



# THE LISBON INTERNATIONAL & EUROPEAN TAX LAW SEMINARS

Nº 1 / 2022

**TAXATION OF OUTER SPACE INCOME RESULTING  
FROM AIR TRANSPORT OR EMPLOYMENT ACTIVITIES:  
*IS THE OECD MODEL CONVENTION AN APPROPRIATE TOOL?***

Gaëtan Zeyen



**CIDEEFF**

**FCT** Fundação  
para a Ciência  
e a Tecnologia



**CIDEEFF**

# **CIDEEFF**

## **THE LISBON INTERNATIONAL & EUROPEAN TAX LAW SEMINARS**

ISSN: 2795-4676

-

**Nº1/2022**

Taxation of outer space income resulting from air transport or employment activities:  
Is the OECD Model Convention an appropriate tool?

Author

Gaëtan Zeyen

Seminars Coordinators

ANA PAULA DOURADO | University of Lisbon

RITA DE LA FERIA | University of Leeds

Publisher

**CIDEEFF - Centre for Research in  
European, Economic, Fiscal and Tax Law**

[www.cideeff.pt](http://www.cideeff.pt) | [cideeff@fd.ulisboa.pt](mailto:cideeff@fd.ulisboa.pt)



**FACULDADE DE DIREITO**  
UNIVERSIDADE DE LISBOA

Alameda da Universidade  
1649-014 Lisboa

**FCT**

Fundação  
para a Ciência  
e a Tecnologia

-

Design & Production

OH! Multimedia

[mail@oh-multimedia.com](mailto:mail@oh-multimedia.com)



# Taxation of outer space income resulting from air transport or employment activities: Is the OECD Model Convention an Appropriate Tool?

GAËTAN ZEYEN <sup>1</sup>

*CIDEEFF | Universidade de Lisboa*

---

<sup>1</sup> Attorney-at-Law at the Brussels Bar and Ph.D. Candidate in International Taxation

## Table of Contents

### **Abstract / Long Annotation**

(pag. 5) ►

### **Introduction**

(pag. 6) ►

### **1. Sources of space law**

(pag. 7) ►

### **2. General ‘philosophy’ of space law and its possible evolution**

(pag. 10) ►

### **3. How to tax [outer] space resources?**

(pag. 12) ►

### **Conclusion**

(pag. 25) ►

## Abstract / Long Annotation

*Space related activities (resulting for example from space tourism or exploration and exploitation of outer space resources) will likely generate in near future increasing revenue.*

*Currently, the issues of the 'taxability' or taxation of such revenue in an international context have not been questioned or examined. It is rather assumed that the current version of the OECD Model Convention constitutes a proper legal tool to apprehend and resolve space related tax issues. The OECD Model Convention, however, relies on some fundamental principles, such as the concepts of residence (requiring a physical presence) or state' sovereignty, which seem prima facie not very well adapted to resolve space related tax issues.*

*The purpose of the present contribution is therefore to check and verify this simple assumption, at the light of two specific issues: international transport issues and international employment issues.*

## Key Words

International taxation (OECD Model Convention), Taxation of outer space income, (Income from) Air transport activities (art.8), (Income from) Employment activities, Need to adapt the OECD Model Convention? Analysis.



## Introduction

The development of the space industry and space related activities in general (such as, for example, space tourism; exploration and exploitation of outer space resources; research and development) raises the question of their taxation in an international context and a state's 'vertical' sovereignty. Until today, no specific, common (in the context of multilateral) taxing rules have been agreed upon and established. It is presumably assumed that the OECD-Model Convention, in its current version, constitutes a proper legal tool to successfully and effectively apprehend and resolve space related tax issues.

Is that really true? The main purpose of the present contribution, therefore, is to check and verify this simple assumption. It should be noted, however, that the presentation of the authors' legal analysis and 'investigations' is strictly limited to two specific issues, to wit, (i) [international] transport issues and (ii) [international] employment issues (both being examined hereafter under 3.1, §3).

However, before entering into the presentation and discussion as such of afore-mentioned issues, it is first necessary to indicate the international sources of space law (see: 1.1.) and, secondly, to briefly introduce some national laws/regulations (see: 1.2.) as well as the general 'philosophy' of space law and its possible evolution (see: 2).



## 1. Sources of space law

### 1.1 – International sources of space law

At the international level and as a branch of international public law, the primary sources of space law are:

The ‘Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies’ (the so-called Outer Space Treaty) as adopted by the [UN] General Assembly in its resolution 2222 (XXI), opened for signature on 27 January 1967 and entered into force on 10 October 1967;

The ‘Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space’ (the so-called Rescue Agreement) as adopted by the [UN] General Assembly in its resolution 2345 (XXII), opened for signature on 22 April 1968, and entered into force on 3 December 1968;

The ‘Convention on International Liability for Damage Caused by Space Objects’ (the so-called Liability Convention) as adopted by the [UN] General Assembly in its resolution 2777 (XXVI), opened for signature on 29 March 1972, and entered into force on 1 September 1972;

The ‘Convention on Registration of Objects Launched into Outer Space’ (the so-called Registration Convention) as adopted by the [UN] General Assembly in its resolution 3235 (XXIX), opened for signature on 14 January 1975, and entered into force on 15 September 1976;

The ‘Agreement Governing the Activities of States on the Moon and Other Celestial Bodies’ (the so-called Moon Agreement) as adopted by the [UN] General Assembly in its resolution 34/68, opened for signature on 18 December 1979, and entered into force on 11 July 1984.

The five treaties mentioned previously are usually referred to as the five UN treaties on outer space<sup>1</sup>. With this regard, particular attention should also be paid to the (i) resolutions<sup>2</sup> adopted by the [U.] General Assembly, which are not legally binding but may offer some valuable guidance to states regarding the conduct of space activities (and that may become part of international custom law) (ii) documents produced by the Committee on the Peaceful Uses of Outer Space (UNCOPUOS) that has negotiated the five UN treaties on outer space.

