



In the wake of liberalisation: long-term developments in the EU air transport market[☆]



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ABSTRACT

Using a 24-year analysis period (1990–2013), a new perspective is offered on long-term first- and second-order developments following liberalisation of the intra-EU air transport market. The focus of the analysis is on supply-side issues, such as airline output, structure of supply, yields, business models, and the position of (former) flag carriers.

We find that air transport liberalisation in the EU internal market has facilitated significant growth in both the number and frequency of routes. Greater competition and lower fares at the route level went hand in hand with ongoing consolidation. The first and second liberalisation packages have enabled former flag carriers to develop into full-service hub-and-spoke carriers. It was only after the third package (1993–1997) that low-cost carriers were able to fully develop Europe-wide, point-to-point networks. They rapidly achieved a substantial market share after 2000. Following the adoption of the third package of liberalisation measures, charter operators launched scheduled operations as leisure airlines and adopted in part the new low-cost business model.

Until 2013, direct competition between low-cost carriers and former flag carriers was limited due to different route development strategies. This picture has changed in recent years since more low-cost carriers have begun to focus on primary hubs. The competitive impact of the rapidly expanding new generation of hub carriers from Turkey and the Gulf has further increased competitive pressure on the former European flag carriers. Consequently, consolidation of the European airline industry is likely to continue, as well as the ongoing effort to reduce costs. Finally, rising competitive pressure may incentivise EU member states to develop a more protective national aviation policy.

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1. Introduction

The creation of the EU internal market is likely to have resulted in substantial impacts on the structure of the market, entry, competition, consolidation, and the rise of new business models. The impacts of European air transport liberalisation received considerable attention during the early years of liberalisation (Button, 2001; CAA, 1995, 1998; Doganis, 1994; Graham, 1998; Morrell, 1998; Reynolds-Feighan, 1995; Williams, 1994, 2002), and also in separate geographical markets (Belén Rey, 2003; Thompson, 2002). Dobruszkes (2009) provides perhaps the only study of

the long-term impacts of liberalisation with an analysis of changes in competition levels and the use of traffic freedoms within the EU during the period from 1991–2005.

The current study addresses this paucity of research on the long-term impact of EU liberalisation by analysing supply-side developments within the common EU aviation market since the beginning of liberalisation over a 24-year period. Such a long-term perspective is critical for policy making, because more than the obvious first-order impacts of a liberalised common aviation market can be observed. Second-order impacts on market structure and consumer welfare take more time and only become visible over a longer period. This may place additional liberalisation steps for air transport in a different perspective.

2. Methodology

Based on time series data extracted from the OAG airline

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schedule database covering the years 1990–2013 during the third week of July in each year, an overview of the development of the following key indicators between 1990 and 2013 is provided: airline output, number of carriers in the market, number of carriers at the route level, the use of traffic rights, the rise and impact of the low-cost carrier, the position of the (former) ‘flag’ full-service carrier, and airline industry consolidation. Due to data availability constraints, the year 2000 is not included in our time series data. Hence, we have estimated the 2000 results by means of interpolation. However, because this study examines a lengthy time period, our conclusions do not focus on the year 2000 as such, and the week analysed in 2001 is before 9/11, the impact of interpolation on the results presented herein is small. Only unique, direct airport-to-airport scheduled flights have been included in the analysis. Indirect connections, code-shared duplicative flight options, and non-scheduled operations have not been taken into account.

Additionally, the focus on data for scheduled operations explains that figures for holiday charter operations was not included until these charter operators changed into leisure carriers and started (semi-) scheduled operations to holiday destinations. Hence, the capacity was already in the market but was only in later stage labeled as scheduled and reflected in the figures.

The analysis in the following sections will focus on *direct* liberalisation impacts on the air transport market itself. However, some of these impacts cannot be explained exclusively by the liberalisation of the European market. From the early 1990s onward, bilateral open skies agreements were negotiated between individual member states and the U.S. These developments also had an influence on the strategic position of the former European flag carriers, on their consolidation, and on their emerging European route networks. Furthermore, supply-side developments we discuss here cannot be isolated completely from the external influences on the aviation industry. Innovations in information technology and new aircraft types, as well as demand-side developments such as changing consumer attitudes and fluctuating macroeconomic conditions, have also played a role. When relevant, we will refer to the interference of these external influences in our analysis.

