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## Traffic impacts of EU horizontal air service agreements

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### Abstract

The EU has signed a number of “horizontal air service agreements” to bring existing bilateral air service agreements (ASAs) into legal conformity with the European Court of Justice 2002 ruling on “nationality clauses”. These new agreements allow EU carriers to operate so-called 7<sup>th</sup> freedom routes from all Member States to third countries, and not only from their home countries (Community carrier designation). Based on schedules data analyses, we however do not see many positive effects on service levels. This is mainly because bilateral frequency restrictions remain in effect, or as long haul services remain to be concentrated at the carriers’ home hubs. A frequent use of 7<sup>th</sup> freedom rights is mainly observed for low cost carriers on short-haul, “open sky” markets, like between the EU and the Member States of the European Common Aviation Area (ECAA) or Morocco.

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*Keywords:* EU horizontal air services agreement; nationality clause; air transport

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### 1. Introduction

Traditionally, access to most international air transport markets has been heavily regulated. Bilateral air service agreements (ASAs) between states usually determine the number of traffic rights granted to designated carriers of the signatory states. This system often leads to artificial capacity limitations, monopoly prices and poor service quality. By 1997, intra-EU/EWR traffic had become fully liberalized in a way that all Community carriers have now virtually unlimited access to all Community routes. This new regime undoubtedly resulted in more competition, higher growth and the emergence of low cost carriers (LCC).

In the following years, this deregulated European air transport market was further extended geographically, as a number of neighboring countries, mainly from the Balkans, joined the newly founded European Common Aviation Area in 2006. However, the archetypical ASA between Member States and the majority of third countries, open sky

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or not, still granted traffic rights only to carriers of the two signatory states (“nationality clause”). In 2002, the European Court of Justice (ECJ) found this exclusion of Community carriers from routes from Member States other than their home countries to be in breach with EU law (see, e.g. Abeyratne, 2003; EC, 2002). As a reaction, the EC negotiated new “horizontal air service agreements” with a number of third countries to override any previously existing nationality clauses of existing bilateral agreements which, as to the rest, would remain valid. According to the official communication by the EC, these horizontal agreements shall not only bring legal conformity, but also foster supply and actual traffic growth. For example, DG MOVE communicated the new horizontal agreement with Indonesia as “*an important step towards strengthening aviation relations and ... encouraging traffic*” (EC, 2011).

This paper aims at finding out to what extent the removal of the nationality clauses has actually encouraged traffic growth. We assess if – and under which conditions – carriers actually operate services to third countries from Member States other than their home countries, benefitting from Community carrier designation.

## 2. Background

### 2.1 Market access in international air transport

Since its beginnings, and, ironically, despite its nature as a cross-border industry, air transport has been one of the most heavily regulated sectors. Already the first article of the Paris “Convention relating to the regulation of Aerial Navigation” (1919) granted airspace sovereignty to states. In the 1944 Chicago Convention, which marked the foundation of the “International Civil Aviation Organization” (ICAO), allied powers and some neutral states anticipated not only the end of WWII, but also a growing civil aviation sector, which would benefit from aircraft technologies that had emerged during the war. The signatory states saw a need to agree on a worldwide legal framework for international aviation, which would maintain the idea of airspace sovereignty but, at the same time, facilitate the inauguration of global air transport linkages. One essential pillar of this was the introduction of a global regime of bilateral air service agreements in which the allocation of limited traffic rights for flights between signatory states would be agreed on (see e.g. Abeyratne, 2013).

Figure 1 provides an overview of different “freedoms of the air” that can be allocated to carriers: The 1st and 2nd freedoms are not of commercial relevance but allow carriers to overfly a third country or to make a technical or fuel stop. The 3<sup>rd</sup> and 4th freedoms provide carriers with the right to operate scheduled, commercial air services between the two signatory states of a bilateral agreement (inbound and outbound). In most bilateral agreements, the allocation and use of 3<sup>rd</sup> and 4<sup>th</sup> freedom traffic rights has traditionally been restricted in two ways, leading to limited competition and high fares: First, so-called nationality clauses permit the use of traffic rights between two countries only to carriers based in either of these signatory states; and second, capacities to be allocated to carriers are usually capped, e.g. in terms of seats and/or frequencies.

