in this important economic branch tend to be volatile due to the effects of various significant events such as natural disasters and terror attacks. Understanding the factors contributing to the intention of people to travel abroad is therefore important in an attempt to mitigate the long term negative effect of such events on tourism.

The current study examines the factors affecting the intention of students from Israel to travel to four destinations: Egypt, Turkey, Japan and India. We chose these countries to capture the effect of terrorism (in Egypt, Turkey), health hazards (Egypt and India) and the effect of natural disaster (Japan) on the intention to travel abroad. The model we propose includes mediate variables. More specifically, attitudes toward destination safety and risk perceptions (regarding health, terrorism and natural disaster) are mediating variables which on the one hand are affected by the individuals' travelling experience and exposure to terror events, and on the other hand affect the intention to travel to risky destinations.

**Methods**

The research participants were 585 undergraduate and graduate students in academic institutions in different area in Israel, who filled questionnaires during class time in 2011. The questionnaire consisted of the following parts: (1) items requesting socio-demographic and experience with travelling abroad (number of times travelled abroad) (2) whether or not the individual was exposed to terror events (not via the media) (3) questions concerning risk perceptions about traveling to destinations with different types of risks, which were measured on a 5-point scale ranging from 1 ("certainly agree") to 5 ("I definitely do not agree") (e.g., It is preferable to avoid traveling to destinations in which there were terrorist events during the current year) (4) the preference to travel to a list of destinations (Japan, Turkey, Egypt, and India) and reasons not to go; (5) Perceptions about risk tendencies in general measured on a scale ranging from 1 (avoid risk at all costs) to 10 (involved in risky activities) (6) evaluations with respect to traveling abroad (i.e., I feel nervous about traveling right now) on a 5-point scale ranging from 1 ("I definitely do not agree") to 5 ("certainly agree").

**Results**

Of the total sample 461 (82%) had experience with travelling abroad, 447 (78%) of the participants were exposed to missiles or terror attacks. The research results shows that only 40% of the respondents intend to travel to Egypt or Turkey, while 62% intend to travel to India and 85% to Japan.

The results of the analytical model (regressions) show that according to the research model previous experience with traveling abroad has a negative effect on individuals' perceived risk, travel risks and attitudes toward destination safety. In particular, more experience with previous trips abroad tends to reduce risk perceptions of the prospective traveler. In a similar vein, we found that past exposure to missile attacks has a negative effect on perceived travel risk; namely, mitigates risk perceptions.

In turn, attitudes toward destination safety and risk perceptions were significant predictors of the intention to travel to all four risky destinations. More specifically, it was

found that the intention to travel to Egypt or India decreased as travel risks in general and attitudes toward health hazards increased. In addition, the intention to travel to Turkey decreased as the perceptions of terror risks and perceived travel risk increased, and the intention to travel to Japan or India decreased as the perceived destination safety increased.

The results of the study emphasize the importance of previous experience with travelling and the exposure to terror events (with no damage or injury) as mediators of risk perceptions with respect to risky destinations. These findings can contribute to policy making and strategic planning potentially expanding tourism in risky destinations.

**Keywords:** Tourism, terror, natural disaster, risk perception, travel experience.

**Parallel Session [I1] -- Economic Geography**

[Friday, 3 July 11:30–13:00]

[Venue: B104]

**Session Chair: Mondher Sahli**

Victoria University of Wellington

**International Ecotourism and Economic Development in Central America and the Caribbean**

Ulrich Gunter, M. Graziano Ceddia, and Bernhard Tröster

Using annual data for the period 1995–2012 for seven Central American and Caribbean countries (Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama), six different open-economy neoclassical growth models that allow for international (eco-) tourism are estimated using panel-data estimation techniques.

The main result of the investigation is that not only international tourist arrivals per capita have a highly significant impact on the log of real GDP per capita (as proxy for economic development) but that also five different sustainability indicators interacted with international tourism have a positive impact on economic development on top of international tourism. The five sustainability indicators applied in the present study are the Environmental Sustainability Index (ESI), the Environmental Performance Index (EPI), the Travel and Tourism Competitiveness Index (TTCI), terrestrial protected areas (in % of total land area), as well as terrestrial and marine protected areas (in % of total territorial area). The results also yield evidence for the tourism-led growth hypothesis (TLGH) for Central America and the Caribbean. All explanatory variables were lagged by one period before estimation in order to mitigate reverse causality concerns.

