



# Global production networks in the passenger aviation industry



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## ABSTRACT

Although the number of directions which geographical research on transport is taking has recently increased, the extent to which transport geography capitalises on theoretical advancements made in other sub-disciplines of human geography is still fairly limited. This especially pertains to economic geography which, in contrast to the predominantly positivist and quantitative transport geography, has developed over the last few decades a more post-positivist and qualitative profile. By means of focusing on passenger air transport – one of the most neglected industries in economic geography – this paper aims to help bridge this gap. Three under-researched aspects of air transport are identified and a combination of two economic-geographical approaches – global production networks (GPN) and evolutionary economic geography (EEG) – is advocated as a useful conceptual basis for further, more qualitative and more critical research on this dynamic sector. The paper argues that GPN and EEG would help research on air transport to: (1) employ network thinking beyond the infrastructural understanding of networks of air connections and thus better explain the multi-actor nature of the aviation sector, (2) complement the research on supra-national and national regulatory frameworks with more attention to the array of sub-national environments that shape the aviation industry ‘from below’, and (3) explore how the relations between aviation and economic development are moulded by different place-specific institutional factors. To lay foundations under further research the paper conceptualises the aviation industry as a global production network and uses the example of Polish passenger air transport to highlight the paper’s key empirical implications.

## 1. Introduction

As Keeling (2007: 220) observed in his review of geographical research on transport, ‘whatever one thinks about the theory and process of globalisation (...), transportation sits at the core of new kinds of global interaction’. In the same vein, it is difficult to challenge the conviction that transportation is a necessary (although not sufficient) component of growth and development (Keeling, 2007). One of the transport industries to which these two observations apply particularly strongly is aviation – arguably the most global and dynamic transport industry. Indeed, by means of facilitating flows of people, capital, information and goods, air transport plays a critical role in fostering globalisation (Cidell, 2006; IATA, 2015; Keeling, 2007) and stimulating the economic development of the places which it interconnects (Button and Taylor, 2000; Debbage, 1999; Bowen and Cidell, 2011).

The aviation statistics published by the World Bank, the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) further attest to the significance of passenger aviation. As Figs. 1 and 2 show, with a few exceptions (including the short regression caused by the financial crisis of 2008/2009), the volume of traffic in the last two decades has been constantly

growing – from 1.3 billion passengers and 18 million scheduled departures in 1995 to the record level of 3.2 billion passengers and 32 million departures in 2014. Accordingly, in the last 20 years the number of available routes (unique city-pairs) has almost doubled (IATA, 2015). As ICAO (2015) and IATA (2015) indicate, this constant growth in demand for air services can be explained with the steady increase in global GDP (again, with the exception of 2009 – see Figs. 1 and 2) and the interrelated growth in people’s mobility. As a result, the capacity of airlines is also growing. Only in the last decade the number of operational aircraft increased by 31% (from 20,356 to 26,653) (ICAO, 2015). In 2013 their total capacity accounted for 3.4 million seats (IATA, 2014). Finally, air transport is also an important employer. While the airline industry itself employs 2.5 million people, aviation as a whole supports 58 million jobs in total (IATA, 2015).

Meanwhile, despite the fact that the economic significance of aviation has been widely recognised and that geographical research on air transport is truly abundant in absolute terms, some important aspects of passenger air transport that determine its economic significance and that require intensive qualitative analysis remain largely under-researched. As many authors observed (Goetz, 2006; Goetz et al., 2009; Hall, 2010; Keeling, 2007; Shaw and Sidaway, 2010), this

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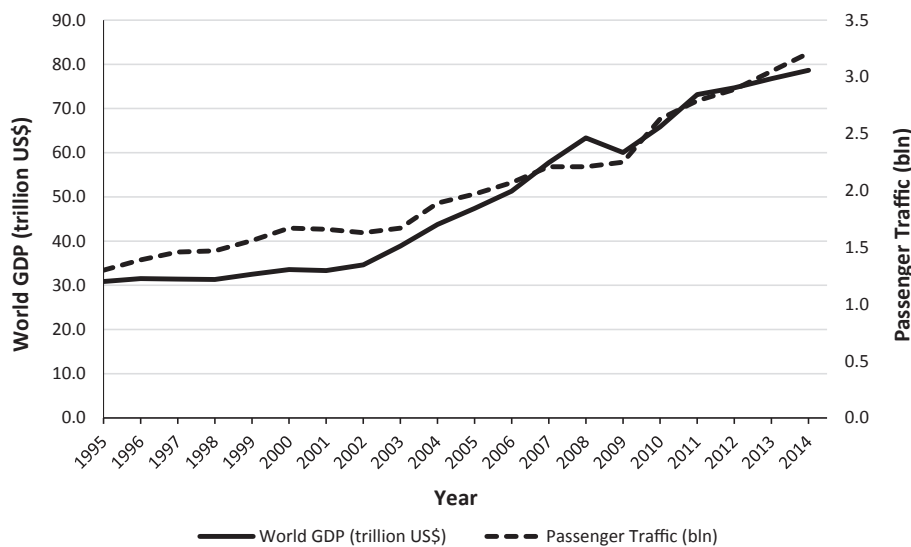


Fig. 1. GDP and passenger air traffic in the world in 1995–2014. Source: Own elaboration on the basis of data retrieved from <http://databank.worldbank.org> in September 2015.