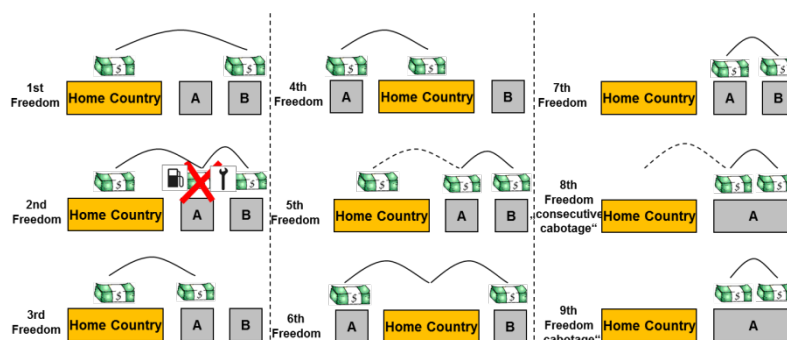


Fig. 1. Freedoms of the air

In some cases, additional freedoms are granted: The 5th freedom provides an airline with the right to operate between two foreign countries, extending a route from its home country. This right was often used in the 20<sup>th</sup> century, when limited aircraft ranges made it necessary to stop en-route. The 6th freedom allows carriers to fly

passengers or goods between two foreign countries, with an intermediate stop in the home country. The 7<sup>th</sup> freedom illustrates a carrier's right to offer commercial air services between two foreign countries, independently of any route from or to the home country, and the 8<sup>th</sup> and 9<sup>th</sup> freedoms describe an airline's right to operate domestically in a foreign country ("cabotage"). Along with unrestricted allocation of 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> freedom rights, the seventh to ninth freedoms are of special relevance in liberalized, multilateral open sky markets, such as the European Common Aviation Area (see below).

## **2.2 Deregulating European air transport**

The Treaty of Rome (EEC, 1957) already established the freedom of services (Chapter 3) and also affirmed the need for a common transport policy (Articles 74-84). However, it took forty more years to finalize a common intra-European air transport market – a process which was eventually boosted by the deregulation of the US airline industry in 1978 and two famous judgements of the European Court of Justice (ECJ): the 1985 ruling against the Council of Ministers for "failure to act" in the transport sector (ECJ, 1985), and the 1986 decision in the "Nouvelles Frontières" case (ECJ, 1986) where the court ruled that the EU competition rules must also apply to air transport.

The actual implementation of the deregulated European air transport market happened in three liberalization packages which became effective in 1987, 1990 and 1993, respectively (see e.g. Janic, 1997). By 1997, all bilateral air service agreements between the EC Member States were eventually replaced by a single aviation market with free access to and free pricing on virtually all Community routes (3<sup>rd</sup> to 9<sup>th</sup> freedom) for all Community carriers (EC, 1992), removing any nationality clauses and capacity restrictions. Selected neighboring countries, including the Balkan states, Norway and Iceland, followed in 2006, leading to the formation of an even larger European Common Aviation Area (ECAA) (EC, 2006). The new policy regime yielded in a more competitive air transport market which is now characterized by more supply and lower fares, especially driven by the emergence and subsequent growth of pan-European low cost carriers like Easyjet, Ryanair, Vueling or Wizz Air (Dobruszkes, 2013).

Bilateral ASAs between the Member States and third countries, however, were not automatically affected. Instead, air transport to most third countries generally remained subject to nationality clauses and restrictions e.g. on fares and capacities, although in some cases bilateral "open skies" agreements between Member States (like the Netherlands) and e.g. the US had come into force (Cosmas et al., 2010). Such agreements had usually removed any capacity restrictions for 3<sup>rd</sup>, 4<sup>th</sup> and sometimes 5<sup>th</sup> freedom traffic, but the nationality clauses remained in force also here, i.e. designation was still limited to carriers controlled by nationals of the signatory states.