To overcome the limitations of real GDP per capita as purely monetary economic development measure of the average inhabitant of a country, quantile regression was applied as well. Quantile regression results show that in particular lower and medium income deciles benefit most from international (eco-) tourism.

The results for seven countries are complemented by very similar estimation results applying terrestrial protected areas as well as terrestrial and marine protected areas for a set of 12 Central American and Caribbean countries (the seven countries mentioned above plus Belize, Dominica, Grenada, St. Lucia, as well as St. Vincent and the Grenadines), for which ESI, EPI, and TTCI were not available, thus corroborating the validity of the specification.

In addition, also typical control variables such as gross fixed capital formation, average years of schooling, the inflation rate, terms of trade growth, or net inflows of foreign direct investment are generally significant and feature the signs as expected from economic growth theory.

**Keywords:** International ecotourism, sustainability indicators, real GDP per capita, Central America and the Caribbean, panel-data analysis, quantile regression.

**Examining Youth Attitudes to Eco-Tourism in Vietnam: Key Economic and Lifestyle Considerations**

Matthew Hibberd

This research draws on findings from an international climate change study undertaken in the Vietnam and funded by the Carnegie Trust for the Universities of Scotland. For this research I examined young people's attitudes (18-30) to climate change issues in Vietnam. The key issue under examination in relation to this paper is the rise of eco-tourism in Vietnam in the past 15 years. With a total median age of 29.2 years, Vietnam has a very high percentage of young people, many of whom have enjoyed rising socio-economic conditions in recent years as the Vietnamese economy has grown and developed. Young people therefore constitute a key target audience for Vietnamese tourism authorities, especially the developing eco-tourism sector that has been identified for support by the Vietnam government as part of its climate change agenda. Eco tourism is also a key political issue that resonates with many young people globally. What follows is a brief outline of youth attitudes (18-30 age group) to eco tourism in Vietnam using the words of research participants and eco tourism professionals. I cite examples of good eco tourism practice that has generated public awareness in Vietnam, enthused participants to take part in outdoor holiday or adventure-based activities and engaged local communities and authorities promoting sustainable tourism. I also note that eco-tourism often follows strong local political agendas. Eco tourism tended to recruit committed activists, at least the participants I spoke to, although I don't make definitive judgment on this observation. The paper also highlights the key difficulties eco tourism faces in attracting young people in Vietnam including key economic concerns and lifestyle choices. The key issue of marketing eco tourism will also be highlighted. This paper will contribute to conference proceedings by outlining vibrant models of climate change participation and their potential for transforming communities in the coming years.

**Keywords:** Eco Tourism, communications, participation, sustainability, Vietnam.

## **Disneyland Paris and the French Capital: A Tale of Two Destinations?**

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Paolo Figini and Veronica Leoni

Amusement and theme parks are often big players in the tourism sector, generating income and employment for the territory and extraordinary experiences for tourists.

Disneyland Paris is doubtless one of the most important parks worldwide. Since its opening in 1992, the park demonstrated to be a gravy train for the French economy, creating more than 55,000 direct, indirect and induced jobs including nearly 15,000 people employed at the resort. Nowadays, the Disney empire generates € 50 billion of value added in France and represents around 6% of overall tourism receipts. Despite recent disappointing results due to the economic and financial crisis, the park can still be considered the first European tourism destination, with more than 275 million arrivals since its inauguration. In addition to leisure activities, more than 1,000 business events are organised each year in Disneyland, making the resort the 5th convention centre in France.

However, the location of amusement parks has non trivial implications in terms of coordination with the destination management, development of infrastructures and accommodation facilities and, more in general, in terms of public intervention in the tourism sector. The aim of this paper is then to analyse a central issue in destination management and in territorial policy: the type of relationship connecting an important amusement park with the surrounding territory.

This issue is particularly important for Disneyland, because looking at the reasons driving the choice of *Marne la Vallée* (Eastern Paris) as location for the park, both the French government and Disneyland were highlighting the synergies between the resort and the French capital and the positive spillovers that the park would have generated onto the city of Paris. By analysing the case of Disneyland Paris we attempt to understand the real effects and spillovers that the location of a huge amusement park has on the broader destination in which it is located.

