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Book review

Air transport revolution: socio-economic impact and open questions. The Geographies of Air Transport, Andrew R. Goetz, Lucy Budd. Ashgate, UK (2014). £65, ISBN: 978-1409453314 (hardcover); ISBN: 978-1472405302 (ebook). Low Cost Carriers – Emergence, Expansion and Evolution, Lucy Budd, Stephen Ison. Ashgate, UK (2014), £130, ISBN: 978-1409469032 (hardcover).

The importance gained in recent decades by air transport cannot be easily overstated. As it is often the case, you never know the value of what you have until you lose it. In the aftermath of April 15th, 2010, the day of the Icelandic volcano explosion, thousands of air transport passengers in the world found themselves looking for alternative transport means to travel to their work, home and families. It took me 30 h to go from Amsterdam to Milan, 830 km apart, employing a mixture of trains, busses and taxis. This event underlines well not only the space-contracting and time-shrinking effect of air transport with its benefits that we now take for granted, but also its frailty together with a substantial absence of valid substitutes.

Two recent publications investigate the complex relationships between the air transport phenomenon, its main driving causes and its multifaceted effects on the today society.

The Geographies of Air Transport, edited by Andrew R. Goetz and Lucy Budd, explores the effects of air transport on society through the lens of geography. The book is composed of 14 chapters which can be divided into two parts. The first part adopts a thematic approach by considering separately the different dimensions of transport geography, including its historic, cultural, geopolitical, environmental, social and economic aspects. The second part adopts a regional approach, by looking at the markets in North America, Europe, Asia–Pacific, Latin America, Middle East and Africa. While the first part introduces and contextualizes the different dimensions of air transport geography within existing knowledge, the second applies the different perspectives in specific cases. Overall, the book is an excellent state-of-the-art review of the different implications of air transport to society, also providing a detailed, updated and clear picture of the major developments. The sections of the book related to the regional cases are also complemented with empirical analyses of the trends leading to the current air transport configuration, always carried out by employing simple but convincing statistics and methodologies, and in some cases even discussing the most likely future scenarios (O'Connor and Fuellhart, 2014). Even if each chapter is "standalone" and can be read independently, the overlap between the different chapters is kept at a minimum with frequent cross-references. It is hard to find another book in which all the different aspects of air transports are so well introduced and analysed, including the often forgotten air cargo business. The most intriguing parts are those discussing the unequal distribution of the air transport benefits and the future of air transport, including its economic and environmental sustainability. What is lacking is a detailed and systematic analysis of the main intercontinental air transport flows and their evolutions, apart from those linked to Latin America and Africa, summarized in Lipovich (2014) and Pirie (2014) respectively. Given the high expected growth rates and the increasing reliance network carriers place upon them, a further chapter on this issue with a global geographical perspective would have been fitting. Due to its structure and completeness, the book should appeal to a vast group of readers, including researchers, practitioners, teachers and their students in the fields of transport and economic geography.

Low Cost Carriers – Emergence, Expansion and Evolution, edited by Lucy Budd and Stephen Ison, is a collection of 23 different papers already published in primary scientific journals from 1992 to 2012. Even if its main theme is the low-cost carrier phenomenon, the book retraces the evolution of the competitive environment following the liberalization of the main air transport markets, the birth and the development of the low-cost business model with its characteristics and the competitive reactions by traditional network carriers. The different papers are organized into six parts. The first deals with the deregulation and liberalization process in US, Europe and Asia. The second explores the business models and operating characteristics of low-cost carriers (LCCs) compared with those proper of the network carriers. The third analyses the impact of LCCs on the airport business. The fourth and fifth parts deal with the network structure of LCCs, their pricing strategies and competition with network carriers, including their effects on reducing average fares. The final section looks at the expected developments of the low-cost business model, including a possible gradual convergence with the traditional model, and a discussion on the transferability of its main features to long-haul operations. All papers included in the book come from peer-reviewed journals. Some of them are among the most cited works on air transport. So, whereas the quality of the single contributions cannot be questioned, the editors' decision to include (or to exclude) some works, and how they fit in with the specific theme of the book are open to debate. A drawback of the book is the high degree of overlap and repetition between the different papers, especially when introducing the elements distinctive of the low-cost business model. That seems largely unavoidable, given the basic idea and structure of the book. However, some topics seem overrepresented, such as the effects of the liberalization of the US market on fares, which have been separately analysed in Dresner et al. (1996), Goetz and Sutton (1997), and Windle and Dresner (1999). One important issue wholly overlooked regards the implications of the low-cost business model in terms of environmental sustainability. An advantage of assembling contributions published over a 20-year period is that it gives the reader an understanding of how the scientific literature on the low-cost business evolved, shifting from studying its operating characteristics and short-term effects for traditional network carriers and passengers, to analysing its strategic and future

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implications. Some contributions are also remarkable for the innovative methodologies they employ, which have much wider applications. It is the case of Oliveira (2008), employing a discrete choice model to analyse the entry of LCCs into the Brazilian market, and Pels et al. (2009), investigating the UK passenger survey with a nested logit model to derive the passengers' elasticities of demand related to the different travel features (fare, frequency, etc.) and modes. Compared with "The Geographies of Air Transport", the potential readers of this book are a more select group. Considering that the papers included are generally available through university libraries, the likely readers of the book may be consultants, practitioners and would-be researchers in the fields of tourism and transport.

