A study on aviation ticket taxes

CE Delft

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Content

Summary

Aviation has a unique taxation regime that is characterised by a lower level of taxation than many other economic activities. The low-tax regime is supported by a number of interacting national, European, global and bilateral rules and agreements.

In order to still raise fiscal revenue from aviation, a number of countries have introduced aviation ticket taxes in the last decades. Invariably, these initiatives have been met by opposition from airlines and often opposed in courts, although in most cases, the taxes were judged to be lawful.

The aim of this study is to analyse which aviation ticket tax designs have held up in court and can therefore be considered as a template for new taxes. Moreover, the study analyses how and to which extent aviation ticket taxes can be used to internalise external costs of aviation, with a focus on climate impacts.

Legal cases against aviation ticket taxes

This study has analysed five legal cases against aviation ticket taxes in five different European countries. The cases argued that the taxes violated a number of laws, including:

- Article 15 of the Chicago Convention, prohibiting States to levy charges 'in respect solely of the right of transit over or entry into or exit from its territory';
- State Aid guidelines, because the plaintiffs argued that certain provisions of the taxes favoured some airlines or airports over others;
- the EU-US Open Skies Agreement, because plaintiffs argued that the aviation ticket tax was, in fact, a fuel tax and because it had an extraterritorial impact.

The analysis shows that:

- taxation of aviation activities per se is not prohibited by either the Chicago Convention or Bilateral Air Service Agreements;
- transfer and transit passengers may be exempted in order to avoid double taxation; this is not unlawful state aid;
- differentiation of taxes with regards to distance is permissible, but the differentiation should not interfere with the working of the internal market;
- an aviation ticket tax is not a fuel tax and hence restrictions on fuel taxes do not apply.

Consequently, an aviation ticket tax can withstand legal challenges if it is not linked to fuel consumption and if it does not differentiate rates within the EU, while it may exempt transfer and transit passengers.

Per flight taxes provide better emission reduction incentives for airlines than ticket taxes and could drive airlines to maximise the number of passengers and freight tonnage transported per flight. So far per flight taxes have not been introduced. As a consequence, little is known about possible legal obstacles to introducing a per flight tax, mainly because per flight taxes have not been tested in a court of law.

Options to enhance the internalisation of environmental externalities

Taxes have an impact on demand, so aviation ticket taxes will, by reducing demand for aviation, also reduce its environmental impacts. However, a ticket tax with a single rate is a rather blunt way to internalise externalities as it does not take the actual environmental impacts of a passenger on a specific flight into account. If taxes were differentiated with regards to the environmental impact, the transport system would become more efficient and an additional incentive to reduce the impacts would be provided.

The study analyses how climate externalities can be used as a basis for differentiation without risking that the tax is viewed as a fuel tax and taking into account that it is complicated to establish the fuel efficiency of an aircraft. Four proposals have been elaborated.

First, an aviation ticket tax, differentiated on the basis of the average lifecycle emissions of fuels that the airline has used in a previous period, would be one way to internalise external effects of CO_2 emissions. Passengers flying with airlines that have exclusively used fossil fuels would pay a higher tax rate than passengers flying with airlines that have used a share of sustainable low carbon fuels. Because the tax would be levied on the carbon content of the fuel and not on the amount of fuel, and because transfer passengers would be exempted, the tax cannot be considered to constitute a fuel tax.

Second, an aviation ticket tax, differentiated on the basis of distance to the destination, would also be a way to internalise the external impacts of CO_2 emissions. Currently, most taxes have two rates, one for intra-EU destinations and one for destinations further away, which does not take into account that a flight to a relatively nearby non-EU destination may cause half or less of the CO_2 emissions than a flight to a faraway destination. By increasing the number of distance bands, this variation in external impacts may be internalised.

Third, an aviation ticket tax, differentiated on the basis of certified NO_x emissions during landing and take-off (called LTO NO_x emissions), would be a way to internalise the external impacts of NO_x emissions, both in the LTO phase and in the cruise phase, where NO_x emissions have a climate impact. This is because LTO NO_x and cruise NO_x emissions are correlated.

Fourth, a share of the aviation ticket tax could be replaced by a NO_x climate impact charge related to the distance flown and the LTO NO_x emissions of the aircraft.

1 Introduction

1.1 Policy context

Aviation has a unique taxation regime. Airline tickets are generally exempt from VAT (domestic aviation is often subject to VAT on tickets), and no excise duty or VAT is levied on fuels (IMF and World Bank, 2013) (Keen, et al., 2013).[1] Also, aircraft are VAT exempt as upfront capital purchases in Europe as long as they are used by airlines for operations on international routes (EU VAT Directive 2006/112/EC). The taxation regimes are enshrined in bilateral air service agreements between countries which mutually prohibit taxation of aviation fuels for airlines flying between those countries and, in the case of VAT, in the EU VAT directive.

Aviation ticket taxes are widely deployed by countries around the world (see Section 2.2). The first EU Member state to do so was the UK, which introduced the Air Passenger Duty in 1994 as a way to broaden the tax base (IFS, 2008). In the same year, Norway introduced a passenger tax (OECD, 2005). Belgium, France, Ireland, Italy, Austria, The Netherlands, Germany and Norway have followed, and Sweden is currently considering the introduction of an airline climate tax (Reuters, 2016).

Not all the aviation ticket taxes that have been mulled were implemented, and some have been implemented but quickly abolished. In most cases, legal procedures were initiated against the taxes. Although these were generally not successful they did have the result of raising the barrier for introducing aviation ticket taxes by governments.

Apart from making up for the tax exemptions and raising fiscal revenue, aviation ticket taxes have an impact on demand by increasing the costs of flying. This can have an effect on aviation emissions and airport noise. Moreover, some countries have contemplated including a differentiation on environmental grounds in the tax rate, although to date this has not been implemented.[2]

In view of the above, Transport and Environment has requested CE Delft to study the possibility to develop EU guidelines for aviation ticket taxes in order to provide clarity about what is legally permissible and to see whether it is possible to design passenger carbon taxes that would not contravene the restriction on fuel taxes.

[1] Note that IATA (2005) asserts that aviation is highly taxed. In order to reach this conclusion, the report has had to classify infrastructure usage charges (e.g. landing fees that airlines pay to airports) as taxes, even though the level of the landing fees is often regulated to cover the costs of operating and maintaining the infrastructure (IATA, 2005).

[2] The UK (IFS, 2008),The Netherlands (CE Delft, 2008) and Germany are known to have considered differentiating the tax on the basis of aircraft NO_x emissions or noise.

1.2 Aim and scope of the study

The overall objective of the project is to develop elements of legal guidance for aviation taxes.

The project comprises two parts:

1. Develop elements of EU-level legislative guidance for aviation taxes to be implemented by Member States.
2. Analyse whether or how it could be legally feasible to introduce a climate change element in an aviation tax.

1.3 Outline of the report

Chapter 2 provides a definition of aviation ticket taxes and an overview of taxes in the EU and worldwide. Chapter 3 analyses five court cases against aviation taxes in five different EU Member States in order to identify which objections against the taxes have been judged to be legitimate and which have not. Chapter 4 progresses to find commonly accepted characteristics of aviation taxes. Chapter 5 explores whether and, if so, how climate externalities could be included in aviation ticket taxes. Chapter 6 concludes the report by providing an outline of legally permissible elements of aviation ticket taxes which internalise climate externalities.

2 Overview of aviation ticket taxes

Many EU Member States now implement aviation ticket taxes (CE Delft ; SEO, 2018). In the context of international agreements prohibiting the taxation of certain elements of a flight, such as the fuel used and flights themselves being levied a zero VAT rate, aviation ticket taxes are one way of levying a tax on the aviation sector. These taxes have been implemented in a number of countries.

This chapter presents a short overview of aviation ticket taxes in the EU and worldwide. First a definition will be given of aviation ticket taxes used in this report (Section 2.1), after which the worldwide use of ticket taxes will be sketched, showing that ticket taxes are not only implemented in the EU (Section 2.2).

2.1 Definition of aviation ticket taxes

Ticket taxes levy a tax on each origin-destination passenger departing from an airport in the country where the tax is applied, with the airline being responsible for collecting the tax and paying it to the government. The taxable event is therefore a departing passenger leaving on a commercial airline. Features of most ticket taxes are the exemptions for transfer and transit passengers, and flights for State or military reasons. Since freight transport carries no passengers, freight is exempt from this tax. Whether the tax is passed on to passengers depends on the pricing-decision of the airline. Since airlines are liable for collecting the tax and paying it, they can chose the degree to which they pass it on to the customer. In this report the meaning of taxes follows the definition of the International Civil Aviation Organization's: "a tax is a levy that is designed to raise national or local government revenues" (ICAO, 2000). This is in contrast to their definition of a charge: "a levy that is designed and applied specifically to recover the costs of providing facilities and services for civil aviation" (ibid.).

Since the ticket taxes were analysed from a legal perspective, case law was utilised to investigate which elements of the ticket tax could withstand legal challenges, and which elements could not. In cases which related to competition law the European Commission investigated distortions of the internal market, hence European case law was used for these cases. In cases where the tax itself was the source of the legal dispute because for instance it violated international air travel agreements, national case law was used.