Starting from this consideration, our main research questions are: is Disneyland Paris a complementary site to the French capital or, on the contrary, a competing destination? What are the characteristics of tourists visiting and not visiting Paris while in Disneyland? What is the behavioural pattern of Disneyland tourists and how this affect their probability of visiting Paris while in Disneyland?

By analysing through descriptive statistics and econometric modelling the responses to a questionnaire submitted to a random sample of Disneyland tourists, we are able to shed new light on the topic of amusement parks, for at least a couple of reasons. First, we provide a careful description of the different clusters of tourists visiting one of the most important amusement parks worldwide. Second, since the main result our research is that Disneyland is an independent destination (if not substitute) to Paris, this has important implications in terms of tourism policy and territorial development. Those implications are thoroughly discussed in the paper.

**Parallel Session [I2] -- Economic Development**

[Friday, 3 July 11:30–13:00]

[Venue: B105]

**Session Chair: Stephen Pratt**

The Hong Kong Polytechnic University

**Relationship between Tourism and Economic Development – Capital Coefficient Analysis**

Mihalić

***Purpose***

The purpose of this paper is to apply capital-output analysis in order to study tourism country competitive ability and tourism contribution to growth of the economy. Author argues that (after a certain level of development) the country tourism competitiveness, e.g. the ability to increase daily tourism consumption per visitor without much new capital investment, depends on many (economic development related) factors. Thus the paper investigates the relationships among country total and tourism related fixed capital, level of economic development, economic structure and tourism consumption.

***Theoretical framework***

The economic argument for tourism as an agent of economic growth and development is frequently derived from a capital-output ratio analysis, with the capital-output ratio being based on the amount of capital required to produce a single unit of output in the economy. In the specific context of tourism, a capital-output analysis is based on a comparison of the tourism sector capital-output rate and the equivalent rate calculated for the whole economy (Mihalic, 2002; Planina, 1997). It divides tourism development into three stages according to tourism's contribution to growth of the local destination economy.

During the first development stage (equivalent perhaps to Butler's (1980) exploration stage), tourism development is spontaneous and unsupported by either a tourism development policy or intensive capital investment. As the number of visitors and consequential opportunities for tourism businesses expand, the destination enters the second tourism development stage. Now, tourism development is supported with significant investment in tourism infra- and superstructure. Thus, during this second stage the capital-output ratio within the tourism sector increases substantially and might exceed the overall economy's average capital-output ratio, thereby slowing the average national economic growth rate down.

The third stage of tourism development is reached when the average tourism capital-output ratio falls. This results from both the benefits of past investment in tourism infra- and superstructure being realised and current innovations and improvements in the quality and assortment of tourism products which, together, encourage higher levels of tourist consumption, hence contributing to the local economy's economic growth. This is a stage of maturity where tourism-led economic growth theory may find its place if the tourism coefficient falls below that for the economy. The marginal capital-output ratio is low and little additional tourism capital investment is required for an additional increase in tourism yields. Ideally, the latter is mainly achieved by enlarging daily tourism consumption per visitor, with the number of visitors being unchanged. However, the ability to increase daily tourism consumption per visitor without much new capital investment, depends on many factors, such as physical or human capital or

innovativeness (Blake, Sinclair, & Soria, 2006; Porter and Ketels, 2003; Delgado, Ketels, Porter, & Stern, 2012). For example, international tourism data show that the more a destination economy is developed, the higher the tourism earnings per visitor and *vice versa*.

This paper aims to use the available country data and position different countries according to

1. how their tourism capital coefficient relate to country development
2. how country ability to increase tourism consumption relate to tourism and country development.

*Design/methodology/approach*

In order to study different stages of tourism development this paper uses the available data from the main tourism and economic databases (CIA, 2014; UNWTO, 2014; WTTC, 2014; and WEF, 2014). A position diagrams will be calculated in order to place countries according to their capital coefficients, levels of tourism and economic development and tourism consumption (e.g. tourism competitiveness). The results will be analyse4d and discussed in the context of real ability of different countries to add value to tourism product, dependent on development level of their tourism infra- and super-structure.

*Findings*

The findings will show the importance of economic development (general and tourism) for country tourism competitiveness.

*Practical implications*

This research will provide new evidence on tourism development and tourism contribution to economic growth.

*Originality/value*

This paper builds on capital coefficient theory and economic understandings of different developmental tourism stages and implications for tourism competitiveness. Capital coefficient analyse offers a rigid framework to study the relationship between country development and its competitiveness, e.g. ability to increase added value and economic growth through tourism. This area is under researched in tourism literature and this study complement popular Buttler's destination life cycle theory from economic perspective.