## 1.2 – Overview of some national laws/regulations

At a national level, 25 countries have adopted a national law or regulation relating to the exploration and use of outer space. Mostly, these national laws or regulations relate and deal in particular with (i) the establishment of a national space agency (such as, for example, Brazil, Chile, Japan, Philippines, the Federation of Russia, South Africa, or Ukraine), (ii) the establishment of a national registry of objects launched into outer space (including, for example, Argentina, Austria, the Netherlands, or Spain), or (iii) ‘space activities’ (including, for example, Australia, Austria, Belgium, China, Denmark, Finland, Kazakhstan; the Netherlands; the Federation of Russia; Sweden; or Ukraine).

Depending on each particular national law or regulation, the expression ‘space activity’ is encompassed and defined more or less broadly. For example, according to Austrian<sup>3</sup> and Danish<sup>4</sup> law, ‘space activity’ is defined, respectively, as merely *‘the launch, operation or control of a space object’*<sup>5</sup>, as well as *‘the operation of a launch facility’* and *‘launching space objects’*<sup>6</sup> into outer space; *operation, control and return of space objects to Earth; as well as other essential activities in this connection’*.

Other national laws or regulations have adopted a broader definition such as, for example, the laws of the Republic of Kazakhstan or of the Russian Federation. According to the law of the Republic of Kazakhstan, ‘space activities’ encompass [all] *‘activities aimed at exploration and use of outer*

---

1 Outer space’ refers to the space above the altitude of 100 kms above sea level.

2 A large list of such resolutions (i.e., of the U.N. General Assembly) and/or ‘COPUOS’ documents may be found on the web site of the United Nations Office for Outer Space Affairs (UNOOSA): <https://www.unoosa.org/oosa/en/ourwork/spacelaw/resolutions.html>.

3 See §2.1 of the Austrian Federal Law on the Authorisation of Space Activities and the Establishment of a National Space Registry of 6<sup>th</sup> December 2011, entered into force on 28<sup>th</sup> December 2011.

4 See Part.2, 4.1) of the Danish Outer Space Act (Act n°.409) of 11<sup>th</sup> May 2016.

5 According to Austrian law (see §2.2 of the Austrian Federal Law of 6 December 2011 mentioned above), the expression ‘space object’ covers *‘an object launched or intended to be launched into outer space, including its components’*.

6 According to the Danish Outer Space Act, a ‘space object’ (see Part.2, 4. 2) covers *‘any object, including its component parts, which has been launched into outer space, or which is planned to be launched into outer space, and any device which has been used, or is planned to be used, to launch an object into outer space’*.



*space for achieving the scientific, economic, environmental, defense, information and commercial purposes*<sup>7</sup>. The law of the Federation of Russia defines the expression ‘space activity’ as including:

space researches (such as the use of navigation, topographical and geodesic satellite systems or other kinds of activities performed with the aid of space technology), as well as creating (including development, manufacture and test), using and transferring of space techniques, space technology, other products and services necessary for carrying out space activity.<sup>8</sup>

Only very few national laws or regulations address specific outer space related issues including, for example, liability issues (Australia<sup>9</sup>) or issues regarding inventions in outer space (the United States).

---

7 See Chap.1, art.1, 7) of the Law of the Republic of Kazakhstan on Space Activities of 6<sup>th</sup> January 2012 (n°528, IV).

8 See Article 2 of the Decree n°.5663-1 of the Law of the Russian Federation.

9 See Part.4 of the [Australian] Space Activities Act 1998 (Act nr.123, as amended).



## 2. General 'philosophy' of space law and its possible evolution

Up to the present time, the exploration and use of outer space, including the Moon and other celestial bodies, was based on a 'humanist' and non-profit orientated philosophy<sup>10</sup> that excluded, among others, '*national appropriation by claim of sovereignty, by means of use or occupation, or by any other means*'<sup>11</sup> (the so-called non-appropriation principle).

It is doubtful, however, whether such a 'humanist' and non-profit orientated philosophy will last in the [near] future, particularly as some leading countries (such as, for example, but not limited to the Republic of China, India, the United States,<sup>12</sup> or the Federation of Russia) might or already consider [outer] space as a [geo] strategic, scientific, defense, economic/commercial, etc. priority.

---

<sup>10</sup> See Article I of the Treaty on Principles governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other celestial bodies according to which such exploration and use '*shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind*'. (UN, Treaty Series, vol.610, nr.8843.) See also article III of said treaty according to which '*States Parties to the Treaty shall carry on activities [in the exploration and use of outer space] (...) in the interest of maintaining international peace and security and promoting international cooperation and understanding*', and Article 3.1 of the Agreement Governing the Activities of States on the Moon and other Celestial Bodies according to which '*the Moon shall be used by all States Parties exclusively for peaceful purposes*'. (U.N., Treaty Series, vol.1363, nr.23002.)

<sup>11</sup> See Article II of the Treaty on Principles governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (UN, Treaty Series, vol.610, nr.8843.)

<sup>12</sup> See the US Commercial Space Launch Competitiveness Act of 2015, also referred to as the 'Spurring Private Aerospace Competitiveness and Entrepreneurship' (S.P.A.C.E.) Act. See, for example - in particular - its Chapter 513- 'Space Resource Commercial Exploration and Utilization': §51302:

(1) *The President (...) shall facilitate commercial exploration for and commercial recovery of space resources by United States citizens; (...); (3) promote the right of United States citizens to engage in commercial exploration for and commercial recovery of space resources free from harmful interference, in accordance with the international obligations of the United States and subject to authorization and continuing supervision by the Federal Government.*"; §51303 'Asteroid Resource and Space Resources Rights: "*A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.*" (Cf. <https://www.congress.gov/114/plaws/publ90/PLAW-114publ90.pdf>.)