2.2 Ticket taxes worldwide

In this report ticket taxes which have undergone legal challenges in the EU will be discussed. Ticket taxes are however implemented in various countries, also outside of the EU. In 2009 the International Air Transport Association (IATA) comprehensively listed all the ticket taxes in place in the various jurisdictions of the world. CE Delft and SEO (2018, ongoing) have updated this list, which will be published shortly. The 514 ticket taxes in total were further subdivided into domestic and international taxes (one country can have more than one ticket tax). The IATA definition of ticket taxes is the following: "Taxes which are collected at [the] time of ticket sale and which appear in the tax box of a ticket or which are included in the price of a ticket". These taxes are sometimes levied in return for a service, which does not fit our definition of a ticket tax, hence only the taxes which fit our definition will be summarised in Table 1. On the other hand some charges are levied

without the expectation of a service in return, hence these are included in the table. The charges and taxes where it is not known whether they were levied in return for a service, such as the Spanish Departure Charge, will not be included in the table. This table illustrates the exhaustive list of ticket taxes in the EU, as well as some of the taxes implemented in non-EU countries.

Table 1 - Ticket taxes in the EU and worldwide

Country	Name of tax	Year of introduction[3]	Tax rate and distance groups (economy class)	Exemptions[4]
EU				
Austria	Air Transport Levy	2012	€ 7 EU flights, € 15 medium, € 35 long	Transit[5] and transfer[6] passengers
Belgium*	Ticket tax Zaventem	1995	12 frank (€ 0.3)	Unknown
France	Air Passenger Solidarity Tax	2006	€ 1 for economy domestic and EU flights, € 10 for first class domestic and EU flights, € 4 for long flights economy, € 40 for long flights first class	Transit passengers
	Civil aviation tax	1999	€ 4.31 for domestic and EU flights, € 7.75 per passenger to other destinations, € 1.29 per tons of freight or mail to any destinations	Transit passengers
Germany	Air Travel Tax	2011	€ 7.47 for EU flights, medium distances between 2,500 km and 6,000 km at € 23.32, longer distances € 41.99	Transit and transfer passengers
Hungary**	Air Departure tax	2005	€ 6-19.90 for international flights	Transit passengers
Ireland*	Air Travel Tax	2009	From 2012-2014 it was a € 3 rate for all flights	Transit and transfer passengers
Italy**	Embarkation Tax	1993	€ 3.48 for EU flights, €7.72 for longer flights	Transit and transfer passengers

[3] In some cases the year of introduction is not included in the IATA list, hence in these cases the oldest year mentioned in the description was used.

[4] Only exemptions for transit and transfer passengers will be listed since the range of exemptions is too large to include in Table 1.

[5] Passengers who remain on the same flight during an intermediate stop.

[6] Passengers who transfer to a different flight to reach their destination.

Country	Name of tax	Year of introduction[3]	Tax rate and distance groups (economy class)	Exemptions[4]
Lithuania**	Airport tax	2008	LTL 20-45 international flights depending on airport departure, LTL 10-20 for domestic flights	Transit passengers
Luxembourg	Passenger Service Charge	2002	€ 3 for all flights	Transit passengers
Netherlands*	Air Passenger Tax	2008	€ 11.25 for domestic and EU flights, € 45 for longer flights	Transit and transfer passengers
Romania**	Airport Departure Tax	2009	€ 2-7.20 for domestic flights, € 3-14.20 for international flights	Transit and transfer passengers
Slovakia**	Embarkation Tax	2009	€ 3.15-6.97 for domestic flights depending on airport, € 8.13-16.27 for international flights depending on airport	Transit passengers
United Kingdom	Air Passenger Duty	1994	£ 13 (€ 15) for domestic and EU flights, £ 75 (€ 88) for longer flights	Transit and transfer passengers
Non-EU				
Australia	Passenger Movement Charge	1995	$AUD 55 (€ 40) per passenger	Transit passengers
Brazil**	Embarkation Tax	2005	BRL 27-81 (€ 8-24)	Transfer passengers
Norway	Air Passenger Tax	2016	NOK 80 (€ 9) per passenger	Transit and transfer passengers
United States of America	Transportation Tax	1997	7.5% for domestic flights, $ 13.40 (€ 13) for international flights departing or arriving in the USA	Transit and transfer passengers
South Africa	Air Passenger Tax	2005	R120 (€ 9) for international departures	Transit and transfer passengers
Philippines	Travel Tax	1991	PHP 1620 (€ 30)	Other

Source: IATA, 2009.

* Abolished or zero-rated ticket tax.

** Unknown whether the tax is still in operation or not.

Some countries differentiate(d) the tax according to distance (e.g. UK, Germany and the Netherlands) while others levy a flat rate for international travel. For the EU countries the differentiation is often based on a single rate for all EU destinations, and higher rates for destinations outside of the EU (except Ireland and Belgium). From the table it is clear that ticket taxes have been applied on all inhabited continents: Europe, South-America, North-America, Asia, Oceania and Africa. Some ticket taxes have been in place since the early 90's, while others have been introduced more recently. The rates also vary, with the Norwegian rate being € 9 for all economy class, while the UK's duty can reach € 88 per passenger for long distance flights.

3 Legal cases on aviation ticket taxes

This chapter presents an analysis of five legal challenges against aviation ticket taxes in Europe. The cases are presented in chronological order, starting with the ticket tax Zaventem (Section 3.1), the UK's air passenger duty (Section 3.2), the Dutch aviation tax (Section 3.3), the Irish air travel tax (Section 3.4) and lastly the German air travel tax (Section 3.5).

3.1 Ticket tax Zaventem

3.1.1 Summary

The municipality of Zaventem introduced a ticket tax over the period 1996-2000. The tax was taken to court by Belgian companies for being in violation of Article 15 of the Chicago Convention. In 2005 the Belgian Council of State came to the conclusion that Article 15 was indeed violated.

3.1.2 Background

The Belgian municipality of Zaventem introduced a ticket tax on 18 December 1995 for all passengers departing from the municipality's territory, i.e. departing from Brussels National Airport in the municipality of Zaventem. The tax was 12 frank per departing passenger over the period 1996 to 2000. The tax would be levied retrospectively over the past year: the airlines would be charged 12 frank for each of their passengers departing from Brussels National Airport in the past year.

3.1.3 Grounds for opposing the tax

In May 2005 B.A.R. Belgium, Sabena and Lufthansa brought this tax before the Belgian courts for violating Article 15 of the Chicago Convention. The last sentence of Article 15 states that "No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon". Since no charges were allowed to be levied on an aircraft from a treaty country for merely flying over, landing or departing from a Belgian airport, the complainants argued that this Article was understood to have a broader definition than only prohibiting discrimination of foreign airlines relative to domestic airlines, which the municipality of Zaventem had argued. Furthermore the complainants argued that the tax was not compensated by any kind of service by the government, and it was therefore unjustified.

3.1.4 Results of court case

The Belgian Council of State agreed with the complainants that Article 15 should indeed be understood to mean that not only should foreign airlines not be discriminated against relative to domestic airlines, but that it also meant that no tariffs, dues or other costs can be levied on foreign airlines for merely flying over, landing or departing from a treaty country and that the tax is not connected to using the airport and airport facilities. The interpretation of Article 15 according to the Council of State is that "air transport services should operate in a sound and economic way". The tax was therefore abolished.

3.2 Air Passenger Duty UK

3.2.1 Summary

The air passenger duty (APD) was introduced in 1994. After the rate was doubled in 2006 it was taken to court in 2007 by the Federation of Tour Operators for violating Article 15 of the Chicago Convention. The judge found that the tax was not in violation of Article 15.

3.2.2 Background

The Air Passenger Duty (APD) was introduced in 1994 and was levied on each passenger departing from an airport in the UK, excepting transit and transfer passengers (amongst others). The introduction of the tax was meant to increase tax revenues for the UK government since it was not possible to do so via VAT (Seely, 2012a). Initially passengers were charged £ 5 for flights within the EU, and £ 10 for flights to other destinations. The distance bands are presently split according to the distance of a country's capital from London, with the exception of Russia which is split east and west of the Urals. The APD has been adjusted multiple times, and as of 1 April 2017 it will charge £ 13 for reduced rate[7] flights (i.e. economy class) up to 2,000 miles (3.218,69 km) and £ 75 for longer flights. The APD additionally differentiates between standard rates (£ 26 EU flights, £ 146 other) and higher rates (£ 78 EU flights, £ 438 other), with the higher rate applying to aircraft of 20 tonnes or more equipped to carry fewer than 19 passengers (i.e. business or leisure jets), and the standard rate applying to all passengers who do not fall into the other two groups (i.e. first class in aircraft carrying more than 19 passengers).

3.2.3 Grounds for opposing the tax

On 6 December 2006 the Chancellor of the Exchequer decided to double the APD from £ 5 to £ 10 in the EU, and from £ 10 to £ 20 everywhere else. The increase would come into effect on 1 February 2007, giving aircraft operators 7 weeks to adapt their prices. Following this decision the Federation of Tour Operators, which represents the majority of the UK's larger outbound operators, claimed that the APD was in violation of the Chicago Convention Article 15, and that the increase was also unlawful. The APD is payable by the operator of the aircraft, however when a flight has been purchased by a tour operator the APD is passed on to it by the aircraft operator. The passing on of the APD to customers of tour operators is however constrained by the Package Travel Regulation, and according to the claimants this made it legally and practically impossible to change prices in published brochures after a tour package had been purchased. Furthermore some tour operators had included 'no surcharge guarantees' in the conditions of their contract, making it impossible to pass on

[7] Lowest class of travel available on the aircraft.

the increase in the APD to their customers if this increase occurred after the contract was finalised. Even in the case where the tour operators could pass on the increase, they could not do so for the customers whose holidays would begin less than 30 days after the announcement of the increase, which was stipulated by the Package Travel Regulation. Another requirement was that operators absorb the first 2% of any increase in prices, and because the increase in the APD would in most cases be below 2% of the entire package, the tour operators would mostly bear the entire financial burden of the increase.

