

The *Journal of Air Transport Studies* (JATS – ISSN: 1791-6771) is a peer reviewed journal aiming at publishing high quality research related to air transport. JATS is interested in publishing papers primarily focusing on economics, geography, policymaking, management, marketing, operations, technology, logistics/supply chain management and modelling.

The Journal is published electronically twice a year, i.e. in January and July by the Hellenic Aviation Society ([www.aviationsociety.gr](http://www.aviationsociety.gr)). The January issue usually contains papers (subject to changes) originally presented at the Air Transport Research Society ([www.atrsworld.org](http://www.atrsworld.org)) Conference of the previous year(s) whereas the July issue may be occasionally dedicated to a special theme. The Journal is accessible online free-of-charge.

Journal of Air Transport Studies (JATS)

© Hellenic Aviation Society

12, Agiou Charalambous Street, Athens 114 74, Greece.

Telephone: +30 210 64 24 401

Facsimile: +30 210 64 24 401

Website: <http://www.aviationsociety.gr>

Volume 2, Number 2, July 2011, ISSN: 1791-6771.

## Editorial and Advisory Board

- Editor-in-Chief: Dr Andreas Papatheodorou, Hellenic Aviation Society and University of the Aegean, Greece
- Associate Editor: Dr Kostas Iatrou, Hellenic Aviation Society, Greece
- Assistant Editor: Dr Zheng Lei, Cranfield University, United Kingdom
- Book Reviews Editor: Mr Pavlos Arvanitis, University of the Aegean, Greece
- Conference Reports Editor: Ms Ioulia Poulaki, University of the Aegean, Greece
- Honorary Advisor: Dr Taieb Cherif, Former ICAO Secretary General
- Scientific and Advisory Board
  - Professor Larry Dwyer, University of New South Wales, Australia
  - Professor Peter Forsyth, Monash University, Australia
  - Professor Sveinn Gudmundsson, Toulouse Business School, France
  - Professor Hans-Martin Neimeier, University of Applied Sciences Bremen, Germany
  - Professor Paris Tsartas, University of the Aegean, Greece
  - Professor Respicio Espírito Santo, Rio de Janeiro Federal University, Brazil
  - Professor Pauline Sheldon, University of Hawaii, USA
  - Professor Anming Zhang, University of British Columbia, Canada
  - Professor Evangelos Christou, Technological Institute of Thessaloniki, Greece
  - Dr Anderson Correia, Instituto Tecnológico de Aeronáutica, Brazil
  - Dr Dimitrios Dimitriou, Cranfield University, United Kingdom
  - Dr Triant Flouris, Daniel Webster College, USA
  - Dr Anne Graham, University of Westminster, United Kingdom
  - Dr Paul Hooper, Department of Transport, Abu Dhabi, UAE
  - Dr Panagiotis Karamanos, Athens International Airport, Greece
  - Dr Eleftherios Katarellos, Hellenic Civil Aviation Authority, Greece
  - Dr Konstantinos Kostopoulos, Hellenic Competition Commission, Greece
  - Dr Gui Lohmann, Southern Cross University, Australia
  - Dr Christos Markou, IATA, Canada
  - Dr Keith Mason, Cranfield University, United Kingdom
  - Dr John F. O'Connell, Cranfield University, United Kingdom
  - Dr Marianna Sigala, University of the Aegean, Greece
  - Dr Bijan Vasigh, Embry-Riddle Aeronautical University, USA
  - Mr Takis Adamidis, Hellenic Aviation Society
  - Mr Mario Diaz, Atlanta International Airport, USA
  - Mr Panagiotis Grigoriou, Hellenic Aviation Society
  - Mr Emmanuel Gyzis, Emm. A. Gyzis & Partners Law Offices, Greece
  - Captain Spyros Jancovich, Hellenic Aviation Society, Greece
  - Mr Ray Kaduck, Canadian Transportation Agency, Canada
  - Mr Emmanuel Keramianakis, Hellenic Aviation Society
  - Mr Antonios Simigdalas, Olympic Air, Greece
  - Ms Narjess Teyssier, ICAO, Montreal
  - Mr Stamatis Varsamos, Athens International Airport, Greece
  - Mr David Young, Eurocontrol, France

## Notes for Contributors

JATS publishes the following categories of papers written in scholarly English: a) Full Research Papers, b) Conference Reports, c) Book Reviews, d) Industry Perspectives. Papers should be submitted electronically to [a.papatheodorou@aegean.gr](mailto:a.papatheodorou@aegean.gr) in MS-Word format ONLY using British spelling, single-column, 1.5 line spacing, Tahoma letters, font size 11. Section headings (and sub-headings) should be numbered and written in capital letters. Upon acceptance of a paper and before its publication, the corresponding author will be asked to sign the *Transfer of Copyright* form on behalf of all identified authors.