In addition, countries of smaller size (but having very high ambitions) already consider [outer] space resources as '*capable of being owned*'<sup>13</sup> and, therefore, as a possible source of profit. Taking into account such a context and an evolution (and the possible 'privatization'<sup>14</sup> of [outer] space resources, with all consequences this will imply), therefore, it is very likely that taxation issues relating to exploration and exploitation (see: space resources mining and particularly asteroid mining) of such resources will become increasingly significant and effectuate a possible 'remodeling' of the existing legal framework of space law<sup>15</sup>.

---

13 See Article 1 of the Luxemburg Law of 20 July 2017 on the Exploration and Use of Space Resources, in Journal Officiel du Grand-Duché de Luxembourg, n° 674 du 28 Juillet 2017. (Cf. <http://data.legilux.public.lu/eli/etat/leg/loi/2017/07/20/a674/jo>.); A.A. ABRAHAMIAN, 'How a Tax Heaven is leading the Race to privatise Space', 15 September 2017, <https://www.theguardian.com/news/2017/sep/15/luxembourg-tax-haven-privatise-space>.

14 See, in particular, the US Commercial Space Launch Competitiveness Act of 2015, also referred to as the 'Spurring Private Aerospace Competitiveness and Entrepreneurship' (S.P.A.C.E.) Act.

15 On this particular issue, see, for example: A. KERREST (éd.), 'Le droit de l'espace et la privatisation des activités spatiales: Journée d'études de la Société française pour le droit international', Paris, Pedone, 2003, pp.96; E. JONCKHEERE, 'The Privatization of Outer Space and the Consequences for Space Law', Master's Dissertation, U.Ghent, 2018. ([https://lib.ugent.be/fulltxt/RUG01/002/479/330/RUG01-002479330\\_2018\\_0001\\_AC.pdf](https://lib.ugent.be/fulltxt/RUG01/002/479/330/RUG01-002479330_2018_0001_AC.pdf).); *contra*: C. FINNIGAN, 'Why the Outer Space Treaty remains valid and relevant in the modern world', 12 March 2018, <https://www.thespacereview.com/article/3448/1>.



## 3. How to tax [outer] space resources?

### 3.1 – Taxation through the [current] OECD Model Convention?

#### 3.1.1 – Short reminder of the conditions necessary to apply the OECD Model Convention

As a result, the current context and situation represents an opportunity – that seems interesting to the authors – to examine and discuss possible ‘methods’, approaches, or ways for dealing with taxation issues in connection with exploration and exploitation of [outer] space resources.

As a rule, in an international context, most taxation issues can be addressed and resolved with the application of a so-called Double Taxation Convention (hereinafter DTC) agreed and signed between two contracting states and based upon the OECD Model Convention. As a brief reminder, a legal, valid, and successful application of such a DTC requires that some specific pre-conditions are met and fulfilled: (i) as a matter of evidence, the existence of two distinct contracting states each having its own national territory; (ii) the taxpayer must be a resident of at least one contracting state and, therefore, [fully] subject to tax in that state; (iii) the nature of the tax in dispute must enter into the DTC’s [material] scope of application; (iv) the taxpayer, being a resident of [at least] one contracting state, conducts business/performs services or an ‘activity’<sup>16</sup> in the *other* contracting state or at least earns an income (such as, for example, ‘dividends’, ‘interests’, or ‘royalties’) from that *other* contracting state.

#### 3.1.2 – Current issues relating to taxation of satellites, communication and transmissions in space

Currently, space related issues [in an international context] mainly concern a number of specific issues relating to the use of a satellite and, more particularly, the questions of whether (i) it (i.e. the satellite) constitutes a permanent establishment (according to Article 5 of the OECD Model Convention) and (ii) its use/‘exploitation’ can be considered as a payment for the leasing of industrial, commercial, or scientific equipment.

---

<sup>16</sup> See definition: Article 3, §1, h) of the OECD-Model Convention.

Regarding the first issue (i.e. permanent establishment), the OECD Committee on Fiscal Affairs has adopted the following position:

Clearly, a permanent establishment may only be considered to be situated in a Contracting State if the relevant place of business is situated in the territory of that State. The question whether a satellite in geostationary orbit constitute a permanent establishment for the satellite operator relates in part to how far the territory of a State extends into space. No member country would agree that the location of these satellites can be part of the territory of a Contracting State under the applicable rules of international law and could therefore be considered to be a permanent establishment situated therein. Also, the particular area over which a satellite's signals may be received (the satellite's 'footprint') cannot be considered to be at the disposal of the operator of the satellite so as to make that area a place of business of the satellite's operator.<sup>17</sup>

Despite contrary national case law (see further developments below), India particularly does not share the OECD's view according to which a satellite's *footprint* in the space of a source country cannot be treated as a permanent establishment.

India is of the view that *'in such a case, the source state not only contributes its customer base but also provides infrastructure for reception of the satellite telecast or telecommunication process'* and [interestingly adding] that *'a satellite's footprint falls both in the international and national space. The footprint has a fixed location, has a value and can be used for commercial purposes. Accordingly, it can be treated as a fixed place of business in the space in the jurisdiction of a source country.'*<sup>18</sup> In general, India does not share the position according to which *'taxation should not extend to services performed outside the territory of a State'*.<sup>19</sup>

India's position is quite interesting as it clearly suggests that a satellite [operating] in geostationary orbit could constitute a permanent establishment; from a strict legal perspective, such an opinion can be defended with reasonable success as a satellite [operating] in geostationary orbit presents a certain but sufficient temporal and geographical 'anchorage' and supports or generates a commercial/economic activity.

India's view on this particular issue undeniably demonstrates the importance for developing countries to gain sovereignty over their geostationary orbit which is of great significance as most telecommunications, broadcasting, and weather satellites need to be placed in orbit at

---

17 OECD Commentary, version of 15 July 2014, C(5)-5, n°5.5, p.97.

18 OECD Commentary, version of 22<sup>nd</sup> July 2010, P(5)-10, n°43.

19 OECD Commentary, version of 22<sup>nd</sup> July 2010, P(5)-9, n°38.

a fixed point in order to establish an effective functioning connection with terrestrial places and the persons benefiting from these satellites' facilities. Through a 'connection' or 'presence', developing countries would like to [be able to] exercise their tax sovereignty over revenue resulting from terrestrial connections to a satellite in geostationary orbit.