Usually after an increase in the APD rate, tour operators would be given time to adjust their brochures to reflect the new rates because they typically sell tour packages months in advance. For previous increases in the APD, the change would come into effect between 9-12 months after the announcement of the increase. Tour operators would therefore not face the above mentioned problems caused by the Package Travel Regulation in combination with a sudden increase of the APD. According to the tour operators the doubling of the APD was retrospective as aircraft operators would have to return to the customers in order to recover the increase, who bought tickets before the doubling was announced and who would fly after the doubling came into effect. The government argued that the above issues had been taken into account with regards to the APD increase coming to effect earlier than usual.
The first step in the case was an application for judicial review before the High Court.[8] Only if the judicial review was granted could the substantive hearing follow. The results of the court case will not deal with the legality of the increase since this is not relevant to the rest of the report, but will only focus on the alleged violation of Article 15 of the Chicago Convention.

3.2.4 Result of court case

As with the Zaventem case, the source of the dispute arises from the interpretation of the last sentence in Article 15 of the Chicago Convention: “No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon”. The claimants argue that the sentence includes taxes like the APD and so prohibits them. While the defendants argue that the sentence is restricted to charges, and not taxes like the APD. Since the Chicago Convention has been officially translated into numerous languages, some of the translations unknowingly exacerbated the ambiguity of the above quoted sentence, with the French translation of “fees, dues or other charges” being “*droits, taxes ou autres redevances*”. A translation expert testified before the court that the French use of the word *taxe* does not refer to taxes in the English sense, but rather translates to a compulsory levy to finance a particular public service. The Spanish and Russian translations on the other hand do unambiguously refer to a tax. The claimants relied on the French, Spanish and Russian translations of Article 15 to support their claim, while the defendants instead placed a greater weight on the English text.

The judge came to the conclusion that the decision to omit the word “taxes” in the sentence in the English text implies that “dues” therefore do not carry this meaning, otherwise “taxes” would have been included in the sentence. In its entirety Article 15 should rather be interpreted as an anti-discrimination provision, since the judge found that the meaning of the words “in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon” were clear, irrespective of the language of the official translation. According to the judge it

[8] Judicial review is a type of legal case where the legality of administrative decision making, including the levying of taxes, can be challenged.

meant that a fee, due or other charge levied on the right to enter a country, or the right to leave or transfer over it, would discriminate in favour of a national airlines relative to a foreign one. This is not the case if the fee, due or charge is levied on take-off, irrespective of the destination, and including destinations within the country since this does not lead to the discrimination of foreign airlines. The APD was therefore not in violation of Article 15 and a full substantive hearing was not granted.

3.3 Dutch Aviation Tax

3.3.1 Summary

The tax was investigated for unlawful State aid due to the exemption on transfer and transit passengers. The Dutch court found this not to be the case since the selectivity criterion of State aid was not met. The European Commission also concluded that there was no indication of unlawful State Aid. Lastly the Dutch court found that the tax did not contravene the Article 15 of the Chicago Convention. The tax was set to 0 on 1 July 2009 to allow airlines to recover from the 2008 crisis, and on 1 January 2010 it was formally abolished.

3.3.2 Background

The Dutch aviation tax was introduced on 1 July 2008 whereby airlines departing from a Dutch airport were charged directly with respect to every departure of a passenger according to the tax. The tax rate was € 11,25 for intra-EU flights of no more than 3,500 km or 2,500 km for a final destination outside the EU, and € 45 for all other flights. The radius of 3,500 km covers all destinations in Europe, except Member States' overseas territories. Exemptions were given to transfer and transit flights, as well as freighter aircraft since no passengers are transported. The basis for the dispute was the exemption of levying the tax on transfer and transit passengers. On 6 February 2008 the Maastricht Aachen Airport (MAA) company filed a complaint along with Ryanair against the Dutch government with regards to the tax, and requested the tax be suspended until the European Commission had investigated the likelihood of unlawful State aid and the Dutch courts had determined whether the tax was in conflict with Article 15 of the Convention on International Civil Aviation.

3.3.3 Grounds for opposing the tax

MAA and Ryanair argued that Amsterdam Airport Schiphol and Air France/KLM unduly benefitted from the exemption on transfer and transit passengers as well as freight transport since these undertakings have a relatively high proportion of such passengers and flights, leading to unlawful State aid. The Maastricht Aachen airport does not serve transfer and transit passengers. The complainants also argued that the tax was in conflict with Article 15 of the Chicago Convention. This last dispute is based on the following sentence from Article 15: "No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon." MAA and Ryanair used this part of Article 15 to argue that any form of taxation which is independent from the costs of using the airport and its facilities should be prohibited (KiM, 2011). However the Dutch government argued that Article 15 should rather be seen as a ban on discrimination whereby airlines from other countries should not be treated differently from the country in which the airport is situated.

3.3.4 Results of court case

The court in the Hague ruled in favour of the Dutch government that the selectivity criterion which would lead to unlawful State aid was not supported since the tax exemption was applied on a general basis to all Dutch airports and all transfer and transit passengers. Furthermore the court stated that almost all taxes have the inadvertent effect of benefitting one company more than the other, hence the argument that some airports profit more from the exemption than others did not hold.

The court shared the Dutch governments reasoning for the exemption of transfer and transit passengers: since the Dutch government had imitated the ticket taxes of France and the UK, it also imitated the exemption to these passengers which would avoid the double taxation of passengers departing from France and the UK and transferring through the Netherlands. It also found that the tax was not in conflict with the Chicago Convention Article 15 since the above quoted sentence is ambiguous with regards to the prohibition of any form of taxation on aircraft. The court found that "charges" were not an all-encompassing grouping under which taxes should fall, and that ICAO (International Civil Aviation Organization) unambiguously stated in a 1999 policy document that fiscal issues were not comprehensively dealt with by the Chicago Convention. The court argued that Article 15 should rather be understood as a ban on discrimination. A ticket tax is possible as long as airlines from other convention countries are treated the same as domestic airlines.

The Commission also investigated whether the tax led to unlawful State aid. Even though the tax favoured certain undertakings and distorted trade between Member States, the selectivity criterion could not be proven and the State aid was deemed legal. This was due to the fact that the measure fulfilled the exemption criterion for selectivity: "the selective nature of a measure may be justified by the nature or general scheme of the system" (EC, 2011). In comparison to the reference system, which is the taxation of air passenger transport, transfer and transit passengers are justifiably exempted from the tax since the avoidance of double taxation falls within the logic of the relevant tax system. Furthermore the Commission has recommended the exclusion of transfer and transit passengers from European flight taxes (EC, 2005).

3.4 Irish Air Travel Tax

3.4.1 Summary

The Irish Air Travel Tax was judged to amount to unlawful State aid since the lower tax rate benefited domestic airlines relative to other airlines who had to pay a higher tax. The differential tax rate was consequently amended to a flat rate. The tax was also investigated for illegal State aid with regards to the exemption of transfer and transit passengers, however the European Commission dismissed this. The tax was reduced to zero in 2014 by the Irish government.

3.4.2 Background

From 30 March 2009 until April 2014 airlines departing from an Irish airport were charged directly with respect to every departure of a passenger according to the air travel tax for aircraft carrying more than 20 passengers and not used for State or military purposes. The intention of the tax was that it would be passed on to passengers through the ticket price, even though the airline operators had to pay it. Initially the tax was dependent on the distance between the airports of departure and arrival, with a rate of € 2 in the case of

a flight from an airport to a destination no more than 300 km from Dublin airport, and € 10 for longer distances. Transit and transfer passengers were exempted from the tax.

3.4.3 Grounds for opposing the tax

In July 2009 the Commission received a complaint from Ryanair criticising several aspects of the air travel tax implemented by Ireland. Ryanair claimed that the lower tax rate mainly benefited airlines operating the majority of their flights to destinations no more than 300 km from Dublin airport, such as Aer Arann. Furthermore according to Ryanair the non-application of the tax to transit and transfer passengers constituted unlawful State aid to the advantage of the airlines Aer Lingus and Aer Arann, because those companies had a relatively high proportion of passengers and flights in those categories. This last complaint is similar to Section 3.3 in the Dutch ticket tax case, where the Commission investigated whether the exemption of transfer and transit passengers from paying the tax led to unlawful State aid.

Owing to complaints lodged by Ryanair with the Commission the air travel tax was investigated for possible unlawful State aid, which was incompatible with the internal market since the tax discriminated between domestic and intra-EU flights[9]. The lower rate was justified according to the Irish government for domestic flights, however the Commission did not share this view. First due to the fact that departing flights would lead to the same negative externalities for Irish citizens regardless of their destination. Second because the tax was not differentiated according to the actual distance of the flight, but rather on the basis of the distance between Dublin airport and the destination. Since all destinations within 300 km from Dublin would be charged the lower rate, some flights departing from Ireland would be traveling further than 300 km but were only subject to the lower tax rate. This would be the case for flights from Cork to Liverpool, since the distance from Dublin to Liverpool is around 230 km, meaning the lower rate applied, while the distance from Cork to Liverpool is around 410 km, hence the tax is not differentiated according to the actual distance of the flight in this case. Third, it could not be shown that the price of tickets for domestic flights was necessarily lower than that of flights to other destinations in the EU. The Irish authorities had initially argued this last point for the purpose of differentiating rates to introduce an element of proportionality in the level of the tax relating to distance, since it was assumed that prices are normally lower for shorter distanced flights. Lastly the Irish authorities argued that if the lower tax rate is deemed as unlawful State aid it should still be declared to be compatible with the internal market as *de minimis* aid.