## **2.3 The ECJ judgement on nationality clauses**

On 5 November 2002, the European Court of Justice (ECJ) found this exclusion of Community carriers from routes from Member States other than their home countries to be in breach with EU law (see e.g. Abeyratne, 2003; EC, 2002), leaving the Member States and the Commission with the following options for the required removal of the nationality clauses to allow for Community carrier designation (EC, 2018): (a) Direct amendment of existing bilateral agreements with third countries on a bilateral basis; and (b) Negotiation of horizontal agreements between the Commission and third countries to amend, at one go, all agreements between a given third country and the Member States with which that country has bilateral agreements.

As of March 2018, "more than 1000 bilateral agreements with 122 countries" were brought into legal conformity with the ECJ decision in a "joint effort of the Commission and Member States", including horizontal Agreements "with some 50 countries" (EC, 2018). According to a more detailed list of amended bilateral agreements and newly signed horizontal agreements, which however dates from January 2013 (EC, 2013), 235 bilateral agreements with a total of 76 states (including Japan, Kazakhstan and Qatar) had been directly amended at the bilateral level. The list further shows that 46 horizontal agreements had amended a further 744 ASAs. In some cases, horizontal negotiations have not only resulted in the cancellation of existing nationality clauses, but in true "common aviation areas" with neighboring countries (Georgia, Israel, Jordan, Moldova and Morocco), adding up to the ECAA, or in so-called "comprehensive agreements with global partners" (Australia, Canada, New Zealand, USA), each including free and unlimited allocation of traffic rights (EC, 2018) in addition to Community carrier designation. Figure 2

systemizes some sample ASAs of European countries and the EU with third countries with regard to market access (traffic rights availability) and Community carrier designation.



Fig. 2. Classification of ASAs between the EU (Member States) and third countries

The agreements with the neighboring countries or the US offer a high degree of deregulation, both with regard to traffic right allocation and Community carrier designation. All Community carriers have the right to operate as much as they like, without any restrictions, between any Member State and any of these countries. In the case of e.g. Armenia, the UAE or Brazil, along with many other countries, in contrast, actual market access for Community carriers will depend on the availability of unused traffic rights. If the latter are not available, market access will not be possible – despite the removal of the bilateral clauses “on paper”.

### 3. Literature review

The impact of air transport market liberalization on traffic supply has been well discussed in the economic literature, with a focus on the USA and Europe. Based on both empirical and analytical research (e.g. Morrison and Winston, 1995, InterVISTAS-ga<sup>2</sup>, 2006, or Button, 2009), it can be concluded that domestic and international air transport liberalization has resulted in more intense competition, lower costs, new demand, and overall traffic growth. InterVISTAS-ga<sup>2</sup> (2006) reports that the average annual growth rate of air traffic in Europe between 1995 and 2004 was almost twice as high as the rate of growth between 1990 to 1994, and that post-liberalization traffic growth between countries typically averaged between 12% and 35%, which is significantly higher than before the liberalization of the respective ASAs.

Most papers or studies on the effects of the liberalization of international air service agreements tackle the EU-US market. Brattle Group (2002) and Cosmas et al. (2010) analyzed how traffic levels developed when open sky agreements between 22 European countries and the US had come into force from 1992 on. They found that some – including the largest markets – showed overall increases in service levels in the post-liberalization years. However, some markets, for example between the US and Scandinavia, also experienced traffic reductions. Possible explanations for this could be a trend to more hubbing from the largest EU-airports during the '00, and the weak financial state of the most national carriers from smaller EU states. Based on these observations, Cosmas et al (2010) concluded that liberalization is a necessary rather than sufficient condition for traffic growth.

In ex-ante assessments, the potential impacts of the 2008 EU-US horizontal open sky agreement were estimated. Brattle Group (2002) and Booz Allen Hamilton (2007) predicted significant growth rates, especially for those markets (US-ES/GR/HU/IR/UK) without then existing open sky regimes. Actual traffic growth, however, was far more modest than what had been predicted. Humphreys and Morrell (2009) look at initial traffic impacts of the new agreement and found that US-traffic from and to Heathrow (which was artificially restricted in the former Bermuda

II bilateral ASA) grew strongly, albeit at the expense of Gatwick which lost several daily US flights. Hence, the summer 2008 net increase in seats between London and the US amounted to about 5% only.