**Keywords:** Tourism economics, tourism developmental stages, capital coefficient, added value, tourism competitiveness.

## How Does Tourism Development Contribute to Regional Income Inequality? A Case of China

Hengyun Li, Jason Li Chen, and Gang Li

Tourism is widely recognized as an important industry for promoting economic growth especially in those less developed countries (Li, Goh, Zhang, & Meng, 2014). The relationship between tourism development and economic growth has been well researched (Song, Dwyer, Li, & Cao, 2012). In the meanwhile, there are still severe regional inequality in many developing countries (Deller, 2010), where tourism may function as an instrument distributing the development from the economic centers to less developed areas (Williams & Shaw, 1991). However, Deller (2010) argues that previous literature has focused mostly on traditional metrics of growth including income and employment and has neglected distributional issues such as changes in regional income inequality.

Tourism development has the potential to generate indirect effects of positive externalities on other sectors by the means of industrial substitution or integration, especially those that have lost competitiveness (Proenca & Soukiazis, 2008). For example, Kadiyali and Kosová (2013) identify vertical (inter-industry) spillover effects from tourism (represented by the hotel sector) to the wider economy among US metropolitan areas. Pender (2003) proposes that industrial structural change significantly affects aggregate income if the new industries differ in their generation of external effects. Sachs, Woo, Fischer, and Hughes (1994) propose that the core driving force of China's rapid development is the fast transformation of the backward industrial structure. However, McMillan and Rodrik (2011) point out that compared with advanced economies, developing countries are accompanied by wider productivity disparities between industries across the whole economy. In less developed or rural Chinese areas, agriculture still dominates local economies, and there are larger productivity gaps between different sectors. The second and third economic sectors play a more important role in China's developed and urban areas, and the productivity gaps between different sectors are smaller. On this basis, we propose that through structural change, tourism development in less developed areas will promote productivity and economic growth more than in developed areas. The mechanism of how tourism affects regional income inequality is summarized in Figure 1.

The aim of this study is to provide empirical evidence between tourism development and regional income inequality based on a case of 30 Chinese provinces. The models used in this study are conditional convergence model (Sala-i-Martin, 1996). A conventional convergence equation used in this study can be written as follows:

$$\Delta \ln(y_{i,t}) = \gamma_i + b \ln y_{i,t-1} + a_1 \ln(s_{i,t}) + a_2 \ln(n_{i,t} + g + \delta) + a_3 \ln(h_{i,t}) + u_{i,t} \quad (1)$$

where  $y_{i,t}$  is the output *per capita* of the  $i$  th economy at time  $t$ ,  $s_{i,t}$  is the share of real investment to real GDP,  $g$  is the growth rate of technology progress,  $\delta$  is the rate of capital depreciation,  $g + \delta$  is equal to 0.05,  $n_{i,t}$  is the labor growth rate and  $h_{i,t}$  is the

human capital.  $\gamma_i$  represents the different steady economy values of the per capita output. The conditional convergence speed is  $\beta = -\ln(1 + b)$ .

In the empirical analysis, this study incorporates tourism receipts (TR, DTR, and ITR as proxies for total tourism, domestic tourism and international tourism development, respectively) into the above conditional convergence model, to see whether tourism accelerates regional convergence speed and which type of tourism matters more. Using the first-differenced generalized method of moments (GMM) estimation method, the results of Model 2 in Table 1 suggest that total tourism has a significant effect on economic growth, and there is a convergence speed in *GDP per capita* of 12.8% among various provinces in China. For comparison, we estimate Model 1, which does not contain tourism as a conditional convergence factor. The results of Model 1 in Table 1 show that when tourism is excluded from the conditional convergence model, the convergence speed decreases to 4.6%.