3.4.4 Result of the legal challenge

To determine whether the State aid was unlawful, the Commission examined if the low tax rate was a selective measure, if it conferred an advantage to domestic airlines, if it made use of state resources and was attributable to the state (imputability), and if it led to an adverse effect on competition and trade between Member States. Next the decision making process of the Commission in this case will be highlighted to reveal how it came to a decision on whether unlawful State aid had been given or not. A summary of the decision is described at the end of this section.

[9] Commission decision of 25 July 2012 on State aid case SA.29064.

To establish whether a measure is selective, the Commission had to assess whether the low tax rate favoured certain flights in comparison with others in a comparable factual and legal situation. To do this the relevant tax system of reference had to first be identified, which in this case was the taxation of air passengers departing from airports situated in Ireland. Second the Commission had to determine whether the tax measure constituted a derogation (an exemption of a rule or law) from the identified reference system. In this case the reference system was the higher rate of € 10 per passenger, and not the € 2 rate, since 85-90% of flights departing from an Irish airport paid the higher tax rate. This implied that the € 2 rate was an exemption from the reference system. Third the Commission investigated whether this exemption was justified by the nature of the scheme. The Irish authorities had justified the lower tax rate to introduce an element of proportionality in the level of the tax relating to distance, since it was assumed that prices are normally lower for shorter distance flights. The Commission found this to be unjustified as the price of tickets of domestic flights was not necessarily lower than for flights to other destinations in the EU, hence the lower tax rate could not ensure its objective of ensuring proportionality of the tax in relation to flight distance. Due to the above reasons the Commission argued that the lower tax rate of € 2 per passenger was therefore unwarranted for flights to domestic destinations and seemed to be a selective measure, which falls under the definition of unlawful State aid under Article 107(1) of the Treaty.

The lower tax rate also provided an advantage to airlines which operated the low-rate routes since their costs would have been higher had they paid the higher tax rate. This meant that these airline, being Irish airlines such as Ryanair, Aer Lingus and Aer Arann, were supported in competing with other airlines in intra-EU markets, and the Commission concluded that this therefore led to an advantage for these airlines. This advantage corresponded to the difference between the € 10 tax and the € 2 tax over the period 30 March 2009 and 1 March 2011 (the period when the tax was differentiated), meaning the Irish airlines received a benefit of € 8 per passenger over this period for domestic flights and some flights to the UK. With regards to state resources and imputability (under control of the state) the lower tax rate meant that the Irish government received fewer tax revenues, meaning it was effectively paying for this measure. The measure was also imputable to the Irish government as the lower rate had been decided by it. With regards to the effect of the lower tax rate on competition and trade between Member States, the airlines benefitting from the lower rate were relieved from higher costs relative to their competitors while these costs should have been borne. This improved their economic situation relative to competitors who did not fly the routes subject to the lower tax rate, hence distorting competition, which could be directly related to aid granted by the Irish government.

The Commission consequently argued that the tax discrimination led to unlawful State aid to the airline operators that had operated the routes benefitting from the reduced tax rate, which was incompatible with the internal market. Clearly a tax which does not differentiate between domestic flights (lower rate) and EU flights (higher rate) will not be deemed as unlawful State aid. Ireland amended the law in 2011 to not discriminate airlines according to the distance travelled, introducing a single rate of € 3 per passenger for all flights.

With respect to unlawful State aid arising from the exemption of the tax for transfer and transit passengers the Commission found that this was not a selective measure, and consequently it could not be classified as unlawful State aid. Section 3.3 already discussed this type of complaint for the Netherlands.
In all the Irish ticket tax was found to lead to unlawful State aid due to the differentiation of the tax rate within the EU since Irish airlines would benefit from the lower tax rate relative to other European airlines, distorting competition. On the other hand the

exemption of the tax for transfer and transit passengers was not found to have resulted from unlawful State aid.

3.5 German Air Travel Tax

3.5.1 Summary

American Airlines filed suit against the German air travel tax for violating a number of treaties and agreements. The complaints were all dismissed by the Fiscal Court of Hesse. Some of the supposed violations were: the violation of national sovereignty; unlawful discrimination of a foreign airline; charging of a fee or tax on an aircraft from a Chicago Convention signatory country; unilateral restriction of traffic volumes; unfair and unequal conditions for competition; unlawful charge on fuel; lack of price-setting freedom; heavier tax burden US airlines; unconstitutional consumption tax.

3.5.2 Background

Since 1 January 2011 the German Air Travel Tax (*Luftverkehrsteuer*) has been in place for flights departing from German airports, including domestic and international flights, regardless of carrier nationality. The tax is differentiated according to the distances from Frankfurt am Main to the largest commercial airport in the destination country: for short distances up to 2,500 km the tax per passenger is € 7.47[10] for EU flights as well as flights to Morocco, Tunisia, Turkey, Cyprus and Russia; medium distances between 2,500 km and 6,000 km at € 23,32; and long distances of over 6,000 km are subject to a € 41,99 tax per passenger. Similar to the Irish and Dutch aviation taxes, transfer and transit passengers are exempted from the tax. However the tax is still levied on passengers who arrive in Germany from abroad and fly to a destination within Germany.

3.5.3 Grounds for opposing the tax

On 19 March 2012 American Airlines filed suit against the air travel tax since it violated the principal of national sovereignty and several international agreements such as the Chicago Convention of 1944, the EU-USA Open Skies Agreement[11] of 2007, and the Friendship, Commerce and Navigation Treaty[12] between the Federal Republic of Germany and the USA of 1954.
According to American Airlines the tax violates the principle of national sovereignty, which is seen as a general rule of international law, and it also violates national sovereignty by taxing acts in foreign territories (Articles 1, 11 and 12 of the Chicago Convention, and Article 7 of the EU-USA Open Skies Agreement). It was also claimed that Chicago Convention Articles 11 and 15 were violated, since the plaintiff argued that the tax unlawfully discriminates against foreign airlines by levying an inappropriate graduation of tax rates (i.e. group divisions according to distance led to discrimination). In particular it was argued that Article 15 supposedly prohibits signatories from charging fees or taxes for its territory merely for the right of transit, entry, or departure of an aircraft from a signatory country.

[10] Which is increased by an additional 19% VAT for domestic travel.

[11] This agreement aims to promote among others an international aviation system between the two blocs based on competition and minimal government interference, as well as promoting security.

[12] This is a treaty of general relations between the two countries, fixing rules on governing day-to-day relations between the countries.

With regards to the EU-USA Open Skies Agreement, American Airlines argued that the tax leads to the following violations: the unilateral restriction of traffic volumes (Art.3(4)); unfair and unequal conditions for competition since the tax discriminates against foreign airlines by imposing cost-intensive additional requirements (Art. 2); it is an unlawful charge on fuel used in international aviation (Art. 11); and price-setting freedom is no longer protected (Art.13). Also the plaintiff views that there was a breach of the Friendship, Commerce and Navigation Treaty because the tax does not treat host country nationals equally as it differentiates according to nationality. Another violation is that it imposes a heavier burden on US airlines than on airlines from other countries in similar conditions.

3.5.4 Result of court case

The Fiscal Court of Hesse dismissed all the complaints. First the tax does not violate the principle of national sovereignty since a state has the right to levy a tax on something which is realised outside its territory as long as the effects caused by the tax do not affect the territorial sovereignty of another state. Second the supposed conflict with Article 1 of the Chicago Convention, that the airspace of the US is violated, was not found by the court since signatories of the Chicago Convention confirm that each *state* holds the exclusive sovereignty over the airspace above its territories, and so this does not hold for organisations like airlines. Third, Article 11 of the Chicago Convention states that air traffic regulations should be applied without distinction of nationality by signatory countries, which was found not to be violated since the tax does not make a distinction as to the nationality of the aircraft. Fourth the tax does not violate Article 15 of the Chicago Convention since it is not a fee because "it is not consideration for a benefit that can be individually attributed to the airlines". Neither is Article 24 of the Chicago Convention contravened by the tax, which states that aircraft flying to, from, or across the territory of another signatory country must be held temporarily duty-free, subject to the customs regulations of that country, and that fuel and regular equipment (amongst others) are exempt from customs duty, inspection fees, or similar national charges and fees.
In particular the court found that the tax is not a duty on fuel used in international air traffic since it is neither directly nor indirectly linked to the fuel introduced to the customs territory aboard an aircraft or contained on board when it exits the territory.

With respect to the EU-USA Open Skies Agreement, the limitation in traffic volume due to the tax did not lead to a violation since there was no unilateral limitation of air traffic in the charging of the air transport tax. The court ruled that the tax is also not a fuel consumption tax since it does not tax the consumption of fuel and the amount of tax paid is not determined by the quantity of fuel consumed on a flight. Even though the tax rate is higher for more distant countries, distance is only loosely associated with the tax rate since it is divided into three discrete groups and it is only one of the two assessment factors (the other is passenger numbers). Therefore a short flight with many passengers may lead to a higher amount of tax paid with low fuel consumption than a long flight with few passengers and high fuel consumption. The court also did not find that the tax violated the plaintiff's right to freely design its pricing structure as the airline could decide itself whether to pass through the tax to passenger tickets or not.