In order to make consistent comparisons over the years, we have chosen a stable set of countries as the basis for our analysis: the EU15 area, which consists of the 15 countries that in May 1994 comprised the European Union before the entry of the 10 accession countries. To this set of countries, we have added Switzerland and Norway. The analysis only considers intra-EU15+2 flights. We have categorized the airlines operating within the EU15+2 area according to different business models: the (former) ‘flag’ full-service carriers (flag carriers); low-cost carriers; leisure carriers; other carriers (regionals, hybrids, air taxis); and non-EU15+2 carriers.

Admittedly, such a categorization, especially over a prolonged period of time, always brings with it some arbitrary choices, as business models in the airline industry are dynamic. In particular, airlines classified as low-cost carriers differ remarkably in the literature (See Appendix). This is partly due to the various levels of specification chosen by different authors. For example, very small carriers are often neglected in the analysis. This is due in part to the vague demarcation of the leisure and low-cost carrier model. However, there is consensus in the literature regarding the major low-cost carriers (Fig. 1). Since the five biggest low-cost carriers received an overwhelmingly strong position in the European low-cost carrier market segment, the impact of differences in classifications of low-cost carriers will not significantly affect a European-wide analysis.

3. Expansion of the liberalised industry in three phases

Following liberalisation, the European airline industry expanded rapidly. No longer tied to bilateral air service agreements, European carriers increased frequencies on existing routes. New routes were also opened, and new operators entered the market. Between 1990 and 2013, the number of intra-EU15+2 flights increased by 80 percent, while the number of routes increased by 138 percent. In terms of the expansion of the market, we can roughly distinguish between three phases.

3.1. Phase 1: The early years

The first phase is the 1990–1993 period, beginning with the second package of liberalisation measures in November 1990 until the third package of liberalisation measures took effect in 1993. The second package gave all EU carriers the opportunity to carry unlimited third and fourth freedom traffic, but substantial restrictions remained in terms of multiple designation, fifth and seventh freedom rights, and cabotage. Although this period shows relatively low growth rates in frequencies and new scheduled routes compared to the second half of the 1990s, it is not clear whether this should be attributed exclusively to the then-remaining market restrictions. Demand for air travel was also influenced by the economic downturn in the early 1990s. However, average route frequencies remained stable at 16 flights per week (Fig. 2).

At the route level, competition decreased in the first phase and only began to increase in the second phase after 1994. In Fig. 3, this competition level is represented by the number of effective carriers. The number of effective carriers corresponds with the inverse of the Herfindahl-Hirschman Index at the route level, which is weighted by the share of the route in the total number of flights in the EU15+2 market. Since 2007, the average number of effective carriers at the route level has stabilized at around 1.45.

3.2. Phase 2: Growth of flag carriers and hub systems (1994–2000)

The second phase between 1994 and 2000 is characterized by a rapid growth in the number of flights relative to the increase in the number of routes, resulting in an increasing average weekly frequency per route (Fig. 2).

The higher average frequency per route was partly the result of intensified hub-and-spoke operations or new hub-and-spoke networks established by the (former) flag full-service carriers during the second half of the 1990s (Fig. 4). Airlines benefitted from the new open skies agreements with the U.S., as well as opportunities to forge strategic alliances with U.S. carriers under anti-trust immunity. Airlines such as Lufthansa, Swiss Air and KLM intensified connectivity at their hubs by increasing the number and frequency of routes within narrow daily periods of connecting flights, while other flag carriers such as Iberia, Air France, and Alitalia started ‘green field’ hub operations at their national airports (Burghouwt and De Wit, 2005). The (former) flag full-service carriers benefitted from the advantageous economic conditions during the second half of the 1990s. The share of these carriers in the intra-EU15+2 market increased substantially during the second phase (Fig. 5). Moreover, at the route level, effective competition increased, as demonstrated after weighting for the individual market shares of competitors per route (Fig. 3).

In sum, the second half of the 1990s offered favorable economic and regulatory conditions for the rise of the flag carriers in Europe and for their operating strategies based on hub-and-spoke networks centered on their national airports. On the one hand, economic growth stimulated aviation demand, fuel prices were declining, and many routes were still underserved. On the other

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