Introduction to the Special Issue: Air transport in the Global South

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Abstract

Research on the development and impacts of air transport has hitherto focused mainly on developed countries in the Global North, and relatively little on less developed countries in the Global South. The seven papers of this Special Issue of the *Journal of Transport Geography* aim to address this imbalance and encourage further research on air transport development in the Global South. In recent years, the Global South has witnessed significant changes in air transport networks and policies, with implications for economic growth, spatial development and airline business models. This Special Issue explores some challenges to air transport development in the Global South for countries in Africa, South America, the Middle East and Asia, including links between air transport and economic development, the evolution and key drivers of air transport growth and the spatial distribution of passenger airline networks, and the development and impact of low-cost carriers. It also identifies opportunities for future research in this growing area.

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Why a Special Issue on Air Transport in the Global South?

Air transport geography research has hitherto focused largely on the development of air transport networks, the impacts of deregulation and privatisation, and the rapid growth of low-cost carriers (LCCs) in the powerful, developed countries of the Global North, and principally North America, Europe, Japan, Singapore, South Korea, Australia and New Zealand (e.g. Bowen, 2002; Budd and Ison, 2014; Debbage 1994; Dobruszkes 2006, 2013; Goetz and Budd, 2014; Goetz and Sutton, 1997; Graham, 1995; Sealy, 1957, 1966). In contrast, with a few notable exceptions (e.g. Alkaabi, 2014; Bowen, 2019; Bowen and Leinbach, 1995; Lipovich, 2014; Njoya, 2016; O'Connor and Fuelhart, 2014; Oliveira et al., 2016; Pirie, 2009, 2014, 2020), geographies of air transport development in the Global South, relating to South and Central America, Africa and most of Asia, remain under-researched. This also reflects the Global South's economic under-development, its history of colonialism

and neo-imperialism, large inequalities in living standards and more limited access to resources and capital (Dados and Connell, 2012).

To stimulate research on air transport in the Global South, in August 2019, the authors of this Introduction convened sessions on this theme at the Royal Geographical Society (RGS) Conference in London, on behalf of the RGS Transport Geography Research Group and the International Geographical Union's Commission on Transport and Geography. Nine papers were presented, and this Special Issue was proposed, consisting of a selection of revised, peer-reviewed papers and two invited papers.

Global South air transport network development, air transport reforms and economic development, and the role of low-cost carriers

In most regions of the Global South, internal and cross-border surface transport networks and infrastructure have traditionally been weak compared with the Global North. Many Global South countries are also landlocked (or small islands), lacking navigable rivers and well-developed road and rail networks, placing them at a considerable cost disadvantage in accessing world markets (Komlev and Encontre, 2004). The development of a safe, efficient and affordable air transport industry is essential for the integration and economic development of countries in the Global South that have traditionally been linked with the Global North. Geographers, economists and planners widely acknowledge the role of air transport in economic and spatial integration development. Yet its development in the Global South has been slow in numerous countries, with clear gaps in air transport infrastructure development, which has impacted negatively on economic development. The sector's recent rapid expansion provides an opportunity for structural transformation of the economies of Global South countries.

The commercial aviation sector has witnessed significant developments almost everywhere in the Global South, albeit to different degrees and intensities. Most countries in the Global South, which for decades followed a policy of closed borders based on what was called the 'theory of dependency', are now active players in the global economy and air transport network. Moreover, the commercial aviation industry has become one of the fastest growing sectors in the Global South, with demand for air traffic, as measured by revenue passenger kilometres (RPKs), reaching 5.5% in Africa and 9.5% in the Asia Pacific in 2018 (AFRAA, 2019). For all Global South regions, growth in air transport has exceeded the world average, and their share of globally available seat kilometres has increased. Although several factors have contributed to this rapid growth, it has arisen primarily as a result of economic

and demographic growth, regulatory reforms that have improved market access, investment flows and reduced costs. Although an important factor in determining the health of the sector, this impressive growth does not provide a complete picture of the performance of air transport in the Global South. Moreover, the gap between the Global North and Global South, and to some extent between Global South regions, remains vast, with Africa emerging as the lagging region. For example, LCC market penetration, measured as a percentage of seats within the region, has been much slower than in other regions of the Global South, averaging 13% in Africa in 2018, as opposed to around 17.3% in the Middle East, 29.5% in the Asia Pacific and 36% in Latin America (CAPA, 2019). Several factors explain the industry's differing levels of development in the Global South, knowledge of which is crucial to understanding current development.