Based on the Friendship, Commerce and Navigation Treaty (Article 11(1)) the court ruled that there was no violation of the requirement to treat host country nationals equally as the tax does not differentiate by the nationality of the airline. For flights to the US the tax is the same for German as well as US airlines. The tax also does not violate Article 11(3) which states that there should be no discrimination against foreign airlines due to the country-based graduation of tax rates (distance division into three groups). American Airlines had argued that this graduation led to the unequal treatment of US airlines relative to for instance Russian airlines flying to Russia under similar conditions, since the tax rate could be higher for US airlines for the same distance. Hypothetically this could occur because flights to Russia are charged based on the distance to Moscow (the lowest tax rate), while the destination may be in the Far East, in which case the distance is much larger. On the other hand a US airline will always pay the highest tax rate to fly to the US. However, because only a tiny proportion of flights depart from Frankfurt to the Far East in Russia, the Court found that Russian airlines are not in a "like situation" with the plaintiff American Airlines and it therefore found that American Airlines was not discriminated against.
The simplification arising from the division into three groups is justified according to the court as it leads to minimal administrative effort and the assumption that most flights are destined for the largest commercial airport in the destination country is an accurate one.

4 When are aviation ticket taxes lawful?

Several lessons can be learnt from the above cases with regards to the legality of a ticket tax and it withstanding legal challenges. Firstly, of the five cases, four dealt with Article 15 of the Chicago Convention, with three cases adjudging there to be no violation with respect to a ticket tax (The Netherlands, Germany and the UK), and one where a violation was found (Zaventem). It should be noted that the Zaventem case was one of the first to challenge the viability of the ticket tax with regards to Article 15. This however had no consequence for later cases which challenged the ticket taxes since all survived the complaint of a violation of Article 15. The Zaventem case took place in 2005, the UK one in 2007, the Dutch case in 2008, and the German one in 2012, so if the judgement had carried more weight one could have expected the other cases to have followed with a similar conclusion.

Furthermore the Dutch case revealed that ICAO was aware of the fact that the Chicago Convention did not prohibit taxes and that ICAO had unambiguously stated in a 1999 policy document that fiscal issues were not comprehensively dealt with by the Chicago Convention. In the British case the judge clearly ruled that Article 15 was meant to prohibit discrimination, and not to prohibit a tax altogether. The case of Zaventem was also mentioned in the UK case, where the British judge who presided over the case of the APD stated that the reasoning behind the Zaventem judgement was flawed. For example the Belgian Council of State argued that the tax was aimed specifically at flying out of the *district* of Zaventem, when in actual fact Article 15 refers to the territory of a nation. The judge stated that "While according its decision all due respect, I regret that it does not lead me to alter my above conclusion [that the tax does not violate Article 15]". Bisset (2013) also finds that no in-depth analysis was provided for the decision of the Belgian Council of State. In light of this criticism, and because the majority of cases came to a similar conclusion about the non-violation of Article 15, the Zaventem result can rather be seen as an exception. It can therefore be assumed that a ticket tax on passenger departures should be safe from successful legal challenges with respect to Chicago Convention Article 15. This means that levying a ticket tax, without considering its features in relation to Article 15, is legally possible.

Second, the next most common aspect of the ticket tax to be challenged was the exemption of transfer and transit passengers (Irish and Dutch cases). The exemption was found to justifiably avoid double taxation and fall within the logic of the relevant tax system (see Section 3.3.4). This is not a surprising conclusion since the Commission had recommended the exclusion of transfer and transit passengers from European flight taxes in a 2005 staff working paper. An exemption of transfer and transit passengers should therefore withstand legal challenges.

Third, the differentiation of the ticket tax according to different distance groups is possible if this takes into account the workings of the EU's internal market. The Irish case (Section 3.4) revealed that this differentiation can be challenged successfully if airlines in the EU are perceived to receive unlawful State aid. In particular the Irish tax applied different tax-rates to airports within the EU. This is in contrast to the German, Dutch and UK taxes which were differentiated on the basis of distance but ensured that all EU destinations were within the same distance group. The Irish tax was consequently amended to a flat-rate,

however another option could have been to follow the differentiation of the Netherlands, UK and Germany with a lower rate for EU flights, and a higher rate for flights outside of the EU.

Fourth, the German case showed that the ticket tax was not directly or indirectly linked to fuel consumption. A tax on fuel aboard a flight entering a country with a ticket tax is expressly prohibited by Article 24 of the Chicago Convention, while many bilateral air service agreements further restrict any kind of tax on fuel. The court found that the tax is not a duty on fuel used in international air traffic since it is neither directly or indirectly linked to the fuel introduced to the customs territory aboard an aircraft or contained on board when it exits the territory.

This analysis shows that an aviation ticket tax can withstand legal challenges if it is not linked to fuel consumption, if it exempts transfer and transit passengers, and if it does not differentiate rates within the EU. Nor can it be successfully challenged for being a tax.

Table 2 - Summary of court cases analysed in this report

Country with ticket tax	Belgium	UK	The Netherlands	Ireland	Germany
Plaintiff	B.A.R. Belgium, Sabena and Lufthansa	Federation of Tour Operators	Maastricht Aachen Airport and Ryanair	Ryanair	American Airlines
Legal grounds opposition ticket tax	Art. 15 Chicago Convention	Art. 15 Chicago Convention, First Protocol (A1P1) to the European Convention on Human Rights, Art. 49 of the European Treaty	Art.15 Chicago Convention; State aid due to exemption transfer passengers benefitting transfer hubs like Schiphol	State aid due to tax differentiation benefitting Irish airlines	Numerous violations of Chicago Convention, EU-USA Open Skies Agreement and Friendship, Commerce and Navigation Treaty
Result of case	Ticket tax abolished	All complaints dismissed	All complaints dismissed	Imposition of ticket tax legal as long as does not violate EU competition rules by differentiating between EU destinations	All complaints dismissed
Part of tax amended	Abolished	None	None	Distance element was removed	None
Tax status	Abolished	In place	Abolished	Set to Zero	In place

5 Legality of per flight taxes

In this section we investigate the legality of levying taxes on a per flight basis. A per flight tax based on the maximum take-off weight and distance flown (preferred by the UK government of 2008 (Seely, 2012b) incentivises airlines to maximise the number of passengers and freight transported, thereby better targeting emissions. Other advantages relative to a ticket tax are that it broadens the tax base and the scope of targeted emissions since transit and transfer passengers and freight flights can be taxed, and that other environmental factors such as aircraft noise can also be included as a component in the tax.

Per flight taxes have however not yet been introduced anywhere, and have therefore not been legally challenged. Still, the legality of this tax has been mentioned in proposals by the UK government to reform the Air Passenger Duty to a per flight tax, and indirectly in the judgement on the German Air Travel Tax.

5.1 Air Passenger Duty reform

In 2007 the UK's Pre-Budget Report committed to replacing the APD with a duty payable per flight (HM Treasury , 2007). In the following Pre-Budget Report in 2008 this plan was shelved and the APD was to be reformed to include more distance bands (HM Treasury, 2008). The main reasons given for this decision were the foreseen disruption and costs to transitioning to a new tax (Seely, 2012c) and the risk of the UK losing its status as a transit hub for international flights (IFS, 2010). Clearly, no legal obstacles were mentioned.

In 2011 there was again a proposal to reform the UK's APD from a ticket tax to a per flight tax, with the goal of improving the incentive of the tax to cut carbon emissions (Seely, 2018). In the government's later consultation report on this proposed change it stated the following:

> "Aviation is a global industry bound by international agreements. The UK is a signatory to the 1944 ICAO Chicago Convention and has Air Service Agreements (ASAs) with over 150 countries. Many stakeholders have expressed concerns about the legality and feasibility of introducing a per flight duty under current international rules. The Government wishes to proceed with consensus in this area and will not introduce a per flight duty in place of APD at the present time, but nevertheless will continue working with our international partners to build understanding and support for this approach in the future." (HM Treasury, 2011)

Former Chancellor Osborne also stated the following in 2011 during a parliamentary debate: "Let me be straight with the House: we had hoped that we could replace the per passenger tax with a per flight tax. We have tried every possible option, but have reluctantly had to accept that all are currently illegal under international law. So we will work with others to try to get that law changed." (Parliament UK, 2011)

Unfortunately the exact legal reasons for this decision are not publicly known. Seely (2012c) refers to the decision made in 2008 and argues that there are "…legal restrictions on the direct or indirect taxation of the quantity of fuel used on international flights" owing to the Chicago Convention. A per flight tax correlates better with CO_2 emissions and fuel

consumption than a ticket tax, an advantage with respect to incentivising emission reductions, but this may cause legal issues in terms of Article 24 of the Chicago Convention.

The reference to Article 24 of the Chicago Convention as a legal obstacle in introducing a per-flight tax probably refers to its first sentence, which reads: “Aircraft on a flight to, from, or across the territory of another contracting State shall be admitted temporarily free of duty, subject to the customs regulations of the State”.