Apart from the legal literature (see e.g. Havel, 2009), there has been far less academic discussion of the impact of removing nationality clauses. One exception is, again, Humphreys and Morrell (2009) who observed that European airlines were hardly making use of the removal of the nationality clauses on the EU-US transatlantic market, with Air France (a short-living service between Heathrow and L.A.) and newly founded BA-subsubsidiary “Open Skies” (Paris- N.Y.) being the only EU carriers to launch US-bound flights from outside their respective home-countries.

#### 4. Methodology

We assess if the removal of nationality clauses by means of new horizontal ASA between the EU and third countries has actually encouraged traffic growth. In other words, we aim at finding out if – and to what extent - carriers actually operate 7<sup>th</sup> freedom services to third countries from Member States other than their home country, benefitting from Community carrier designation. Basis of our analysis is supply data for July 2017 from OAG (Official Airline Guide). This dataset contains the total number of seats provided by all passenger airlines between each EU country and any third country. We further added

- a “nationality” marker to each airline, which helps us identifying 7<sup>th</sup> freedom routes, and
- a “market” marker describing if a route is operated in an open sky environment or in a classic bilateral regime with or without Community carrier designation. We have applied the following “market” markers:
  - “ECAA” for routes from the EU to the ECAA countries (Albania, Bosnia and Herzegovina, FYR Macedonia, Iceland, Kosovo, Montenegro, Serbia and Norway)
  - “Opensky” for routes to non-ECAA countries with which open sky regimes are in operation (Australia, Canada, Georgia, Israel, Jordan, Morocco, Moldova, New Zealand, United States)
  - “Switzerland” for routes between the EU and Switzerland
  - “Other” for routes between the EU and any third countries with or without horizontal agreement

We further had to clean up the dataset to remove any cargo services and operations under the designator of Flex Flight A/S, a business jet operator which “rents” its IATA “marketing” code to smaller aircraft operators.

#### 5. Results and Discussion

Table 1 shows the main results at an aggregated level. In total, 98,232,209 seats were offered on flights originating from EU airports in July 2017. More than 75% of this capacity (75,581,008 seats) was employed on flights within the EU, while 22,651,201 seats were offered on flights to non-EU countries. The latter split over flights to ECAA countries (2.2m seats), to other “Open Sky” countries, like the US and Morocco (6.4m), to Switzerland (2.2m), and to “Other” countries with which no Europe-wide open sky relation is in place (11.8m).

Table 1. Total seats and seats under Community carrier designation by route group

Route groups	Total Seats (July 2017)	of which Seats under Community carrier designation	Share
<b>from EU</b>	<b>98,232,209</b>	<b>22,870,315</b>	<b>23.3%</b>
... from EU to EU	75,581,008	21,239,768	28.1%
<b>... from EU to non-EU</b>	<b>22,651,201</b>	<b>1,630,547</b>	<b>7.2%</b>
... ... from EU to ECAA	2,208,949	494,455	22.4%
... ... from EU to other “open sky” countries (US, Morocco...)	6,377,996	430,563	6.8%
... ... from EU to Switzerland	2,232,036	647,222	29.0%
... ... from EU to “other” countries	11,832,220	58,307	0.5%

The table further discloses to what extent community carrier designation is used in each of these markets: On average, 7.2% of all seats offered between the EU and non-EU countries are provided by EU carriers on routes independently from their respective home countries, but this share varies largely between the different “route groups”. Flights to Switzerland (29%) and the ECAA countries (22.4%) are to considerable extents operated under Community carrier designation, but the revocation of former nationality clauses obviously had much smaller impacts on routes to other “open sky” countries (like the US or Morocco; 6.8%) and especially to the group of “other” countries (0.5%).