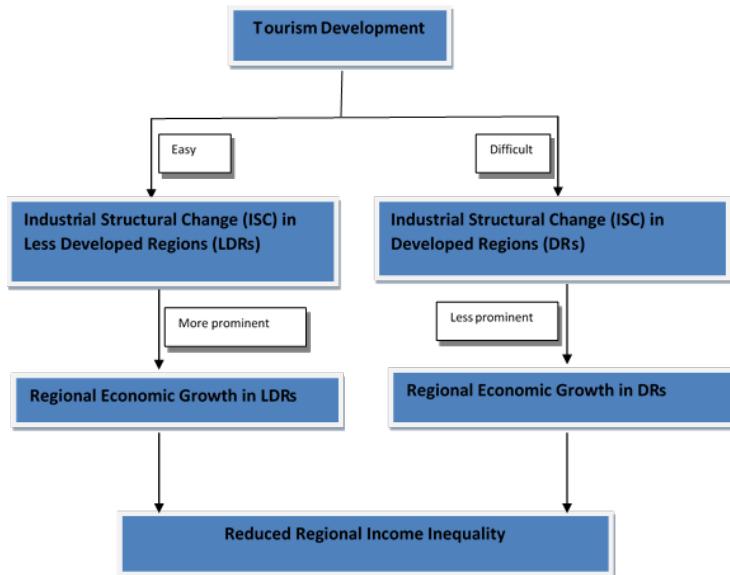


Figure 1. Theoretical Foundation of the Relationship between Tourism Development and Regional Income Inequality.

In big countries, such as China, because domestic and international tourism have different scales, annual growth rates, spatial distributions and regional effects, they may have substantially different patterns of effects on economic growth and regional income inequality. According to Model 3, where domestic tourism is added as a conditional convergence factor, the convergence speed in *GDP per capita* is 10.7% among the different provinces. According to Model 4, where international tourism is added as a conditional convergence factor, the convergence speed in *GDP per capita* is 6.2%. This suggests that domestic tourism can accelerate the regional economic convergence faster than international tourism.

Overall, this study makes two contributions to the literature. First, it provides an empirical evidence on the effects of tourism development on regional income inequality.

Second, for the first time, it examines both international and domestic tourism to assess which type of tourism contributes more to the reduction of regional income inequality, within a theoretical framework of conditional convergence. The results show that tourism can reduce regional income inequality in China, and domestic tourism can accelerate regional economic convergence faster than international tourism.

Dependent Variable:  $V\ln(y_{i,t})$

Variable	Model 1: Diff-GMM1	Model 2: Diff-GMM2	Model 3: Diff-GMM3	Model 4: Diff-GMM4
Constant	-0.791*** (-6.32)	-0.184 (-1.51)	-0.366*** (-2.82)	-0.593*** (-5.95)
$\ln(y_{i,t-1})$	-0.045*** (242.48)	-0.120*** (108.83)	-0.101*** (89.95)	-0.060*** (157.13)
$\ln(s_{i,t})$	0.068*** (5.78)	0.035*** (3.25)	0.042*** (3.36)	0.076*** (6.88)
$\ln(n_{i,t} + g + \delta)$	0.0002 (0.0006)	0.0004 (-0.38)	0.0005 (0.46)	-0.0004 (-0.40)
$\ln(h_{i,t})$	0.616*** (12.45)	0.460*** (6.86)	0.516*** (7.93)	0.568*** (14.43)
$\ln(TR_{i,t})$		0.071*** (27.18)		
$\ln(DTR_{i,t})$			0.046*** (11.01)	
$\ln(ITR_{i,t})$				0.015*** (6.63)
Diagnosis tests				
AR (1)	-4.029***	-3.918***	-3.879***	-3.987***
AR (2)	-0.600	-0.208	0.230	0.684
Sargan test	Chi2(55)=28.8, P=0.999	Chi2(66)=27.55, P=1.000	Chi2(66)=28.33, P=1.000	Chi2(66)=28.83 P=1.000
Convergence rate $\beta$	0.046	0.128	0.107	0.062

Notes: (1) The values in brackets indicate the  $t$ -ratios; (2) \* \*\* and \*\*\* indicate that the coefficient is statistically significant at the 10%, 5% and 1% significance levels, respectively; (3) the Sargan test is to test for the overall effectiveness of all of the instrumental variables; (4) AR(1) and AR(2) refer to Arellano and Bond tests for the first- and second-order serial correlations, respectively.

Table 1. Dynamic GMM Estimation Results of Economic Conditional Convergence Models.