In the Federation of Tour Operators case (detailed in Section 3.2 of this report), part of the judgment turned on whether “taxes” were in the prohibition in Article 15 of the Chicago Convention which states: “No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon”.
The claimants in that case argued that Article 15 includes taxes like the UK APD and so were prohibited. However, the judge dismissed this claim on the basis that the decision to omit the word “taxes” in Article 15 implies that “dues” do not carry a meaning which includes “taxes”. Therefore, it could be supposed that in analysing Article 24 which prohibits only “duty” on aircraft, “taxes” that were imposed on the basis of take-off weight and distance flown would not violate Article 24. This is because “duty” refers to a type of customs tax and indeed, in reading the full sentence in Article 24 that is clear: “Aircraft on a flight to, from, or across the territory of another contracting State shall be admitted temporarily free of duty, subject to the customs regulations of the State”, where customs are specifically referred to. If the drafters of the Chicago Convention had intended to ban all taxes, duties and charges on aircraft then that language would have been included.
As only “duty” was included and only “temporarily” but with the proviso that the aircraft must comply with all the customs regulations of the State, Article 24 must be interpreted as another anti-discrimination provision to ensure that foreign aircraft do not face duties which do not apply to domestic aircraft. There would be no discrimination in the case of a fee levied on the basis of maximum take-off weight and distance flown and therefore no reason to suppose such a tax would fall foul of Article 24.

5.2 Judgement on German Air Travel tax

As was described in Section 3.5, the Fiscal Court of Hesse judged on a number of complaints made by American Airlines about the German Air Travel Tax, one of which was that the tax violated Article 24 of the Chicago Convention. The court found that the tax was not in violation of this article because it is not a duty on fuel used in international air traffic since it is neither directly nor indirectly linked to the fuel introduced to the customs territory aboard an aircraft or contained on board when it exits the territory.

This may mean that a per flight tax which correlates with fuel consumption could be in violation of this article. However, since Article 24 refers to fuel on board when the aircraft arrives in a jurisdiction, a more thorough legal analysis would be required to draw a firm conclusion.

The Court also dismissed American Airlines claim based on Article 11 of the EU-US Open Skies Agreement that the German air travel tax was an unlawful charge on fuel used in international aviation. Article 11 states;

> Customs duties and charges
> 1. ***On arriving in the territory of one Party***, aircraft operated in international air transportation by the airlines of the other Party, their regular equipment, ground equipment, fuel, lubricants, consumable technical supplies, spare parts (including engines), aircraft stores (including but not limited to such items of food, beverages and liquor, tobacco and other products destined for sale to or use by passengers in limited quantities during flight), and other items intended for or used solely in connection with the operation or servicing of aircraft engaged in international air transportation shall be exempt, on the basis of reciprocity, ***from all import restrictions, property taxes and capital levies, customs duties, excise taxes, and similar fees and charges*** that are (a) imposed by the national authorities or the European Community, and (b) not based on the cost of services provided, provided that such equipment and supplies remain on board the aircraft.

This article exempts aircraft on a reciprocal basis *from all import restrictions, property taxes and capital levies, customs duties, excise taxes, and similar fees and charges* which leaves open the question as to whether an environmental tax such as a per flight tax is covered by the above provision which in any case only applies to arriving aircraft. The 2007 Protocol to the Open Skies Agreement also deals with environmental measures being introduced and would also need to be taken into account.

5.3 Conclusion

Per flight taxes provide better emission reduction incentives for airlines than ticket taxes and could drive airlines to maximise the number of passengers and freight tonnage transported per flight. So far per flight taxes have not been introduced. One of the reasons for this is that such an introduction may lead to legal issues.

Little is however known about the possible legal obstacles to introducing a per flight tax, mainly because this has not been tested in a court of law. The judgement of the Court of Hesse and the UK government's statements in 2011 seem to point towards legal issues arising if taxes like ticket taxes or per flight taxes is directly or indirectly linked to fuel consumption. However, the decision in the UK APD case shows that Article 24 of the Chicago Convention prohibits only customs duties and not general environmental taxes and therefore a per flight tax would not be prohibited on those grounds. This issue requires more legal analysis.

6 Possibilities to internalise climate externalities in aviation ticket tax

6.1 Introduction

There are currently two existing policy instruments that internalise the external climate impacts of aviation, the EU ETS and ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The former requires airlines to surrender EU Allowances for emissions on intra-EEA flights; the latter will require airlines from 2020 onward to surrender allowances for the sector's emissions above the 2020 level. Both only internalise a share of the external climate costs. To the extent that the EU allowance price reflects the social cost of carbon, the EU ETS internalises the CO_2 costs of intra-EEA flights, assuming that airlines pass on the opportunity costs of freely allocated allowances as economic theory would suggest. However, the EU ETS does not internalise the non-CO_2 climate externalities and most research shows that the social cost of carbon is much higher than the EUA price due to over-allocation (CE Delft, 2018).

CORSIA[13] will internalise the external costs of the flights within the system to a lesser extent than the EU ETS because for each unit of CO_2 emitted, only a share has to be offset. Hence the marginal cost increase due to CORSIA is smaller than the offset price (which may be lower than the social cost of carbon). Moreover, CORSIA only addresses the CO_2 impacts, just like the EU ETS.

One way to internalise external costs is to differentiate charges or taxes on the basis of environmental impacts. In the aviation sector, this is common practice in landing fees, which many airports differentiate according to the noise level of the aircraft or to the time of day of landing or take-off. Some airports also differentiate charges according to LTO NO_x emissions of aircraft. This section explores whether aviation ticket taxes can be differentiated on the basis of climate externalities.

The first issue that will be analysed is the monetary value of the climate externalities of aviation (Section 5.2). second, several designs of aviation ticket taxes will be developed which have the potential to internalise a share or all of the climate externalities (Section 5.3).

6.2 Estimations of the external climate costs of aviation

The external costs of the climate impacts of aviation are the largest category of external costs for this transport mode (CE Delft, INFRAS & Fraunhofer ISI, 2011). Estimates of the external costs crucially depend on two factors: the social costs of carbon and the GWP of non-CO_2 climate impacts.

[13] The Carbon Offsetting and Reduction Scheme for International Aviation, which aspires to make the growth in airline emissions carbon-neutral from 2020 onwards.

We use three estimates of the social costs of carbon, in line with CE Delft 2014: € 10, € 78 and € 155. The low value was chosen to reflect the EU Allowance prices. The higher values are the high and medium estimates of carbon prices that would be needed to stay in line with a 2 degrees aim.

The sum of the global warming potential (GWP) of all climate-relevant emissions of aviation is assumed to be 1.3 times the GWP of aviation CO_2, in line with (Lee, et al., 2010).[14]

The total climate externality has been scaled to the EU28 level on the basis of fuel sales.

Table 3 presents the external climate costs associated with flights departing from EU airports in 2015. They range from € 1.3 billion to € 19 billion, depending on the assumption of the CO_2 price. This translates into € 2, 14 or 26 per passenger on average (again, depending on the damage costs of CO_2). Of course, passengers flying long distances or in relatively inefficient aircraft create relatively more externalities than passengers flying short distances on efficient aircraft.

Table 3 - External climate costs of aviation in the EU28, 2015

	CO_2 price		
	Low	Medium	High
CO_2 price (EUR/ton)	10	78	155
Non-CO_2 multiplier	1.3	1.3	1.3
External climate costs aviation, (million €)	1,311	10,173	19,035
External climate costs aviation, (€/pax)	2	14	26

Source: This report on the basis of CE Delft, 2014.

6.3 Possible designs of aviation ticket taxes that internalise external climate costs

This section presents four possible designs of aviation ticket taxes that internalise external climate costs.

The following considerations have been used in drafting the list:

1. Apart from CO_2 emissions, aviation has other climate impacts which include:
   - emissions of NO_x (overall warming effect);
   - formation of contrails and induced cirrus clouds (overall warming effect);
   - emissions of sulphate particles (cooling effect).

   Of these, the emissions of NO_x have the largest impact in terms of RF.

2. The fuel efficiency of an aircraft, and hence its CO_2 emissions, depends not only on the aircraft type but also on the distance flown (because taking off requires much fuel and because fuel is needed to carry fuel). Different aircraft types are optimised for flying different distances. Hence, any ranking of aircraft according to fuel-efficiency is problematic (CE Delft, 2008).

[14] This value excludes induced cirrus cloudiness, which is the most uncertain impact and also one that is not directly related to emissions or fuel use but to perturbances of the atmosphere.

3. Aviation taxes may be legally challenged when there is a 'direct and inseverable link between the quantity of fuel held or consumed by an aircraft and the pecuniary burden on the aircraft's operator' (ECJ, 2011). Note that the ECJ ruled that the EU ETS did not create such a link because airlines receive free allowances and because the price of allowances varies.

Consideration 1 suggests that the differentiation should be on the basis of CO_2 or NO_x emissions of aircraft. Because of consideration 2, we do not consider it to be possible to differentiate the tax on the basis of the fuel-efficiency of aircraft. Because of consideration 3, a fuel tax is ruled out.

Still, an inclusion of a climate change element in an aviation ticket tax would not have an inseverable link with the quantity of fuel used if the aviation ticket tax is differentiated according to the life cycle carbon emissions of the fuels used. This would mean that passengers on airlines which use sustainable low-carbon fuels would have a lower tax rate.

Another way to include a climate change element in an aviation ticket tax would be to differentiate it according to distance. While this may not be legally permissible for intra-EU flights, there appear to be no objections against setting multiple distance bands for flights to non-EU destinations.

Inclusion of a NO_x element in an aviation ticket tax would never have an inseverable link with the quantity of fuel used because the amount of NO_x emitted depends on the type of engine as well as on the fuel flow rate.