In this context and in order to preserve their taxing rights, seven equatorial countries (i.e. Colombia, Ecuador, Indonesia, Kenya, the Republic of Congo, Uganda, and Zaire) adopted the so-called 'Bogota Declaration' on 3 December 1976 in order to claim the 'extension' of their national sovereignty (and, therefore, jurisdiction) or at least so-called 'preferential rights' over the part of the geostationary orbit over their territory. As a result, the geostationary orbit '*would not be subject to a regime of free and equal access for all States*'<sup>20</sup> but would require an authorization by the respective state<sup>21</sup> which would subsequently generate taxing rights and revenue. Stated differently, in the opinion of these equatorial countries, the so-called 'non-appropriation principle' (see Outer Space Treaty of 1967) would not apply to a geostationary orbit.

On the other hand, and in contrast to India's position, the position of the OECD Committee on Fiscal Affairs seems to be based less on legal arguments than on a type of political assumption according to which '*no country envisages extending its tax sovereignty to activities exercised in space or treating these as activities exercised on its territory*'<sup>22</sup> and – more recently – [according to which] '*no member country would agree that the location of these satellites can be part of the territory of a Contracting State under the applicable rules of international law and could therefore be considered to be a permanent establishment situated therein*'.<sup>23</sup>

As previously mentioned, it should be noted, however, that India's position is not supported to present by foreign or even local (i.e. Indian) case law. In the very complex case of '*Asia Satellite Telecommunications Co. Ltd. versus Director of Income Tax*'<sup>24</sup> (shortly, 'AsiaSat case'), the Delhi High Court had, among others, to decide:

- (i) Whether, based on the facts and in the circumstances of the case, the tribunal was right in law in holding that the amounts received by the appellant (a non-resident) from its non-resident customers for availing transponder capacity was chargeable to tax in India where the satellite was not stationed over Indian airspace and in directing how much is to be determined;

---

20 Nicolas GIACOMIN, "The Bogota Declaration and Space Law", article of 4<sup>th</sup> December 2019, in <https://www.spacelegalissues.com/the-bogota-declaration-and-space-law>.

21 See article 3, d) of the 'Bogota Declaration' (Cf. <https://bogotadeclaration.wordpress.com/declaration-of-1976>.)

22 OECD Commentary, short version of September 1992, Art.7, par.1, n°4, p.86.

23 OECD Commentary, version of 15<sup>th</sup> July 2014, C(5)-5, n°5.5, p.97.

24 Decision (ITA n°131 and n°134 of 2003) rendered on 31 January 2011, which can be uploaded in 'pdf' version via the web site [www.indiankanoon.org](http://www.indiankanoon.org).

- (ii) Whether, on the facts and in the circumstances of the case, the tribunal was right in holding that the appellant had a business connection in India through or from which it earned income; and
- (iii) Whether, on the facts and in the circumstances of the case, the tribunal was justified in holding that the amount paid to the appellant by its customers represented income by way of royalty [as defined].

The facts of the case can be summarized as follows:

‘Asia Satellite Telecommunications Co. Ltd.’ (hereinafter AsiaSat) is a Hong Kong incorporated and based company that conducts business of private satellite communications and broadcasting facilities (stated differently, its business is to provide data and video transmission services to customers). It has no office in India. ‘AsiaSat’ was the lessee of a satellite (called AsiaSat1) that was launched in April 1990 and was the owner of a satellite (referred to as AsiaSat2) that was launched in November 1995. These satellites were launched by ‘AsiaSat’ and were placed in a geostationary orbit in orbital slots that initially were allotted by the International Communication Union to the United Kingdom and subsequently relinquished to China. These satellites neither use Indian orbital slots nor are they positioned over Indian airspace. The footprints of ‘AsiaSat1’ and ‘AsiaSat2’ extend over four continents (i.e. Asia, Australia, Eastern Europe, and Northern Africa). The territory of India falls within the footprint of the South Beam of ‘AsiaSat1’ and the C Band of ‘AsiaSat2’.

‘AsiaSat’ entered into different agreements with TV channels, communication companies, or other companies desiring to use the transponder capacity available on ‘AsiaSat’s’ satellite. The customers have their own relaying facilities that are not situated in India. From these facilities, the signals are beamed into space where they are received by a transponder located in ‘AsiaSat’s’ satellite. The transponder receives the signals which are then relayed over the entire footprint. The only activity performed by ‘AsiaSat’ on Earth is the telemetry, tracking, and control of the satellite which is activity that is carried out from a control centre located in Hong Kong.

After a very in-depth legal and technical analysis of the ‘AsiaSat case’, the Delhi High Court finally ruled that:

- (i) the transponder is an inseparable component of a satellite and is incapable of functioning on its own (the process in the transponder in receiving signals and retransmitting the same is inseparable from the process of the satellite); in other words, the functions performed by a transponder do not constitute a ‘process’ and, even if that would have been the case, there was no ‘use’ of this ‘process’. Furthermore, the control over the transponder and the satellite was not with the customers;

- (ii) 'AsiaSat' had no business activity/connection (and, therefore, no permanent establishment) in India;
- (iii) payment to a foreign satellite operator for provision of transmission services does not qualify as a 'royalty'.

Regarding the second issue (i.e. a possible qualification as a 'royalty'), the OECD Committee on Fiscal Affairs took the following position. As a rule, payments made under so-called 'transponder leasing' agreements (under which the satellite operator allows the customer to utilize the capacity of a satellite transponder in order to transmit over large geographical areas) do not constitute 'royalties' as defined in the OECD Model Convention<sup>25</sup>.