**The Impact of Experience Staging in Tourism Competitiveness**

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Natalia Tur, Javier Rey-Maqueira, Vicente Ramos, and William Gartner

Experience staging and tourism competitiveness are usually seen as ambiguous concepts. Due to this complexity, the existing link between both variables remains a critical area of study. This paper presents a new conceptual model to assess the impact of experience staging in the different channels leading to tourism competitiveness. The model integrates the role of private businesses within the tourism destination and suggests an indirect link between experience staging and tourism competitiveness through the use of several mediating variables named 1) tourist's perceived value, both in cognitive and emotional terms, 2) final satisfaction, and 3) behavioral intentions. The co-creation of tourist experiences allows for a more differentiated economic offering, which results in upper levels of perceived value. The improvement of tourist's total perceived value allows for greater satisfaction levels which, in turn, have positive effects on the tourist's behavioral intentions. While an improvement in the tourist's willingness to pay allows for value creation in the consumer surplus, other future intentions –repetition, word of mouth, complaint behavior – could influence the supplier's cost structure. The main contributions show that the value resulting from tourist experiences is created in different stages of the value chain, through an increase in the final price of the offering and a reduction in the intermediate costs structure. The economic value creation is not restricted to the private business, but other public and private support structures within the destination also contribute to the process. Managerial implications suggest that experience staging allows the destinations to adopt a benefit leadership strategy of price-premiums relative to its competitors, at the same time it ensures the reduction of the costs structure.

**Hotel Room Choice and Repeat Purchase Behavior: An Analysis of Guests' Preferences**

Lorenzo Masiero, Bing Pan, and Cindy Heo

It is widely recognized that consumers base their purchasing decisions on past experience. This behavior makes customer satisfaction an essential element of brand loyalty and is extensively documented in current research literature on several fields, including hospitality.

In selecting a hotel room, tourists experience specific room characteristics which are then used as reference levels in the evaluation of a potential future booking in the same hotel. The variety of room options within a hotel makes it possible for repeating guests to face upgrade or downgrade with respect to the attribute levels experienced in their previous stay. The analysis of deviations from a reference level has been formally introduced in the prospect theory and since then applied to numerous contexts. According to prospect theory, gains (i.e. upgrade or improvement) and losses (i.e. downgrade or worsening) with respect to the reference level are perceived differently by individuals and in particular, losses are weighted more than gains. In this context, the aim of this research is to investigate hotel room choice and repeat purchase behavior by analyzing hotel guests' preferences associated with deviations from the reference attribute levels.

The data refer to a stated choice experiment conducted among guests of one hotel in Hong Kong and investigating their room preferences for a future stay in the same hotel. The hypothetical room alternatives were designed according to seven attributes referring to room view, floor level, room amenities such as mini bar and guest smartphone, and room services such as club access and cancellation policy. As part of the survey, hotel guests were also asked to describe the room they were currently staying in. Thus, it is possible to analyze guests' preferences for the attributes presented in the stated choice experiment as a function of deviations from attribute levels experienced in their current stay. In particular, a random parameter logit model is estimated by deriving different coefficients for improvement and worsening conditions.

The results confirm the validity of the reference-dependent specification, and hence the importance of reference levels in repeat purchase behavior. Individual parameters for improvement and worsening conditions are retrieved for each significant random coefficient and attribute-specific cluster analyses are performed to identify segments with similar preferences. The clusters are further characterized with the aid of a set of specific demographic and behavioral variables to characterize the clusters. These variables could inform better revenue management practices.

**Parallel Session [I3] -- Hotel Economics 3**

[Friday, 3 July 11:30–13:00]

[Venue: B106]

**Session Chair: ShiNa Li**

Leeds Beckett University

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**A Gravity Model of Foreign Direct Investment in the Hospitality Industry**

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Martin Falk \*\*

This paper investigates the determinants of FDI activity in the hospitality industry using a gravity model. It draws on a new and unique database of 2,420 FDI projects carried out by 50 parent countries in 104 host countries from 2005 to 2011. Results obtained from the fixed-effects negative binomial regression model show that FDI inflows in the hotel industry significantly decreases with higher levels of business regulations, total tax rates, and wages, and increases with market size. Geographical distance and socioeconomic factors e.g. prevalence of HIV/AIDS, meanwhile, are not relevant. Comparing the number of predicted FDI projects with those actually carried out, we find that the United Kingdom, India, and Mexico received a higher number of FDI projects than predicted by the model, whereas Russia, Germany, and the United States hosted a much fewer.

**Keywords:** Foreign direct investment, accommodation industry, international hotel chains, negative binomial fixed-effects estimator, business regulations.