One of the ways in which a NO_x element could be included in an aviation ticket tax is to differentiate the tax on the basis of certified LTO NO_x emissions of the aircraft engines. LTO NO_x emissions are shown to be well correlated with cruise NO_x emissions, which have a climate impact (CE Delft, 2008). Such a differentiation would have the advantage that it only depends on one parameter, but the disadvantage that the differentiation does not take into account the distance flown, even though the distance, or actually the amount of fuel, determines the amount of NO_x emitted.

Another way to include a NO_x element would be to calculate a part of the tax as an LTO NO_x charge with a distance factor, which is one of the best options to internalise the climate impact of cruise NO_x according to CE Delft et al. (2008).

The next section discusses how a carbon or a NO_x element can be included in an aviation ticket tax.

6.3.1 Possible designs of aviation ticket taxes that include the external costs of CO_2 emissions

Differentiation of the aviation ticket tax according to the carbon emissions of the fuel used

An aviation ticket tax can be differentiated according to the life cycle carbon emissions of the fuels used. It would then no longer have an inseverable link to the amount of fuel used for at least two reasons. First, aviation ticket taxes are generally only levied on origin/destination (OD) passengers and not on transfer passengers. This means that the revenues of the tax vary with the share of OD passengers and are therefore not directly linked to fuel consumption. This argument is valid for all aviation ticket taxes. The second

argument is specific to a tax that is differentiated on the basis of the life cycle carbon emissions. Because fuels have different life cycle carbon emissions, the tax is not differentiated on the amount of fuel used but rather on the quality of the fuel.

The tax could be designed as follows:

- A differentiated tax would be levied on OD passengers.
- Since the tax will be levied upon the purchase of a ticket, when the fuel that the aircraft will use may not be known, the differentiation could be based on the average lifecycle carbon emissions of fuels used by the airline in the year (or another time period) before the sale of the ticket.
- The differentiation could be designed as a discount on the tax rate for airlines that have lower average lifecycle carbon emissions of fuels used than the emissions of fossil fuels.
- The calculation of the average lifecycle carbon emissions of fuels used could be based on the share of advanced biofuels or other sustainable low carbon fuels, which airlines might monitor under their EU ETS or potentially future CORSIA obligations. These fuels could either be assigned a zero emission factor (as in the EU ETS) or a higher one. The higher value can be based on information provided by the supplier, who is obliged to calculate the lifecycle emissions under the FQD.

As an example, the tax level on a flight from Frankfurt to Barcelona could be set as follows: if the normal tax rate is set at € 14 per one-way flight, based on the average climate impact per passenger (see Table 3). Suppose also that 75% of the impact is related to carbon (the inverse of the non-CO_2 multiplier in Table 3), so that the CO_2 element in the tax amounts to € 10.8. When the airline uses 30% sustainable low carbon fuels which have 80% lower lifecycle CO_2 emissions than fossil fuel, the CO_2 element is reduced to € 8.2 so that the new tax rate is € 11.4.

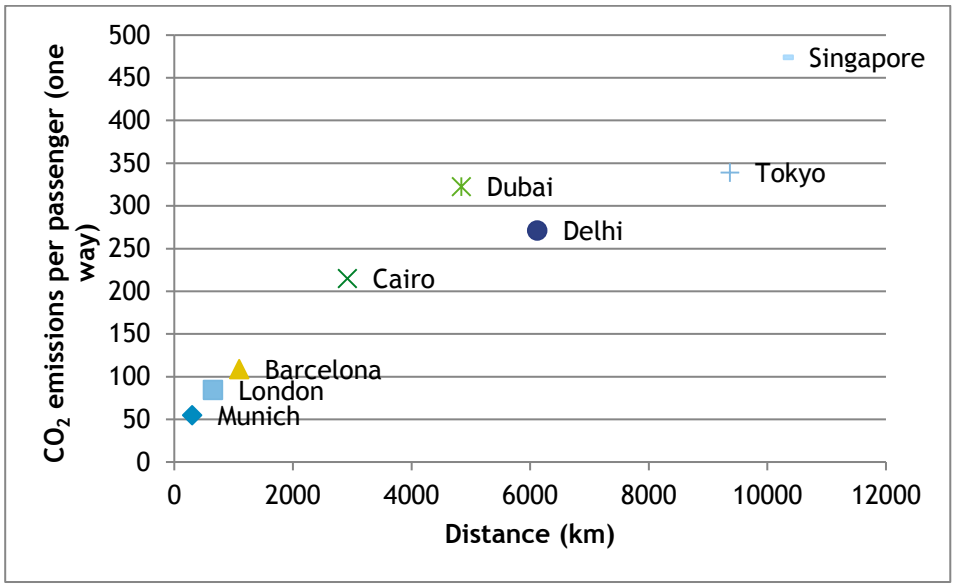
Such a tax would act as an incentive to use fuels with lower life cycle carbon emissions than fossil jetfuel.

Differentiation according to distance flown

An aviation ticket can be differentiated according to distance for flights to destinations outside the EU (a differentiation of tax rates on intra-EU flights may be problematic legally, as concluded in Chapter 4).

Flight distance is roughly correlated with emissions, as shown in. The correlation is not perfect due to the use of different aircraft types, amongst others.

Figure 1 - Emissions on flights from Frankfurt



Source: ICAO Carbon Emissions Calculator.

In Figure 1, flights to non-EU destinations have CO_2 emissions ranging from 215 kg/pax to 474 kg/pax for a one-way trip. It would make sense to set several distance bands to account for the fact that longer flights may have a climate impact that is more than twice as high as shorter flights.

The tax could be designed as follows:

- A differentiated tax would be levied on OD passengers.
- The tax would have one rate for intra-EU flights, and distance-dependent rates for flights to non-EU destinations, e.g. in bands of 1,000 km.
- Based on the limited number of observations in Figure 1, the average increase in emissions per 1,000 km amounts to 30 kg CO_2. Note that this is only a rough estimate and the correlation between distance and emissions should be analysed in more detail when choosing to introduce a differentiated tax.
- Assuming the central carbon price of Table 3, the tax rate should increase by approximately € 2,30 per 1,000 km to account for the additional carbon emissions.

6.3.2 Possible designs of aviation ticket taxes that include the external costs of NO_x emissions

Differentiation of the aviation ticket tax on the basis of certified LTO NO_x emissions

An aviation ticket tax can be differentiated on the basis of certified LTO NO_x emissions. This would incentivise air lines to buy engines with lower LTO NO_x emissions, but since LTO NO_x emissions and cruise NO_x emissions seem to be aligned in most current technology cases, policies that would reduce LTO NO_x would also reduce cruise NO_x (CE Delft, 2008).

The tax could be designed as follows:
- A differentiated tax would be levied on OD passengers.
- Using the non-CO_2 multiplier in Table 3, 23% of the tax[15] would be attributed to NO_x, and this share would be differentiated by multiplying it with the normalised LTO NO_x emissions per seat of the aircraft.
- CE Delft (2008) shows that the normalised values range from 0.04 to 1.00 for single-aisle aircraft with a mean value of 0.17.

Addition of an LTO NO_x charge with a distance factor to an aviation ticket tax

As a way to address the climate impacts of NO_x emissions of aircraft, CE Delft et al. (2008) proposes a charge based on the certified LTO NO_x emissions of the engines of the aircraft and the distance flown. Mathematically, the charge would be:

$$C_{i,j} = \alpha_{C\lim NOx} \times \beta_i \times LTONOx_i \times D_j$$

Where:
- $C_{i,j}$ is the charge for aircraft i on mission j in €.
- $\alpha_{ClimNOx}$ is the charge level in € per unit of mass, set at the monetary value of the climate impact of NO_x (in €).
- $ß_i$ is the co-efficient of correlation between LTO NO_x emissions times a distance factor and cruise NO_x emissions of aircraft i (per unit of distance).
- LTO NO_{xi} is the mass of the LTO NO_x emissions of aircraft i (in mass units).
- D_j is the distance of mission j (in distance units).

All of these parameters can be quantified, although some of them may still have a considerable level of uncertainty:
- $\alpha_{ClimNOx}$ could be related to the CO_2 price by taking the global warming potential over a 100-year time horizon (GWP100) of aviation NO_x emissions. GWP100 is commonly used in climate policy to calculate the CO_2-equivalence of emissions of other compounds. Although there is still debate about the GWP100 of aviation NO_x, Lee et al. (2010) reports that it is likely be in the range between -2 and 63.
- ß has been calculated for 10 different aircraft types in CE Delft et al. (2008), where it ranged from 0.04 to 0.08.
- LTO NO_x emissions can be taken from the ICAO Aircraft Engine Emissions Databank (ICAO, 2018).
- D_j can either be taken as the great circle distance between the airport of departure and the airport of arrival, or aligned with distance bands of the aviation ticket tax.

In this case, rather than differentiating the aviation ticket tax, a charge on top of the tax base rate would make more sense because a differentiation would require calculating an average impact which could be cumbersome.

[15] The non-CO_2 multiplier is 1.3, of which 1 is CO_2 and 0.3 non-CO_2. 0.3/1.3 = 23%.

7 Conclusions

This report set out to analyse under which conditions aviation ticket taxes would hold up in legal proceedings and how a climate change element could be introduced as a way to internalise the external climate costs of aviation.