The two books adopt complementary approaches to analyse the recent evolution of the air transport industry. While "The Geographies of Air Transport" looks at its multifarious effects on society, "Low cost carriers – Emergence, Expansion and Evolution" focuses on one of the most relevant factors, probably the most relevant, driving the recent evolution of the industry. Therefore, there is a wide overlapping discussion on several main air transport issues.

One of the most challenging themes considered by both the books is the evaluation of the effects of air transport liberalization on consumer welfare. A good starting point is the first chapter of "The Geographies of Air Transport" by Budd (2014) in which the author states that "Air travel's dynamic distortion of international time/space relations brings particular groups of people and places closer together in both time and space, but this process is highly selective and marginalizes those who are not integrated into the global space of air traffic flows". While the provision of aviation transport services increased spectacularly in developed regions, EU and US above all with 54.6 per cent of global seat capacity in 2010 (Pirie, 2014), the liberalization process brought a significant reduction in the number of airports with scheduled services in Latin America (Lipovich, 2014) and Africa (Pirie, 2014). The unevenness of the air transport availability is not only observable between different geographic regions and continents but also within them. One of the least expected effects of liberalization was the organization of the traditional airline networks into hub-and-spoke structures. That caused a concentration of the air transport services into the main airports, which assumed the hub function, often located in the proximity of global cities (Derudder and Witlox, 2014), together with a consequent reduction in services from secondary airports and related cities. Interestingly, the emergence and evolution of the LCCs contributed to offset the concentration process of the air transport supply both at the macro level, by providing additional growth also for developing regions, as Asia and Latin America, and at the micro level, by operating mainly from secondary airports (Zhang et al. 2008). However, that may change in the future, as both the books acknowledge. The LCCs in the more mature markets of EU and US after having largely exploited the growth potential from secondary airports, are now entering primary airports and hubs to increase face-to-face competition with network carriers (de Wit and Zuidberg, 2012, and Tierney, 2014). That may spark a new wave of de-hubbing (Redondi et al., 2012) and a further reorganization of the industry with potential unpredictable effects. Another worrying asymmetry to the access of air transport services is still to be found within the social structure. From liberalization, the air transport market has evolved from elite to mass production, allowing a growing number of middle-income people access to air transport. Yet, as reported by Paling et al. (2014) with reference to the UK, the lowest income social classes remain excluded due to lack of internet access, credit cards and sufficient income.

A striking result of liberalization has been the diminution of average fares. The development of LCCs has been recognized as the main factor behind this trend, as conceded by the two books. Dresner et al. (1996) estimated that fares dropped by 53 per cent on average if Southwest entered a route. The authors also measured a fare reduction on competitive routes from nearby airports and called it the "halo effect" from the entry of Southwest. The higher competition triggered a dramatic survival-of-the-fittest process in which the least efficient airlines, both low-cost and network carriers, failed or were forced to restructure their networks. Network airlines reacted also by focusing on their fortress hubs, through mergers and acquisitions, and by joining in partnerships and alliances. However, fare reductions were not uniform across space, as observed by both the books (Goetz and Sutton, 1997, and Tierney, 2014). Due to lack of competition, fares even increased in concentrated hub markets and in many small communities, called most effectively "pockets of pain" by Goetz (2002). Lieshout et al. (2014) bring further evidence for the EU market, by finding that passengers living closer to the main Lufthansa hubs have significantly fewer choices.

The liberalization policies did not always bear the expected outcomes in terms of reduced fares and increased demand. Both the books seem more positive here, on the whole conveying the view that air transport performs like an ideal gas, expanding to occupy the entire volume available. So, policy makers should focus on removing barriers and obstacles and promoting the entry of new competitors, particularly LCCs (Zhang et al. 2008), while the market will do the rest. Air transport liberalization is most fruitful when the economy has already been through a considerable degree of development, so companies are looking for alternative markets to export their goods to, and citizens are willing to spend a higher portion of their disposable income on leisure travels. The controversial experience of air transport liberalization in Africa (Pirie, 2014) should warn against easy enthusiasm. Even the open skies agreements between two rich regions, EU and US, which came into force in March 2008, did not bring the expected results. Morandi et al. (2014) show that from 2007 to 2010 the transatlantic seat capacity between EU and US dropped by 14.1 per cent, even if direct competition increased. The authors acknowledge that their result may reflect the economic downturn in the EU and US domestic markets. Thus, to understand the complex relationship between liberalization policies and air transport provisions, the role played by economic development must be adequately accounted for. Further research on this theme is needed, as also acknowledged by Debbage (2014), who questions whether the current world economic recovery increases or reduces the Governments' incentives to promote air transport liberalization policies.