*Full Research Papers* should contain original research not previously published elsewhere. They should normally be between 4,000 and 7,000 words although shorter or lengthier articles could be considered for publication if they are of merit. The first page of the papers should contain the title and the authors' affiliations, contact details and brief vitae (of about 50 words). Regarding the following pages, papers should generally have the following structure: a) title, abstract (of about 150 words) and six keywords, b) introduction, c) literature review, d) theoretical and/or empirical contribution, e) summary and conclusions, f) acknowledgements, g) references and h) appendices. Tables, figures and illustrations should be included within the text (not at the end), bear a title and be numbered consecutively. Regarding the referencing style, standard academic format should be consistently followed. Examples are given below:

- Airbus (2003), *Global Market Forecasts 2003-2022*, Toulouse: Airbus.
- Fragoudaki, A., Keramianakis, M. and Jancovich, S. (2005) The Greek PSO Experience. *4<sup>th</sup> International Forum on Air Transport in Remoter Regions*. Stockholm, May 24-26.
- Forsyth P. (2002a), 'Privatization and Regulation of Australian and New Zealand Airports', *Journal of Air Transport Management*, 8, 19-28.
- Papatheodorou, A. (2008) The Impact of Civil Aviation Regimes on Leisure Market. In Graham, A., Papatheodorou, A. and Forsyth, P. (ed) *Aviation and Tourism: Implications for Leisure Travel*, Aldershot: Ashgate, 49-57.
- Skycontrol (2007) *easyJet welcomes European Commission's decision to limit PSO abuse in Italy*. 23<sup>rd</sup> April. Available from: <http://www.skycontrol.net/airlines/easyjet-welcomes-european-commissions-decision-to-limit-psy-abuse-in-italy/> (accessed on 22/08/2008).

*Conference Reports* should be between 1,000 and 1,500 words. They should provide factual information (e.g. conference venue, details of the conference organizers), present the various programme sessions and summarize the key research findings.

*Book Reviews* should be between 1,000 and 1,500 words. They should provide factual information (e.g. book publisher, number of pages and ISBN, price on the publisher's website) and critically discuss the contents of a book mainly in terms of its strengths and weaknesses.

*Industry Perspectives* should be up to 1,000 words and provide a practitioner's point of view on contemporary developments in the air transport industry. Contributors should explicitly specify whether their views are espoused by their organization or not.

# Table of Contents

EDITORIAL.....	viii
----------------	------

*Andreas Papatheodorou, Kostas Iatrou and Zheng Lei*

## Full Research Papers

1. AIR TRANSPORTATION POLICY FOR SMALL COMMUNITIES: LESSONS FROM THE US EXPERIENCE.....	1-27
---	------

*Alda Metrass-Mendes and Richard de Neufville*

The last decades have witnessed a global trend toward airline deregulation, which has significant impacts on national policies regarding air accessibility to smaller communities. One important result of this liberalisation is that carriers are no longer constrained to serve routes, and may thus neglect service to less profitable destinations with lower traffic. Economic deregulation can therefore have detrimental effects on smaller communities. The United States has dealt with this issue through its Essential Air Service program. Its experience suggests lessons for other countries. US policies have been reasonably successful in sustaining basic air service to smaller communities over the past thirty years of deregulation. Moreover, they have done so relatively effectively and efficiently. A large-scale analysis of the US experience, and three case studies of the communities of Columbia and Jefferson City (Missouri), Rutland (Vermont), and Merced (California) demonstrate this phenomenon. The results show overall gains in efficiency, mostly attributable to the US policy of encouraging competition between air carriers seeking to provide service to small communities. The major flaw in the US arrangements seems to be that the policies have not kept up with changing conditions since deregulation in 1978.

2. AIR FREIGHT AND MERCHANDISE TRADE: TOWARDS A DISAGGREGATED ANALYSIS.....	28-48
---	-------

*Franziska Kupfer, Hilde Meersman, Evy Onghena and Eddy Van de Voorde*

During the past 30 years, air cargo has evolved from a by-product to a potential profit centre for airlines. However, the success in the air cargo business depends on a number of factors. The evolution of world merchandise trade and particularly, the trade in high-value goods, is one of the determinants of the demand for air freight services. This paper provides an insight into the relationship between air cargo and merchandise trade on an aggregated as well as on a disaggregated level. Special

attention is paid to the air cargo flows between major regions. By combining several levels of the air cargo market, this paper explains part of the economic rationality behind the air cargo market structure. The results of this paper will lead to a better knowledge of the air cargo sector, not only by academics but also by industry actors.