## **A Room with a (New) View: Hotel Innovative Behaviour in a Mature Tourist Destination**

Marco Savioli, Laura Vici, and Lorenzo Zirulia \*\*

Innovation is now unanimously considered a fundamental factor for growth and performance at the country, sector and firm level. While most of the literature on innovation studies focuses on the manufacturing sector, innovation in the service sector and, in particular, in the tourism sector has attracted some attention only recently. Filling this gap is important, since more and more tourism firms operate in highly competitive environments, both within and between destinations, where innovation is becoming a key strategy for success.

In this paper, we consider an original dataset composed by 136 lodging firms operating in Rimini, an Italian mature tourism destination, in order to investigate empirically the key determinants of their innovating strategies. In our analysis, we look at different sources and mechanisms of innovation. First, special attention is devoted to the human capital dimension, which takes into account education, training and field experience of accommodation managers. Second, innovation is related to management behavior and pricing strategies. Lastly, organization and human resources management are also considered as explanatory factors.

Inferential statistics show that training and education investments, in addition to the intensity of spatial competition and other structural characteristics, emerge as fundamental driving forces in the innovation behavior. Introducing genuine innovation strategies is shown to depend on the quality of the service provided (proxied by the stars of accommodation structures), and by how long the hotel has accumulated experience in the destination. We find that several sources of innovations exist, and they are positively related to the experience gained over time by the hotel managers and to the network built with other private local players. The paper helps in identifying the driving innovation forces to be considered in building a proper and effective public policy strategy. Destination managers should favor the development of private networks that share goals, resources and capabilities. They should favor education and skill-specific formation of hotel managers. Finally, the destination managers should support positive localized innovation spillovers that arise among neighbor firms.

**User Oriented Indicators on the Profitability of the Hotel Sector**

Elena Rosa-Perez. and Jorge Saralegui-Gil

*Introduction*

The crucial role that tourism plays in generating growth and jobs in many countries, as it happens in Spain, where the tourism activity is close to 11% of GDP, makes the availability of quality short term statistics essential for policy makers and users in the entrepreneurial sector, both at the macroeconomic and microeconomic level.

Short term approach of the economic analysis of tourism supply is based mainly on the use of a set of monthly indicators to evaluate and monitor the level and change of economic activity of economic sectors related directly or indirectly to tourism. Without aiming at being exhaustive, it is worth mentioning the employment indicators in tourism specific sectors, monthly indicators on the economic activity of the services sectors (retail sales, travel agencies, hotels and restaurants) passengers transport statistics or inbound tourism data. They are provided regularly by diverse well established official statistics operations or administrative sources. However, perhaps the most used source of short-term direct statistical data on tourism supply are no doubt the Accommodation Establishment Surveys.

The Institute for National Statistics, (INE) has been carrying out accommodation statistics since 1960. In particular, The Hotel Occupancy Survey (HOS) is a monthly survey providing information both on the supply (room, beds, category, staff) and demand (guest, stays) sides.

In order to obtain information about hotel prices needed for the Tourism Satellite Account, INE began in 2001 to calculate and publish the Hotel Price Index<sup>1</sup> (HPI).

More recently, INE Spain, following an intensive request from the hotels entrepreneurial organizations, elaborates monthly Indicators on the Profitability of the Hotel Sector (IPHS), built as an extension of the HOS and HPI information. These indicators are the ADR (Average Daily Rate) and the RevPAR (Revenue per Available Room), and together with the bedroom occupancy rate, constitute an important source of information for hotel establishments, which enables them to evaluate their pricing policy or revenue management.

The paper describes IPHS as produced in Spain. It emphasizes the gains of quality attained by stimulating data gathering of primary data with XML files, based on the hotel managers satisfaction for receiving free customized reports on its hotel profitability

*ADR and RevPAR*

The key operating indicators on the financial condition of a hotel are Average Daily Rate (ADR) and the Revenue per Available Room (RevPAR).

One of the main strategic mandates within INE is to provide the users with high quality information for decision-making purposes. At this end, the question about prices was changed in the HOS questionnaire in order to collect IPHS in the sampled hotels, breaking down by seven type of clients and four booking procedure.

<sup>1</sup> The HPI methodology is available in the link: [http://www.ine.es/en/daco/daco42/prechote/metoiphp1\\_en.htm](http://www.ine.es/en/daco/daco42/prechote/metoiphp1_en.htm)

ADR (Average Daily Rate) represents the average rental income per paid occupied room in a hotel.