However,

In some cases, [such as the situation in which the owner of a satellite leases it to another party so that the latter may operate it and either use it for that party's own purposes or offer its data transmission to third parties], the payment made by the satellite operator to the satellite owner could well be considered as a payment for the leasing of industrial, commercial or scientific equipment. Similar considerations apply to payments made to lease or purchase the capacity of cables for the transmission of electrical power or communications (e.g., through a contract granting an indefeasible right of use of such capacity) or pipelines (e.g., for the transportation of gas or oil)<sup>26</sup>.

As already mentioned above, in the 'AsiaSat case', the Delhi High Court decided that payments made to a foreign satellite operator for the provision of transmission services do not qualify as a 'royalty'. As a result of that decision, the Indian Income Tax Act was amended by the Finance Act of 2012 in order to 'clarify' the meaning of 'royalty' as defined in Section 9(1) (vi)<sup>27</sup>.

The amendment in question reads as follows:

Considering the conflicting decisions of various courts in respect of income in nature of royalty and to restate the legislative intent, following clarifications have been inserted in section 9(vi), [w.e.f. 1.6.1976]

- (i) Explanation 4 has been inserted in section 9(1) (vi) to clarify that the consideration for use or right to use of computer software is royalty by clarifying

---

25 OECD Commentary, version of 15 July 2014, C(12)-5, n°9.1, p.229.

26 OECD Commentary, version of 15 July 2014, C(12)-5, n°9.1, p.229.

27 <https://icmai.in/upload/Students/Circulars/Amendments-Direct-Tax-2012.pdf>.



that transfer of all or any rights in respect of any right, property by clarifying that transfer of all or any rights in respect of any right, property or information as mentioned in Explanation 2, includes and has always included transfer of all or any right for use or right to use a computer software (including granting of a licence) irrespective of the medium through which such right is transferred.

(ii) Explanation 5 has been inserted in section 9(1) (vi) to clarify that royalty includes and has always included consideration in respect of any right, property or information, whether or not:

(a) the possession or control of such right, property or information is with the payer;

(b) such right, property or information is used directly by the payer;

(c) the location of such right, property or information is in India.

(iii) **To nullify the judicial decisions, Explanation 6 has been inserted in section 9(1) (vi) to clarify that the term “process” (mentioned in the meaning of royalty in Explanation 2) includes and shall be deemed to have always included transmission by satellite (including up-linking, amplification, conversion for down-linking of any signal), cable, optic fibre or by any other similar technology, whether or not such process is secret.** (Emphasis added.)

With respect to these legislative changes (‘clarifying’, in fact, ‘modifying’ *unilaterally* the term ‘royalty’ as defined in the Indian Income Tax Act), the Delhi High Court – in the so-called ‘*New Skies Satellite BV*’<sup>28</sup> case (New Skies case) – had to decide whether (i) the amendments made [unilaterally] to the definition of ‘royalty’ in the [Indian] Income Tax Act can be deemed to extend to the definition of ‘royalties’ under [Indian] DTCs and (ii) whether the definition of ‘royalties’ under the Thailand and Dutch Treaty refer to ‘process’ or ‘secret process’.

Regarding the first issue, the Delhi High Court clearly answered negatively, supporting its position by relying on the case ‘*Union of India v. Azadi Bachao Andolan*’ (see par.42 of the ‘New Skies case’s’ decision) and referring to Article 39 of the Vienna Convention on the Law of Treaties (VCLT) (See paragraph 43 of the ‘New Skies case’s’ decision<sup>29</sup>).

---

28 Delhi High Court decision rendered on 8 February 2016 can be uploaded in ‘pdf’ version via the website: [www.indiankanoon.org](http://www.indiankanoon.org).

29 ‘This provision therefore clearly states that an amendment to a treaty must be brought about by agreement between the parties. Unilateral ITA 473/2012, 474/2012, 500/2012 & 244/2014 amendments to treaties are therefore categorically prohibited.’

Concerning the second issue, the Delhi High Court concluded that the definition of ‘royalty’ in Indian DTCs refers to ‘secret process’ and not merely to a ‘process’ (see paragraph 58 of the ‘New Skies case’s’ decision<sup>30</sup>).

### 3.1.3 – Is the OECD Model Convention an appropriate tool for other space related tax issues?

Besides the two issues already raised and discussed above under ‘*Current Issues relating to Taxation of Satellites, Communication and Transmission in Space*’, the question arises of whether the current version of the OECD Model Convention can constitute an appropriate tool for apprehending and resolving space related tax issues or whether it would be desirable, from an international tax of law perspective, to incorporate special rules or provisions to cover these issues?

Up to the present, the OECD Committee on Fiscal Affairs considered that the answer had to be no

as it is assumed that no country envisages extending its tax sovereignty to activities exercised in space or treating these as activities exercised on its territory. Consequently, space could not be considered as the source of income or profits and hence activities carried out or to be carried out there would not run any new risks of double taxation. Secondly, if there are double taxation problems, the Model Convention, by giving a ruling in the taxing rights of the State of residence and the State of source, should be sufficient to settle them. The same applies with respect to individuals working in board space stations: it is not necessary to derogate from double taxation conventions, since articles 15 and 19, as appropriate, are sufficient to determine which Contracting State has the right to tax remuneration and article 4 should make it possible to determine the residence of the persons concerned, it being understood that any difficulties or doubts can be settled in accordance with the Mutual Agreement Procedure.<sup>31</sup>

As already mentioned above and as a preliminary remark, the assumption itself according to which ‘*no country envisages extending its tax sovereignty to activities exercised in space or treating these as activities exercised on its territory*’ is doubtful and may be questioned (see above).

In the following paragraphs, the authors will examine whether the current version of the OECD Model Convention constitutes a proper tool [to apprehend and settle space related tax issues] or whether it needs – as the case may be – to be adapted. With this regard, the study will concentrate more particularly on [international] air transport (Article 8 of the OECD Model Convention) and employment (Article 15 of the OECD Model Convention) issues.