Another related and controversial issue, considered primarily in "The Geographies of Air Transport", regards the relationship between economic and air transport development. While the correlation between the two variables is clearly identified in both Bowen (2014) and Derudder and Witlox (2014), at a country level and at a city level respectively, their causal relationship is still open to discussion. Literature generally considers it to be circular and reinforcing (O'Connor and Scott, 1992). Graham and Ison (2014), while analysing the role played by airports for promoting regional economic development, acknowledge the difficulties in determining their causality link, not least because of the presence of significant redistribution effects at a local level. However, they concede that by increasing accessibility for both people and goods, the airports play a positive role in regional development. That raises the still unsolved question of how to view those positive externalities in a context of increasing privatization and competition in the airport industry. On one side, privatized airports are no longer liable for the wider economic effects brought about by their choices, which therefore may be suboptimal from a social welfare perspective. On the other side, publicly-owned airports are

at risk of being accused of distorting competition and State aid, if subsidised to pursue the economic return of their regions.

The shifting role of airports has been analyzed in a complementary manner in "Low Cost Carriers – Emergence, Expansion and Evolution". Liberalization and in particular the development of LCCs transformed completely the airport business. Traditionally, the airport was a classic textbook example of a natural monopoly, so requiring price regulation to protect airlines and passengers. However, the market power in the relationship between airports and carriers has since shifted on the carrier side. The growth of secondary airports, fuelled by LCCs, created alternatives for the airlines, especially given the passengers' propensity to access more distant airports for a discounted fare, even in the case of business travellers (Mason, 2000). Furthermore, low fares stimulated a new kind of leisure demand easily diverted geographically, on which travellers choose their destination by looking at the airline best deals. Therefore, the threat by LCCs to leave the airport and shift capacity elsewhere is a credible one. Airports began to compete in attracting airlines and passengers, improving the quality of their services and reducing their costs. In order to contain the increasing uncertainty, some airports entered into long-term contracts with airlines, especially LCCs, often at the price of highly discounted airport charges or other forms of compensation as co-marketing agreements or one-off contributions for opening new routes (Dobruszkes, 2014; Graham et al. 2004). Those strategies, carried out also to promote regional economic development, often resulted in huge losses, raising the issues of State aid in the case of publicly-owned airports (Dobruszkes, 2006) as mentioned above, and regarding the economic sustainability of the low-cost airport business. In the latter context, the role placed on non-aviation activities is still unclear. On the one hand, airports should shift revenues to non-aviation to compensate lower-than-marginal-cost charges often required by LCCs (Graham et al., 2004). On the other hand, given the low turnaround needed by LCCs, their passengers spend less time shopping in the terminal and have stricter limitations on what they can bring on board (de Neufville, 2008; Graham and Ison, 2014).

One issue on which the views conveyed by the two books differ is regarding the environmental sustainability of air transport. It is hard to find a theme on which the expectations of the major experts so widely diverge as that regarding air traffic growth. On the one side the forecasts made by the aircraft manufacturers and the air transport controllers, which invariably predict midterm and long-term sustained growth for both passengers and freight, even with regional variations. On the other side, the environmental studies pointing out that the current expansion of the air transport industry is unsustainable (Paling et al., 2014), as related gas emissions are going to increase both in absolute and relative terms (Ryley, 2014). Increasing "eco-efficiency" alone, mainly through the introducing of newer and cleaner aircrafts, will not be sufficient to compensate for growth (Paling et al., 2014). Following this argument, today's demand is inflated since fares do not incorporate the negative externalities of air transport and therefore passengers are not paying the full cost. If some forms of curbing growth are eventually introduced, the consequences for the aviation industry and more generally for society could be significant. The cost of flying would increase adversely impacting upon demand for years to come. The markets most forcefully hit would be those with the highest price elasticity of demand, so principally short-to-medium haul leisure destinations, the usual target of LCCs. The omission to include the environmental sustainability issue in "Low Cost Carriers – Emergence, Expansion and Evolution" is singular, especially considering the ample literature on the theme. For example, Scheelhaase and Grimme (2007) propose a methodology for estimating the ETS (Emission Trading Scheme) impact on operating costs, fares and transport demand for EU low cost and full service airlines.

The frailty of air transport remains one of the biggest risks to its further development, besides being among its least studied aspects. Paling et al. (2014) point out that the incidence of disruptions, delays and diversions is set to increase due to the higher occurrence of extreme weather events, and the very existence of many airports will be threatened by the projected sea-level rises. So, unless the trend of growing global emissions is reverted, air transport passengers may have to put up with increasingly frequent odyssey-like trips, as those caused by the Icelandic volcano. That would do more to reduce unnecessary travels than any emission-curbing scheme.

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