While many aviation ticket taxes have been challenged in legal proceedings, most taxes have been judged to be in conformity with the law. In particular, most judgements agree that:

- taxation of aviation activities per se is not prohibited by either the Chicago Convention or Bilateral Air Service Agreements;
- transfer and transit passengers may be exempted in order to avoid double taxation; this is not unlawful state aid;
- differentiation of taxes with regards to distance is permissible, but the differentiation should not interfere with the working of the internal market;
- an aviation ticket tax is not a fuel tax and hence restrictions on of prohibitions of fuel taxes do not apply.

Consequently, an aviation ticket tax can withstand legal challenges if it is not linked to fuel consumption and if it does not differentiate rates within the EU, while it may exempt transfer and transit passengers.

Per flight taxes provide better emission reduction incentives for airlines than ticket taxes and could drive airlines to maximise the number of passengers and freight tonnage transported per flight. So far per flight taxes have not been introduced. As a consequence, little is known about the possible legal obstacles to introducing a per flight tax, mainly because this has not been tested in a court of law.

The environmental impacts of aviation taxes as well as the efficiency of the transport system can be improved by internalising the external costs of aviation through differentiation of the tax.

Four ways to internalise climate impacts of aviation via taxes are legally feasible.

1. An aviation tax can be differentiated on the basis of the average lifecycle emissions of fuels that the airline has used in a previous period. This would be a way to internalise external effects of CO_2 emissions. Passengers flying with airlines that have exclusively used fossil fuels would pay a higher tax rate than passengers flying with airlines that have used a share of sustainable low carbon fuels. Because the tax would be levied on the carbon content of the fuel and not on the amount of fuel, and because transfer passengers would be exempted, the tax cannot be considered to constitute a fuel tax.

2. An aviation tax can differentiated on the basis of distance to the destination, which would also be a way to internalise the external impacts of CO_2 emissions. Currently, most taxes have two rates, one for intra-EU destinations and one for destinations further away, which does not take into account that a flight to a relatively nearby non-EU destination may cause half or less of the CO_2 emissions than a flight to a faraway destination. By increasing the number of distance bands, this variation in external impacts may be internalised.

3. An aviation tax can be differentiated on the basis of certified NO_x emissions during landing and take-off (called LTO NO_x emissions). This would be a way to internalise the external impacts of NO_x emissions, both in the LTO phase and in the cruise phase, where NO_x emissions have a climate impact.

4. Fourth, a share of the aviation tax could be replaced by a NO_x climate impact charge related to the distance flown and the LTO NO_x emissions of the aircraft.

8 References

Bisset, M., 2013. Taxes and Charges under the Chicago Convention . In: P. M. d. Leon, ed. *From Lowlands to High Skies : A Multilevel Jurisdictional Approach Towards Air law.* s.l.:Brill Online Books and Journals , pp. 67-76 .

CE Delft ; SEO, 2018. *Taxes in the Field of Aviation and their impact, Final report,* Brussels: European Commission (EC).

CE Delft, INFRAS & Fraunhofer ISI, 2011. *External costs of transport in Europe,* Delft: CE Delft.

CE Delft, 2008. *Indelingen van vliegtuigtypen in milieuklassen : Verslag voor de werkgroep differentiatie vliegbelasting,* Delft: CE Delft.

CE Delft, 2008. *Lower NOx at Higher Altitudes : Policies to Reduce the Climate Impact of Aviation NOx Emission,* Delft: CE Delft .

CE Delft, 2014. *The external costs and infrastructure costs of transport : A review of the Netherlands in 2010,* Delft: CE Delft.

CE Delft, 2018. *Environmental Prices Handbook 2017 : Methods and numbers for valuation of environmental impacts,* Delft: CE Delft.

EC, 2005. *Commission Staff Working Paper ; A possible contribution based on airline tickets as a new source of financing development: technical reflections in the run up to the UN High Level Event (SEC(2005) 1067) ,* Brussels: European Commission (EC).

EC, 2011. *State aid SA.25254 (NN18/2009) – the Netherlands : Air Transport - Exemption from air passenger tax. C (2011) 4933,* Brussels: European Commission.

ECJ, 2011. *Judgment of the Court (Grand Chamber) of 21 December 2011: Air Transport Association of America and Others v Secretary of State for Energy and Climate Change. Case C-366/10,* Luxembourg: The European Court of Justice (ECJ).

HM Treasury , 2007. *Meeting the aspirations of the British people : 2007 Pre-Budget Report and Comprehensive Spending Review ,* London: The Stationery Office.

HM Treasury, 2008. *Facing global challenges : Supporting people through difficult times, Pre-Budget Report,* London: The Stationery Office.

HM Treasury, 2011. *Reform of Air Passenger Duty : a consultation,* London: s.n.

IATA, 2005. *IATA Economics Briefing No.2: Aviation Taxes and Charges ,* Geneva: IATA Economics.

IATA, 2009. *IATA list of ticket and airport taxes and fees,* s.l.: s.n.

ICAO, 2000. *ICAO's policies on taxation in the field of international transport, Third Edition,* s.l.: ICAO.

ICAO, 2018. *ICAO Aircraft Engine Emissions Databank*. [Online]
Available at: https://www.easa.europa.eu/easa-and-you/environment/icao-aircraft-engine-emissions-databank
[Geopend 2018].

IFS, 2008. Chapter 9 : Aviation taxes. In: *The IFS Green Budget 2008*. London: Institute for Fiscal Studies (IFS), pp. 187-211.

IFS, 2010. *Election Briefing Note No. 14 : Environmental Policy Proposals* , London: Institute for Fiscal Studies (IFS).

Keen, M., Parry, I. & Strand, J., 2013. Planes, Ships and Taxes: Charging for International Aviation and Maritime Emissions. *Economic policy,* 28(76), pp. 701-749.

KiM, 2011. *Effecten van de vliegbelasting : gedragsreacties van reizigers, luchtvaartmaatschappijen en luchthavens.* [Online]
Available at: https://www.kimnet.nl/publicaties/rapporten/2011/02/10/effecten-van-de-vliegbelasting-gedragsreacties-van-reizigers-luchtvaartmaatschappijen-en-luchthavens
[Accessed 2018].

Lee, D. et al., 2010. Transport impacts on atmosphere and climate: Aviation. *Atmospheric Environment,* 44(37), p. 4678–4734.

OECD, 2005. *The Political Economy of the Norwegian Aviation Fuel Tax (COM/ENV/EPOC/CTPA/CFA(2005)18/FINAL),* Paris: Organisation for Economic Co-operation and Development (OECD).

Parliament UK, 2011. *House of Commons Wednesday 23 March 2011 The House met at half-past Eleven o'clock Prayers [Mr Speaker in the Chair] Oral Answers to Questions Northern Ireland The Secretary of State was asked— Corporation Tax.* [Online]
Available at:
https://publications.parliament.uk/pa/cm201011/cmhansrd/cm110323/debtext/110323-0001.htm
[Accessed 2018].

Reuters, 2016. *Swedish government commission proposes airline climate tax.* [Online]
Available at: https://www.reuters.com/article/us-sweden-government-tax-idUSKBN13P25A
[Accessed 2018].

Seely, A., 2012a. *Taxing aviation fuel (SN00523) 2 October 2012,* London: House of Commens Library.

Seely, A., 2012b. *Air passenger duty : introduction (SN/BT/413) 19 september 2012,* London: House of Commons Library.

Seely, A., 2012c. *Air passenger duty : the approach of the Labour Government (2008-2010) (SN06426) 19 september 2012,* London: House of Commons Library.

Seely, A., 2018. *Air passenger duty: recent debates and reform (Briefing Paper Number 5094, 8 JUly 2018),* London: House of Commens Library.

A Relevant Chicago Convention Articles

A.1 Chicago Convention Article 15

"Every airport in a contracting State which is open to public use by its national aircraft shall likewise, subject to the provisions of Article 68, be open under uniform conditions to the aircraft of all the other contracting States. The like uniform conditions shall apply to the use, by aircraft of every contracting State, of all air navigation facilities, including radio and meteorological services, which may be provided for public use for the safety and expedition of air navigation.

Any charges that may be imposed or permitted to be imposed by a contracting State for the use of such airports and air navigation facilities by the aircraft of any other contracting State shall not be higher:

a As to aircraft not engaged in scheduled international air services, than those that would be paid by its national aircraft of the same class engaged in similar operations, and

b As to aircraft engaged in scheduled international air service, than those that would be paid by its national aircraft engaged in similar international air services.

All such charges shall be published and communicated to the International Civil Aviation Organization: provided that, upon representation by an interested contracting State, the charges imposed for the use of airports and other facilities shall be subject to review by the Council, which shall report and make recommendations thereon for the consideration of the State or States concerned. No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon."

A.2 Chicago Convention Article 24

"a. Aircraft on a flight to, from, or across the territory of another contracting State shall be admitted temporarily free of duty, subject to the customs regulations of the State. Fuel, lubricating oils, spare parts, regular equipment and aircraft stores on board an aircraft of a contracting State, on arrival in the territory of another contracting State and retained on board on leaving the territory of that State shall be exempt from customs duty, inspection fees or similar national or local duties and charges. This exemption shall not apply to any quantities or articles unloaded, except in accordance with the customs regulations of the State, which may require that they shall be kept under customs supervision.

b. Spare parts and equipment imported into the territory of a contracting State for incorporation in or use on an aircraft of another contracting State engaged in international air navigation shall be admitted free of customs duty, subject to compliance with the regulations of the State concerned, which may provide that the articles shall be kept under customs supervision and control."