---

30 ‘*There is sufficient evidence for us to conclude that the process referred to in Article 12 must in fact be a secret process and was always meant to be such.*’

31 OECD Commentary, version of Sept.1992, Article 7, para.1, nr.4, p.86.

## (i) [International] air transport issues

Regarding this first issue, a central question is whether the *material* scope of application of Article 8 of the OECD Model Convention (relating to taxation of profits from the operation of ships and particularly, in this case, of *aircrafts* ‘in international traffic’, this latter expression being defined as meaning ‘*any transport by a ship or aircraft operated by an enterprise that has its place of effective management in a Contracting State, except when the ship or aircraft is operated solely between places in the other Contracting State.*’<sup>32</sup>) also applies to ‘space shuttles’ or, more precisely, to ‘space objects’.

The term ‘*aircraft*’ is not defined in the OECD Model Convention, therefore, it shall have the meaning – unless the context requires otherwise – that it has at that time under the law of that state for the purposes of the taxes to which the convention applies (See Article 3, paragraph 2 of the OECD Model Convention). According to Belgian internal law, for example, the term ‘*aircraft*’ is defined through the Convention on International Civil Aviation of 7 December 1944<sup>33</sup> (hereinafter, the Chicago Convention) and, more particularly, through its Annex 7<sup>34</sup>.

According to latter annex, an ‘*aircraft*’ designates ‘*any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface*’. In other words, the term ‘*aircraft*’ as used in Article 8 of the OECD Model Convention, obviously refers to air law which is an area of law that needs to be distinguished from space law.

On the other hand and according to the ‘Committee on the Peaceful Uses of Outer Space’ (‘COPUOS’), a ‘*spacecraft*’ designates an object or vehicle ‘*that should be capable of moving in outer space (either orbital or suborbital) without any support from the air and should have a power source not dependent upon external oxygen*’.<sup>35</sup>

As a rule, ‘*aircrafts*’ and ‘*spacecrafts*’ (or, more precisely, ‘*space objects*’), therefore, are two different types of objects/vehicles that are intended to be used respectively and mainly in the atmosphere/outer space and [which] are subject to two different set of rules/legislations (respectively air law and space law).

---

32 See Article 3, para.1, e) of the OECD Model Convention.

33 In Moniteur belge (Belgian official gazette), 2 December 1948, p.9548. That convention establishes rules of airspace, aircraft registration, and safety and details the rights of the signatories in relation to air travel.

34 In Moniteur belge (Belgian official gazette), 2 March 1951, p.1311.

35 Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 57<sup>th</sup> Session, Vienna, April 2018, on the definition and delimitation of outer space, Suborbital flights and the delimitation of air space *vis-à-vis* outer space: functionalism, spatialism and state sovereignty, A Submission by the Space Safety Law & Regulation Committee of the International Association for the Advancement of Space Safety, p.17 (document prepared by Paul Stephen DEMPSEY and Maria MANOLI). See Louis de GOUYON, “The Definition of a Space Object”, article of 19 January 2019, in <https://www.spacelegalissues.com/space-law-the-definition-of-a-space-object>.

Although it still creates discussions, difficulties, and even uncertainties, a distinction or demarcation between air law and space law can also be explained and justified on the basis of the so-called ‘aerodynamic-lift theory’

which proposes a demarcation between air space and outer space at 83 km above the surface of the Earth (or in general between 80 and 90 km), as this is the point after which the aircraft functions cannot be maintained, for the density of the atmosphere is not sufficient to support vehicles that have not achieved circular velocity (the air lift being virtually nil at that altitude).<sup>36</sup>

Otherwise stated, although a distinction or demarcation can and even must be made between ‘airspace’ and ‘outer space’, no *clear* delimitation between these two areas could thus far be achieved. However, as already mentioned above, air law and space law are governed by two different, very specific sets of rules or legislations with each of them using or referring to particular concepts. As a result, it is doubtful whether the *material* scope of application of Article 8 of the OECD Model Convention also applies to ‘*space objects*’.

Furthermore, it is questionable whether a space journey beginning from one country and ending, even several months later, in the same country can be considered as being realized ‘in international traffic’. As a reminder, according to the OECD Commentary,

a ship or aircraft is operated solely between places in the other Contracting State in relation to a particular voyage if the place of departure and the place of arrival of the ship or aircraft are both in that other Contracting State. However, the definition [of the expression ‘in international traffic’] applies where the journey of a ship or aircraft between places in the other Contracting State forms part of a longer voyage of that ship or aircraft involving a place of departure or a place of arrival which is outside the other Contracting State.<sup>37</sup>

According to Belgian internal law, for example, the expression ‘international traffic’ must be understood as referring solely to ‘*cross-border transportation*’ [by a ship or aircraft]<sup>38</sup>.

---

<sup>36</sup> Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, Fifty-seventh Session, Vienna, April 2018, on The definition and delimitation of outer space, Suborbital flights and the delimitation of air space *vis-à-vis* outer space: functionalism, spatialism and state sovereignty, A Submission by the Space Safety Law & Regulation Committee of the International Association for the Advancement of Space Safety, p.16 (document prepared by Paul Stephen DEMPSEY and Maria MANOLI).

<sup>37</sup> OECD Commentary, version of 22<sup>nd</sup> July 2010, C (3)-3, n°6-1.

<sup>38</sup> Circular n° Ci.R9.Div/607.317 (AFER N° 66/2010) dated 26 October 2010; it should be noted that the position of the Belgian tax authorities with this regard is disputed by some scholars: see, for example K. ROELANDS, “Artikel 8. Zeevaart en luchtvaart”, in Het Belgisch standaardmodel van dubbelbelastingverdrag. Een artikelsgewijze commentaar, Brussels, Larcier (eds. Bielen and Janssens), 2018, p.164.