RevPAR (Revenue per Available Room) represents the average rental income per available room in a hotel.

The rooms revenue earned used bay both indicators is a performance metric that only takes into account the revenue earned by the business through the room service. It should be taken into account by those hotels whose revenue earned from other economic activities is higher than that from room service , which is not the case in most hotels in Spain.

Being  $\text{RevPAR} = \text{ADR} * \text{Occupancy rate}$

It is useful to make comparisons between hotels of different sizes as it removes the size effect.

#### *Customized reports*

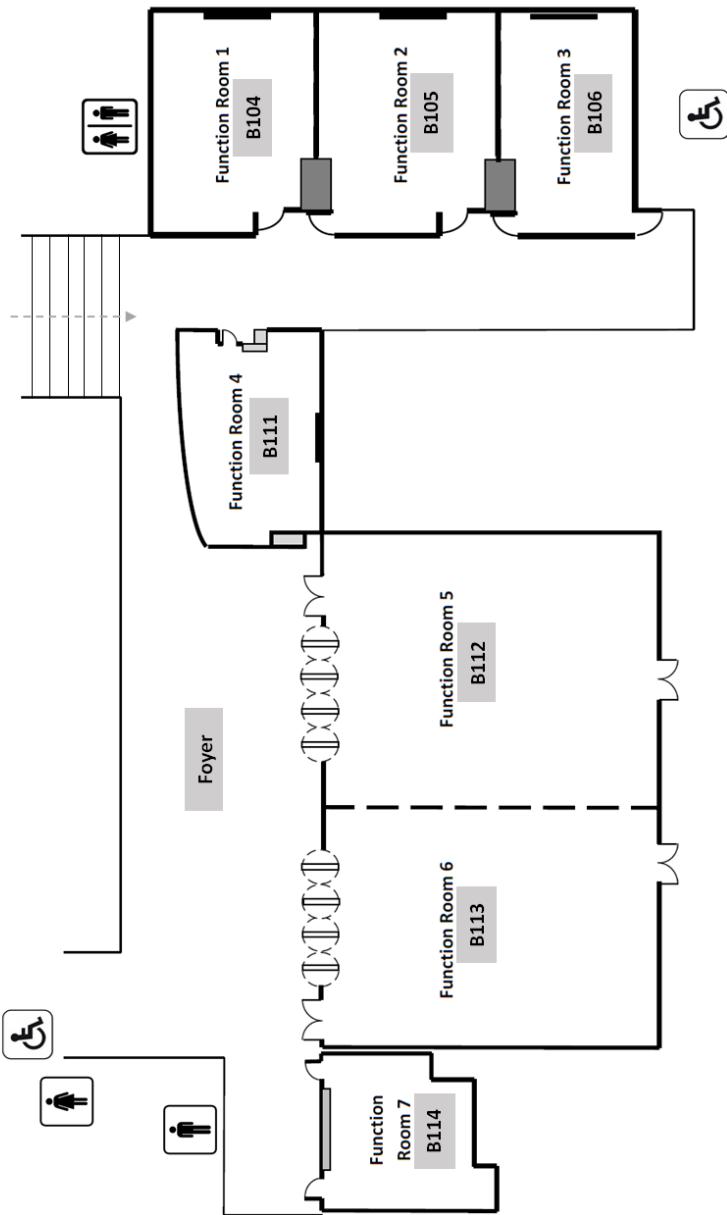
IPHS main results are available through INE website. INE receives a great amount of requests supplied on demand, on data analyzing trends, seasonality, economic cycle or even detailed spatial distribution by districts of big cities.

In recent years INE Spain has started offering HOS units a login and password needed to upload a XML file in its website. XML files provide more and higher quality information, for each day of the reference month, while for other means of response (fax, web, e-mail, still in use), most data are collected for the sampled week of reference only.

Given the high degree of satisfaction detected among IPH users on the one hand and the strategic need to develop XML data collection on the other, INE offers free customized reports to HOS units which choose to send monthly XML files. It includes ADR, RevPAR and occupancy rate of the establishment and averages of the group of hotels within the same category in the same province in the last thirteen months, complemented with the data and charts presenting performance ratios of the hotel in respect of averages within the selected set of units it belongs to Customized report (Anonymous).

**Keywords:** ADR, RevPAR, XML, hotels, tourism supply, quality.

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