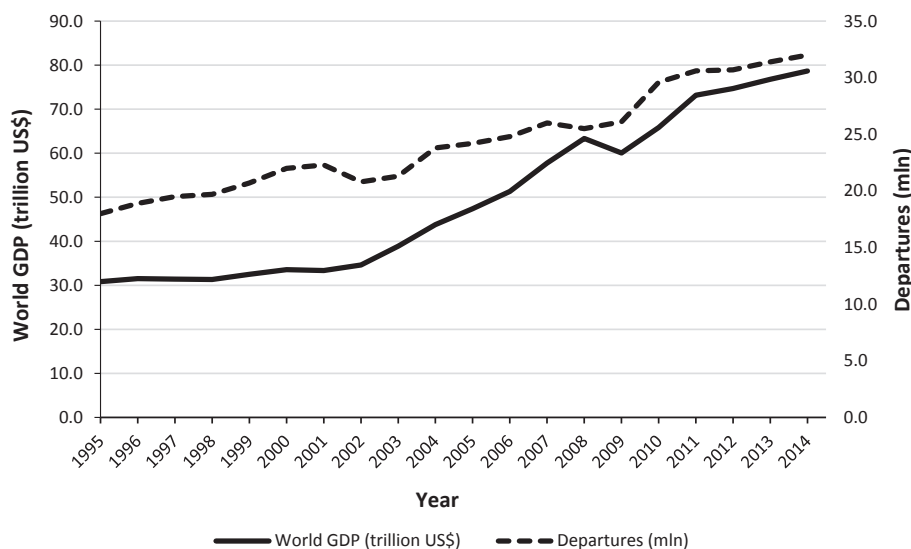


Fig. 2. GDP and scheduled aircraft departures in the world in 1995–2014. Source: Own elaboration on the basis of data retrieved from <http://databank.worldbank.org> in September 2015.

underdevelopment should be (at least partly) attributed to the nature of transport geography which for many years borrowed mainly from civil engineering, business studies and neoclassical economics (rather than from more critically-orientated social sciences) and which was therefore mainly moulded by the positivist and quantitative tradition (rather than the post-positivist and interpretative epistemologies which in other social sciences came to prominence sooner). The divide between transport geography and other sub-fields of human geography comes here to the fore (Goetz, 2006; Hall, 2010; Hanson, 2003; Keeling, 2007; Schwanen, 2008). Although the situation has recently started to change and transport geography is now catching up with the philosophical and theoretical diversification of human geography (e.g. see the review by Shaw and Sidaway, 2010), some calls for close relations between transport and other sub-fields of human geography are yet to be addressed (Goetz, 2006; Goetz et al., 2009; Hall, 2010).

The relationship between transport geography and economic geography is one of the best examples here. Although the need to bridge the gap between these two sub-fields has long been highlighted, the epistemological development which economic geography has gone through to date is reflected in the existing research on transport very negligibly (Goetz, 2006; Goetz et al., 2009; Hall et al., 2006). Some responsibility for this situation should also be shared by economic geographers who usually take transport for granted and accept mobility

as given (Hall et al., 2006). The shortage of economic-geographical research on aviation further attests to this statement. Whereas the work on social and cultural geographies of air transport (such as that inspired by the mobilities paradigm – see Adey et al., 2007; Adey and Lin, 2014; Cwerner et al., 2009) has undoubtedly enriched the aviation literature, economic geographers are oddly behind their social/cultural geography colleagues in enhancing the general understanding of air transport. Despite some notable attempts to tackle this deficiency (e.g. Bowen, 2010; Bowen and Leinbach, 2006; Hesse and Rodrigue, 2004; Rodrigue, 2006), the economic-geographical research on aviation suffers from underdeveloped theorisations, thus not giving justice to the conceptual advancements made in economic geography in general.

The key aim of this paper is to help bridge this gap. By means of focusing on passenger air transport (one of the most neglected sectors in economic geography) and making a case for global production networks (GPN) and evolutionary economic geography (EEG) as useful conceptual frameworks for addressing some of the under-researched aspects of air transport, the paper aims to set an economic-geographical research agenda for future work on this important sector. Three aspects of the aviation industry that require qualitative and critical analysis are identified. First, an economic geographical perspective could help aviation research more fully realise the explanatory potential of the concept of networks and employ network thinking beyond the

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