In the following, we have a more detailed look at the key countries served under Community carrier designation within each of these different route groups, and at the carriers actually operating such services. The majority out of the 494,455 seats offered on a total 206 routes under Community carrier designation from the EU to the ECAA countries is provided to Norway (288k), followed by the Balkan states Serbia/Kosovo (73k), FYR Macedonia (59k) and Bosnia and Herzegovina (36k) (Top of figure 3). In addition, Community carriers offer a considerable number of monthly seats from places other than their home countries to Iceland. Three carriers account for almost 90% of the seats offered on such 7<sup>th</sup> freedom routes: Wizz Air (47%), with a strong supply to the Balkans and from Eastern Europe e.g. to Norway; Dublin-based Norwegian Air International (27%), a subsidiary of Norwegian Air Shuttle which focuses not only on long haul services from the UK, but also operates many routes from other EU countries to Oslo; and Ryanair (13%) which operates from all over Europe to both Norway and the Balkans.

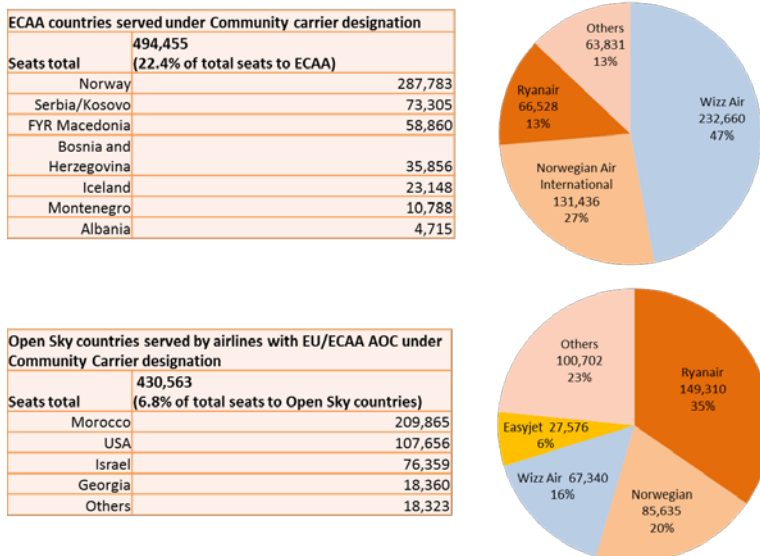


Fig. 3. Use of Community carrier designation on ECAA (top) and Open Sky (bottom) routes

About 431k seats are offered under Community carrier designation from the EU to the non-ECAA “open sky” countries (Bottom of figure 3). This group includes both neighboring countries like Morocco, Georgia or Israel, and the “global partners” like the U.S. or Canada with which “comprehensive agreements” have been put in place. Seats offered here under Community carrier designation focus on Morocco (210k), the US (108k) and Israel (76k). Again, as with the ECAA routes, these 7<sup>th</sup> freedom services are dominated by low cost carriers. Ryanair accounts for 35% of all seats, which are mainly offered to Morocco and Israel, while Norwegian (20%) offers 7<sup>th</sup> freedom long haul services from the UK, Denmark, Sweden and Spain to the US.

With a share of just 0.5% (58k seats), routes to “other” countries play only a minor role when it comes to the use of 7<sup>th</sup> freedom rights. Figure 4 illustrates how these seats split over different destinations and carriers. The dominating destination is the Ukraine, accounting for 35k seats mainly offered by WizzAir on 7<sup>th</sup> freedom routes from various EU countries. Other examples for such routes include Vueling which operates between Marseille and Algiers and between Rome and Kiev, Aegean Airlines which flies between Larnaca and Beirut, and the Wizz Air services from Eastern Europe to Dubai World Central. The only long haul flights (Norwegian from Stockholm and

Copenhagen to Thailand and Thomson Airways (UK) from Dublin to Cancun) just account for 5-6% of all seats offered under Community carrier designation into these not-yet-deregulated markets.