Analysis of the sector by route types shows that traffic within the Global South is more limited than between the Global South and the Global North. For instance, according to the African Airlines Association (AFRAA, 2019), intra-African air transport accounted for 27.6% of African airlines' passenger distribution in 2018, compared with 51% and 22.4% for intercontinental and domestic traffic, respectively. The corresponding figures for EU-28 air passenger transport in 2018 (Eurostat, 2020) are 16% for domestic, 37% for extra-EU and 46% for intra-EU. Although air transport in the Global South varies considerably between regions, it is comparatively infrequent and expensive. Thus, the marginalisation of intra-Global South routes may be a factor of costs, low incomes, political and economic fragmentation and lack of 'open skies' policies (Bofinger, 2017). To some extent, high operating costs explain the performance of Global South airlines which, with few exceptions, continue to be less profitable than their counterparts in the Global North. According to the International Air Transport Association (IATA, 2019), the global airline industry produced a net profit of US\$ 25.9 billion in 2019, but similarly to previous years, these profits were unevenly distributed, with the most robust performance concentrated in North America (IATA, 2019). Moreover, Middle East, African and Latin American airlines lost money in 2019. IATA attributes the poor performance of airlines in these regions to weak economic growth and limited local traffic in the Middle East; currency weaknesses and recession in Argentina and Venezuela, and problems in Mexico; and fragmented and inefficiently served markets in the absence of airline cooperation and air services liberalisation in Africa. Air transport in some Global South countries has suffered from too much government interference, low quality and safety standards and inefficient state-owned airlines (Akpoghomeh, 1999; Njoya, 2016). Many state-owned airlines in the Global South have

failed over the last two decades, including Ugandan Airways (2001), Air Afrique (2002), Nigerian Airways (2004), American Falco (2005) and Air Philippines (2010).

Many countries in the Global South are linked primarily with Global North hubs and gateway cities, mirroring historical ties with former colonies and migration patterns, as well as significant tourism source markets in former colonial ruling countries. The strength of routes with the Global North, coupled with carriers' emphasis on operating commercially viable routes, influences weak integration within the Global South. In sub-Saharan-Africa, for example, passengers encounter substantial difficulties and inconvenience when trying to book reasonable connections between one part of Africa and another (Bofinger, 2017). However, the recent acceleration of trade in both goods and services between countries of the Global South cannot be ignored. Regarding trade in air transport, countries in the Global South have adopted several cooperative initiatives to further air transport integration in the regions. For instance, Southeast Asia has created the Association of Southeast Asian Nations (ASEAN) Single Aviation Market, and Africa has launched the Single African Air Transport Market (SAATM), a multilateral agreement on air services liberalisation.

This Special Issue explores some of the challenges of air transport development in the Global South, and identifies opportunities for future research in this growing area. It is designed to bring together discussions of factors that help or hinder the successful development of commercial aviation in the Global South. It focuses on recent trends in air transport in various parts of the Global South, in terms of the evolution of air transport development, airline networks, air transport and economic development, airline business models including LCCs, and the implications of these changes. It seeks to identify why the air transport market and many locally-based airlines in the Global South are weak, and why external routes are dominated by airlines owned and based in the Global North.

Understanding trends and challenges facing the airline industry will enable us to assess the role that air transport might play in the economic, social and political development and integration of the Global South. Academic research and analysis indicate that an efficient and affordable air transport industry is an essential enabler of economic growth and development. Wider economic benefits of air transport include increased tourism, foreign direct investment and trade, leading ultimately to enhanced productivity, GDP growth, and more and better paid jobs. The aim of this Special Issue is not to paint a complete picture of the current state of air transport in the Global South, but to present a snapshot of the trends, challenges and potential for air transport in selected countries.

The Special Issue papers

This Special Issue of seven papers addresses a range of themes, including links between air transport and economic development, the evolution and key drivers of air transport growth and the spatial distribution of passenger airline networks, and the development and impact of LCCs.

The relationship between air transport and economic development is complex, given the highly capital- and skills-intensive nature of the industry. In their study of the role of air transport in employment generation and broad-based growth in South Africa, Njoya and Nikitas find that while air transport has a significant effect on income and employment, its distribution is uneven, with the biggest winners being households in the highest expenditure decile, as well as highly skilled labour. They suggest a need for improvements in education and training for low-skilled workers to reduce the income inequality that may result from expansion of air transport in South Africa. Thus, several challenges must be addressed to enable broad-based growth in South African air transport.

Despite a general consensus that air transport and economic development are related, the exact cause-and-effect relationship is unclear and depends on many factors. Focusing on six sub-Saharan African countries, Tolcha et al. identify heterogeneous and context-specific causal relationships between air transport demand and economic development. Their results show that for South Africa, Nigeria and Kenya, the direction of causality runs from economic development to air transport demand in the long run. In contrast, for Ethiopia, causality runs in the opposite direction, with increased demand for air transport promoting economic development. On the other hand, Senegal and Angola exhibit a weak relationship between the two. Possible explanations for this heterogeneity include per capita income, LCCs' share of the market, the presence of large home-based airlines, and comparative geographical advantage as a natural hub.