3. ANALYSIS OF REGIONAL AIRPORTS AS A FACTOR FOR DEVELOPMENT IN BRAZIL.....49-73

*Sergio de Castro Ribeiro, Marcio Peixoto de Sequeira Santos and Carla Conceicao Lana Fraga*

The establishment of an open market policy in Brazil's airline sector in the beginning of the 1990s has brought substantial changes to the country's aviation regulatory framework. One effect of this liberalization has been a substantial decrease in the number of regional airports with regularly scheduled air service. This paper discusses both the internal and external factors that have directly affected the present scenario, based on a review of the literature. We first provide an overview of the evolution of the country's airport industry and its management concerns, and then analyze the effect of the deregulation process on air travel and the social and economic changes this has brought to smaller cities, especially those in the northern region. The overall effect has been to weaken the country's potential for national integration and political unity.

4. WHAT PRODUCT FACTORS ALLOW AIRLINES TO COMMAND A PRICE PREMIUM IN THE SYDNEY-LOS ANGELES MARKET..... 74-91

*Fu-Jui Hsueh, Ian Douglas and Rodger Robertson*

Recent changes to the competitive environment in the highly contested Sydney to Los Angeles market have impacted the route profitability of almost 20 carriers. In particular the commencement of non-stop services by Delta Airlines and V Australia has impacted route profitability of almost 20 carriers. This paper investigates the product factors that enable airlines to command a price premium the Sydney to Los Angeles market. A sample of business and economy class net fare quotes, in addition to data collected on seven product factors is used in this study to estimate the relationship between price and product. The regression results show that service quality, space, connectivity and alliance membership all have a positive influence on price in this particular market. In a practical setting, the research outcomes are

particularly relevant to the areas of Airline Pricing & Yield Management, Airline Strategy, Airline Marketing and Product Planning.

5. AN INPUT OUTPUT MODEL TO QUANTIFY THE BENEFITS OF TOURIST AIRPORTS ON REGIONAL ECONOMY.....92-105

*Dimitrios J Dimitriou, Mary F. Sartzetaki, Asimina J. Voskaki and George Athanasiadis*

Airports are widely recognized as having a considerable economic and social impact on their surrounding regions. These impacts go far beyond the direct impact of an airport's operation, extending also to the wider benefits that air service accessibility brings to regional business interests. Airports provide essential infrastructure to support regional social and economic growth. According to ACI, airports are major economic assets offering significant economic returns and benefits. A growing literature on this subject highlights the difficulties to calculate the effects of airports. This paper deals with the estimation of benefits of tourist airports on regional economy. The methodology approach is based on an input-output model that estimates the key categories of effects from tourist airport operations. Conventional wisdom is to present a well-organized modelling framework, appropriate for planners, managers and decision makers in order to quantify the effects of tourism airports on regional economies. The application is a new airport on the island of Crete in Greece, one of the most attractive tourist destinations in southeast Mediterranean.

## Editorial

This issue of the *Journal of Air Transport Studies* includes five papers. Metrass-Mendes and de Neufville examine the US experience of air transportation policy for smaller communities. The results show overall gains in efficiency, mostly attributable to the US policy of encouraging competition between air carriers seeking to provide service to small communities. Nevertheless, a major flaw in the US arrangements seems to be that the policies have not kept up with changing conditions since deregulation in 1978. Subsequently, Kupfer, Meersman, Onghena and Van de Voorde provide useful insights into the relationship between air cargo and merchandise trade at the aggregate and disaggregated level with a particular focus on the air cargo flows between major regions. This paper explains the economic rationale behind the air cargo market structure. The results will lead to a better understanding of the air cargo sector by academics and practitioners alike.

In the following contribution, Ribeiro, Santos and Fraga examine both the internal and external factors that have led to the substantial decrease in the number of regional airports with regular scheduled air services following the deregulation of the Brazilian aviation market. They conclude that the country's potential for national integration and political unity has been weakened. Then, Hsueh, Douglas and Robertson investigate the product factors that could enable airlines to command a price premium in the Sydney to Los Angeles market. The regression results show that service quality, space, connectivity and alliance membership all have a positive influence on price on this route. Finally, Dimitriou, Sartzetaki, Voskaki and Athanasiadis present an input-output model and discuss how it can be used to quantify the benefits of tourist airports on regional economy. The methodology is applied to study a new airport on the island of Crete in Greece.

May we take this opportunity to thank all our authors and referees for their support in publishing this fourth issue of our Journal. Our continuing partnership with Air Transport News in conjunction with the open access character of the journal aim at ensuring that JATS can get a significant exposure to the academic and business audience and raise its profile accordingly. Enjoy reading!

*Dr Andreas Papatheodorou, Editor-in-Chief*

*Dr Kostas Iatrou, Associate Editor*

*Dr Zheng Lei, Assistant Editor*