As a consequence and more importantly, this distinction or demarcation between air space and outer space raises the fundamental question of a state's [vertical] sovereignty, which is a key principle of international law (including for the application of the OECD Model Convention) and [which] represents '*the exclusive and independent power of a State in relation to a population located in a certain area*'<sup>39</sup> including for tax purposes. In other words, '*a clearly defined and delimited territory constitutes an essential element of statehood, as it identifies the geographical (physical) limits of sovereign power*'.<sup>40</sup>

In the case at hand, air law and space law have developed a distinct approach regarding a state's sovereignty. According to the 'Chicago Convention' (air law), every state '*has complete and exclusive sovereignty over the airspace above its territory*'<sup>41</sup> (cf. Article 1) while space law is grounded basically on the so-called 'non-appropriation principle' (outer space cannot be subject to national claims of any kind).

As already mentioned above and taking into account particular recent developments in some national legislations (in Luxembourg or the United States, for example), it is likely that, in the [near] future, some countries will express the willingness to extend their tax sovereignty to activities exercised in space or will treat these as activities exercised in their territory.

As a result, the capacity of a state to effectively exercise its taxing power (thus, its tax sovereignty) will depend on its potential ability to establish and evidence its [vertical, territorial] competence over profits directly obtained by an enterprise (assuming the latter has its seat of effective management located in that state) from the transportation of passengers (for example, for activities related to space tourism) or cargo (for example, resulting from the exploitation of space resources) by a 'space object' or 'space shuttle', or profits from activities directly connected with such operations.

Despite that some specific national legislation sometimes *unilaterally* determines their 'vertical [sovereignty] limit', there is, up to present, no clear rule of conventional or customary nature that determines the limit between 'air space' and 'outer space' (some have suggested to adopt the so-called 'Karman line' at approximately 100 km above the Earth's surface).

Without such a clear demarcation, sovereignty conflicts in the area of international tax law or others will possibly develop and increase.

---

39 Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 57th Session, Vienna, April 2018. Working Paper prepared by the Chair of the Working Group on the Definition and Delimitation of Outer Space of the Legal Subcommittee: A/AC.105/C.2/L.302, n°8, p.2 (pdf).

40 Ibidem.

41 According to Article 2 of the 'Chicago Convention', '*the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State*'.

Such ambiguity of each state's 'vertical limit' will also prevent the application of the OECD Model Convention. Conversely, such a demarcation will create – as a matter of evidence – legal security and, therefore, encourage and stimulate investment in space transportation (and, more generally, in the development of space activities) and help insurance companies to assess their risks.

An interesting proposal<sup>42</sup> to solve this sensitive issue is inspired by the UN Convention on the Law of the Sea of 1982 (U.N.C.L.O.S.) that divides the sea into different categories (e.g. 'Internal Waters', 'Territorial Waters', 'Archipelagic Waters', 'Contiguous Zone', 'Exclusive Economic Zone', 'Continental Shelf', and 'High Seas') with different sets of state rights and obligations attached to each aforementioned category<sup>43</sup>.

In other words, each state can exercise different levels of sovereign powers depending upon which part of the sea is concerned. In the case at hand, the proposed solution would consist of dividing the space area into three different 'zones': (i) the 'Air Space Zone' (below 50 km) which would be subject to the exclusive territorial sovereignty of the underlying state; (ii) a 'Near Space Zone' (between 50 km and 120 km) that would be open to peaceful passages by all with their own aerial safety and navigation rules; however, overflight by foreign state aircrafts could be denied if it is conducted to be in violation of international law, if it disrespects the sovereignty of the territorial state, if it poses risks to the local population/environment or, more generally, there is a lack of valid permission; and (iii) the 'Outer Space Zone' (above 120 km) that would be subject to space law.

## **(ii) [International] employment issues**

Regarding the second issue (i.e. employment issues: Article 15<sup>44</sup> of the OECD Model Convention), an interesting example involving some previously mentioned and discussed concepts of international tax law (such as: tax 'state sovereignty' or the expression 'in international

---

42 Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, Fifty-seventh Session, Vienna, April 2018, on The definition and delimitation of outer space, Suborbital flights and the delimitation of air space *vis-à-vis* outer space: functionalism, spatialism and state sovereignty, A Submission by the Space Safety Law & Regulation Committee of the International Association for the Advancement of Space Safety, pp.37-42 (document prepared by Paul Stephen DEMPSEY and Maria MANOLI).

43 For example, regarding the so-called 'Territorial Waters' (which extend to 12 nautical miles from the coast and also covers '*the air space over the territorial sea as well as its bed and subsoil*': see U.N.C.L.O.S., Article 2.2), the coastal state may regulate any use and the use of any resources there. Regarding 'Exclusive Economic Zone' (extending 200 nautical miles from the baseline), the coastal state has '*sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds (...)*'. (See U.N.C.L.O.S., Article 56, para.1, a)). Other States continue to have the rights of overflight and navigation just as they would on the high seas (See U.N.C.L.O.S. Article 58). Finally, concerning the 'High Seas', all states enjoy the freedom of navigation and overflight.

44 For a general overview of the principles governing Article 15 of the OECD Model Convention, see, for example, Bernard PEETERS, 'Article 15, §1', in Modèle de Convention fiscale OCDE concernant le revenu et la fortune, Holbing Lichtenhahn, 2013, pp.511-535 and the quite exhaustive bibliography mentioned by the author.

traffic’) and relating in particular to Article 15, paragraph 3<sup>45</sup> of the OECD Model Convention can be found in the ‘Letourneau’ case<sup>46</sup>. That case is an example of the tax treatment of air crews. It raises the questions as to who is entitled to tax aircrew flying over international waters and how to interpret the expressions ‘foreign earned income’ and ‘foreign country’.

The facts and circumstances of the case can be summarized as follows: Ms. Letourneau (petitioner) is a U.S. citizen who resided in France and earned wages as a flight attendant for United Airlines, Inc. During 2005, she performed such flight attendant services on roundtrip international flights between London and various international destinations, mainly in the United States. On her 2005 U.S. Income Tax Return, she excluded all of the wages from her gross income, claiming the so-called ‘foreign earned income’ exclusion, under Section 911 [of the US Tax Income Reg.].