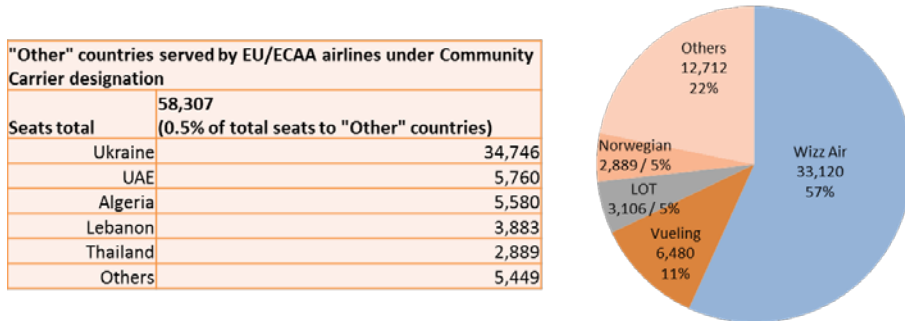


Fig. 4. Use of Community carrier designation on routes to "Other" countries

Our results show that most routes to non-EU countries which are served by EU carriers from places outside their respective home countries go to open sky markets like the ECAA countries (Norway, Balkans), the US, Israel, Georgia and Switzerland. Business model wise, such routes are mainly operated by low cost carriers and not by full services network carriers. The reason for this is that the former have developed into pan-European carriers, with operational bases all over Europe, while the latter concentrate on routes from their hubs.

Only 58k out of the 2.7 million seats offered under Community carrier designation concern routes to countries like the Ukraine or the UAE that have not yet signed open sky agreements with the EU (despite some rather liberal arrangements at the bilateral level). Based on these observations, we can draw the conclusion that the removal of the nationality clause as such does not automatically yield in much additional traffic.

The data analysis also reveals that community carrier designation mainly happens on short hauls (1,513,188 seats, 92.8% of all seats) and only rarely on long haul routes (117,359 seats, 7.2%). This illustrates that 7<sup>th</sup> freedom long haul traffic is still scarce, despite the low cost efforts undertaken by Norwegian. In general, on long hauls, airlines traditionally concentrate much more on their home markets/hubs to benefit from economies of scale, scope and density (see e.g. Caves et al., 1984; Bailey et al., 1986). Because of this, it makes little economic sense for hub carriers to inaugurate new flights outside their existing hub network. This phenomenon could e.g. be observed after the introduction of the EU-US horizontal open sky agreement in 2008: Following the agreement, new services were only inaugurated in markets that used to be restricted (e.g. US-Spain and US-London Heathrow) but not from countries that already had bilateral open sky agreements with the US. New services by community carriers from places other than their home hubs remained rare. In other words: Only the "open sky-aspect" of the new EU-US ASA seems to have yielded in some traffic growth, namely in previously restricted markets, while the removal of nationality clauses alone had little effect.

## 6. Summary and conclusion

We found that the signature of new horizontal agreements alone, i.e. the removal of the nationality clauses, does not per se result in additional supply. Instead, the impact of the newly signed agreements on traffic growth also seems to depend on the degree of market deregulation (restrictive vs. open sky) and other market characteristics (short- vs. long haul, market size).

For the short haul sector, most routes to non-EU countries which are served by EU carriers from places outside their respective home countries go to places like the Balkans or Morocco, i.e. to countries that are already part of the open sky regimes e.g. within the European Common Aviation Area. On open sky long haul markets like to the US, carriers still focus on flights to and from their home countries, although any nationality clauses have been revoked. This is because long haul air traffic usually requires the operation of hub and spoke networks, which allow carriers to achieve economies of scale, scope and density. However, long haul low cost carriers like Norwegian, albeit still small in market size, are commencing to break this rule and use 7<sup>th</sup> freedom traffic rights for U.S.-bound flights.

Routes under Community carrier designation in otherwise restricted environments set by bilateral ASAs, however, remain scarce. Among the few examples identified in this work are flights from various EU cities to the Ukraine, mostly offered by Wizz Air, and a few leisure/low-cost routes e.g. from Eastern Europe to Dubai World Central. Generally, EU airlines seem to inaugurate 7<sup>th</sup> freedom traffic from non-home EU countries to third countries only if the respective market is completely liberalized (open sky). Reasons are a) that on other – non open sky – markets, traffic rights are usually not available due to (frequency) restrictions set in the respective bilateral agreements that are still in force, and b) that demand to some destinations might simply be too low.

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