Air transportation networks are a central issue in transport geography, because the collapse of an airline network may have severe consequences for the geographical area within its influence. Despite their importance, studies of domestic and international air transport networks in the Global South are limited, apart from a few in Brazil, China, Nigeria and South Africa (Wang et al., 2011, 2014; Dai et al., 2018; Oliveira et al., 2016; Daramola and Jaja, 2011; Ssamula, 2012). The Special Issue papers by Dobruszkes and Charlier, De Oliveira et al. and Keeling and O'Connor et al. contribute to the existing literature by

providing detailed analyses of the development and key determinants of air transport networks in South Africa, Brazil, Argentina and Vietnam.

Dobruszkes and Charlier assess changes and current patterns in the domestic passenger airline network in South Africa. Their airline-level analysis of route networks reveals that LCCs tend to concentrate on South Africa's Golden Triangle, while South African Airlines' regional affiliates mainly serve thin routes without competition. The rise of LCCs has led to the utilisation of a secondary airport in Johannesburg, the only African city with a multiple-airport system. The authors show that airline networks result from three interacting forces: the attributes of destinations, public actors' policies, and the strategies pursued by private stakeholders. Political, social and economic factors continue to shape air networks.

De Oliveira et al. investigate the evolution of the Brazilian air transportation network relative to its population and economic dynamics. They argue that the spatial dynamics of the air network and of the country's economy and population are strongly connected in relation to most of the determinants they consider. Significant demand shocks, such as an economic slowdown or an increase in international tourism in the country, are found to have played a key role in increasing the observed network concentration, whereas growth in domestic demand has played a significant role in the deconcentration that took place in the late 2000s. In addition, the emergence of LCCs has increased airline competition and contributed to a more evenly distributed traffic flow in the national air transportation system.

Keeling provides an overview of the historical development of air transport in Argentina, focusing on the country's aviation geography, LCC growth and connections with Global South and Global North economies, and comparing origin-destination (O-D) data from 1972, 1982, 1996 and 2019. He argues that, having been constrained since the 1940s by various challenges such as poor infrastructure, macroeconomic policies and other barriers, the country's airline system is undergoing deep restructuring in both providers and network interactions. Moreover, Argentina's domestic and regional network interactions and Global North-South connections have also been significantly reorganised, with LCCs playing a crucial role in changing the geography of O-D relationships.

O'Connor et al. explore connections between Vietnam and the Asia Pacific region, and the latter's influence on the country's aviation between 2002 and 2019. They indicate that Vietnam's air transport evolution is tightly linked to how it has engaged with the potential of its geographical location. They highlight that Vietnam's engagement with the Asia Pacific corridor has played an important part in fostering the link between the economic development

process and the emergence of air transport links. These links involve trade, foreign direct investment and tourism.

The LCC sector has grown significantly over recent decades in the Global South, albeit with varying degrees of success in different regions. The drivers of and key constraints on development of the LCC sector in developing and emerging markets have gained some attention in recent literature (Schlumberger and Weisskopf, 2014; Bowen, 2019), but further investigation and case studies are required on the extent to which LCC business models and their socioeconomic impacts vary in the Global South. Joshan and Maertens examine the drivers of and barriers to the development of LCCs in the Middle East and North Africa (MENA) region. They argue that the presence and market shares of LCCs differ considerably between countries in the region and between route groups, and that they operate a hybrid business model. Recent political tensions and conflicts, as well as new regulations, have adversely affected the development of air transport in various MENA countries. Drivers of air transport development in the region include a small but growing middle class, tourism and diaspora travel.

Future research agenda

There is a plethora of opportunities to explore research challenges and topics that have as yet received little attention, even though they have been identified as being of relevance.

Air freight is often discussed as an unexploited opportunity in the Global South. It enables farmers in the Global South to trade fresh commodities with the Global North, and increasingly with countries within the Global South. The link between air transport and the competitiveness of Global South agriculture and associated socioeconomic impacts requires research to provide policy makers and other stakeholders involved in air cargo with a better understanding of its operations and effects.

Much still needs to be learnt about the distributional impacts of changes to air transport policies or infrastructure on socio-spatial inequalities in the Global South. Improved air travel conditions resulting in air transport policies and infrastructural investment may have wider effects on the transport network and regional development. Examples of these wider impacts may include the level and location of employment, contributions to regenerating the region, aspects of accessibility, positive and negative externalities generated by investment in air transport infrastructure, social cohesion and improved efficiency.

Moreover, the implications of the growing importance of LCCs in the Global South for future domestic and international tourism development, trade and regional integration,

economic development and social welfare offer a range of future research routes. The role of air transport in stimulating backward and forward linkages in the Global South has received limited attention in published research.

Opportunities exist to analyse the drivers of air transport demand in remote regions of the Global South. Another potentially interesting avenue for further research concerns the impact of different forms of regulatory and governance structure on the performance of air infrastructure (airports, air traffic control). There is also a need for further research to address the issues of airport and airline competition, airport access, capacity expansion and externalities, ground handling services, and airline and airport service quality in the changing aviation industry of the Global South, although, of course, the great unknown is the medium- and long-term impact of COVID-19 on air transport, economic development and tourism in both the Global South and the Global North.

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