Section 911(a) allows a ‘qualified individual’ to exclude ‘foreign earned income’ from gross income. The former is defined as *‘the amount received by such individual from sources within a “foreign country”’* which is not defined. The regulation only provides:

The term ‘foreign country’ when used in a geographical sense includes any territory under the sovereignty of a government other than that of the U.S. It includes the territorial waters of the foreign country (determined in accordance with the laws of the U.S.), the air space over the foreign country and the seabed and subsoil of those submarine areas which are adjacent to the territorial waters of the foreign country and over which the foreign country has exclusive rights, in accordance with international law, with respect to the exploration and exploitation of natural resources.<sup>47</sup>

In accordance with the regulation mentioned previously, therefore, the court ruled that a US taxpayer is entitled to the ‘foreign earned income’ exclusion *only* with respect to wages earned while in or over ‘foreign countries’ but not for wages earned in international space. Stated differently, according to the court, because international airspace – like international waters – is not under the sovereignty of a foreign government, international airspace cannot be considered as a ‘foreign country’ for purposes of Section 911.

---

45 Article 15, para.3 of the OECD Model Convention applies to the remuneration of crews of ships or aircrafts operated ‘in international traffic’. According to that provision, the income is taxable in the contracting state in which the place of effective management of the enterprise is situated. For a detailed analysis of Article 15, para.3 of the OECD Model Convention, see, for example: F. PÖTGENS & M. VERGOUWEN, “Issues relating to Remuneration of Crews of Ships or Aircrafts (art.15, par.3 OECD MC)”, in Taxation of Shipping and Air Transport in Domestic Law, EU Law and Tax Treaties, I.B.F.D., 2017, pp.149-205; Bernard PEETERS, ‘Article 15 paragraphe 3 MC OCDE: rémunérations d’un emploi exercé à bord d’un navire, d’un bateau ou d’un aéronef’, in Modèle de Convention fiscale OCDE concernant le revenu et la fortune, Holbing Lichtenhahn, 2013, pp.551-558.

46 Letourneau v. Commissioner of Internal Revenue, case n°13457-09, 21<sup>st</sup> February 2012 <https://www.leetcode.com/decision/intco20120221i53>.

47 Section 1.911-2(h) of the U.S. Income Tax Reg.

The question therefore arises whether income earned from services that are being performed in ‘outer space’ (for example, astronauts working for months at a time at the International Space Station and orbiting hundreds of miles above Earth) can be considered as ‘stateless’? Should such income be taxed in the state of residence in any case?

A similar question also arises regarding Article 15, paragraph 1 of the OECD Model Convention. How should income resulting from work performed during months or even years, for example, on the Moon be taxed? How should Article 15, paragraph 1 be applied in such a case?





## Conclusion

The purpose of the present contribution is aimed at verifying whether the current version of the OECD Model Convention could constitute a proper and appropriate tool for resolving taxation issues resulting from or connected to some specific activities or services performed in outer space. More particularly, the authors focused the analysis on [international] air transport and [international] employment issues and determined whether the current relevant OECD articles (specifically, mainly Articles 8 and 15 OECD) are adapted to settle the taxation issues resulting from said activities.

The conclusion is that this is presently not the case. Besides technical adaptations that need to be made – from a strict legal perspective – on the current version of the OECD Model Convention (adaptations resulting, for example, from the existing distinction between air law and space law), there are also obstacles that are more crucial to overcome such as, for example, the delimitation of each state's 'vertical' sovereignty or the lack of legal methods for determining (or, at least, accepting) outer space 'source' or 'origin'<sup>48</sup> principle/rules (see the Letourneau case) without which no application of the current OECD Model Convention is possible. Relying on the sole principle of 'residence' regarding these types of issues could be considered as 'ignoring' the BEPS evolution (privileging the source/origin principles over the residence principle).

As a matter of evidence, such a 'delimitation' process will raise complex legal difficulties and issues as well as possible geopolitical conflicts. As a consequence, it would be advisable to launch and conduct it under the auspices of the UN.

In other words, the authors believe that either the implementation of a new appropriate tax framework or the adaptation of the current OECD Model Convention would likely, firstly, require adapting the so-called 'Outer Space Treaty' and particularly its non-appropriation principle.

---

<sup>48</sup> Regarding the distinction that should be made between the principles of 'source' and 'origin', see, in particular: KEMMEREN Eric C.C.M., « Principle of Origin in Tax Conventions - A Rethinking Model », Thèse de Doctorat, 2001, pp.33-45.

According to the authors' opinion, such a tax framework should be of a multilateral nature (UN or OECD level), taking into account the fact that tax space law related issues will – very likely – increasingly be dealt with and resolved according to the principles governing the digital economy and, in particular, artificial intelligence (as is known, outer space activities are increasingly performed through new forms of technology, including artificial intelligence, which, as a general rule, displaces the need for *physical presence*).

As a result, the authors also believe, however, that this [multilateral] tax framework will need to *adapt* (or, as the case may be, *rethink*) some key concepts of international tax law (which are currently based on *physical presence*) such as the concept of 'residence' for natural persons or – for example – the expression '*place of effective management*' for enterprises/undertakings (for long journeys lasting for several years, it is likely that the '*place of effective management*' be *physically* located in outer space). Furthermore, as already mentioned above, it is also questionable whether a space journey beginning from one country and ending, even several months or years later, in the same country can be considered as being realized 'in international traffic'.

As the space industry is developing very rapidly and 'outer space' related taxation issues might become increasingly important, it would be advisable to begin such a process as soon as possible.

Brussels, on 05 December 2020.



**CIDEEFF**

**FCT** Fundação  
para a Ciência  
e a Tecnologia

O texto que aqui se publica resulta das comunicações preparadas para os *Lisbon Tax Law Seminars*, realizados ao longo do ano letivo de 2020/2021.