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DISPUTES FROM COMMERCIAL SPACE ACTIVITIES

Potentialities and Hurdles of Investor-State Dispute Settlement

Abstract:

Outer space is the “part of the universe which is simultaneously beyond the airspace of planet Earth and accessible to human activity”.

The recent decades have seen significant developments in the commercial activities carried out in outer space as well as an increasing diversification in the actors engaging therein. In this context, private investment is on the rise and this trend is expected to continue. With more companies and entrepreneurs exploring opportunities in space exploration, satellite deployment, asteroid mining, space tourism, and other space-related activities, it has become of the utmost importance to establish a consistent legal framework for private actors in outer space. This is even more so considering that their increasing presence in the space industry is likely to result, in the near future, in disputes between said actors and States operating in outer space, the resolution of which needs clarity regarding the applicable mechanisms.

Against this backdrop, International Space Law as the “part of existing legal systems on Earth which relates to outer space” does not seem capable of offering, at the state of play, sufficient protection to private investors engaged in space-related activities. On the contrary, International Investment Law has the potential to establish a structured framework for a rule-based system that promotes and maintains private investment flows in outer space.

Starting from the above premises, the present work investigates the applicability of International Investment Law to private investments made in the context of commercial space activities and, a fortiori, of Investor State Dispute Settlement, as a dispute settlement mechanism developed within the frame of the above body of law, to conflicts arising in outer space between private investors and States. The purpose is to highlight that not only do investments in outer space fulfil the requirements to be granted international investment protection but also that the rationale behind International Investment Law justifies its extension to encompass such investments.

JEL CLASSIFICATION: K30, K33

SUMMARY:

1 Introduction: The Commercialisation of Outer Space - 2 International Investment Law: The Scope of International Investment Protection - 3 Investment Protection of Space Assets: The Troublesome Fulfilment of the Territoriality Requirement - 3.1 Space-related Investments on Earth - 3.2 Space

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Investments in Outer Space: Can a Territorial Nexus be Construed? - 3.2.1 Theories Related to Jurisdiction: The Registration of the Space Assets as an Indicator of the Existence of a Territorial Nexus - 3.2.2 Possibly Relevant Factors Beyond the Registration of the Space Assets - 4 Conclusions: The Possible Role of Investor-State Dispute Settlement in Outer Space Activities

1 Introduction: the commercialisation of outer space

I don't think the human race will survive the next thousand years, unless we spread into space. There are too many accidents that can befall life on a single planet. But I'm an optimist. We will reach out to the stars.

Stephen Hawking

Outer space is the “part of the universe which is simultaneously beyond the airspace of planet Earth and accessible to human activity”¹.

Traditionally, outer space has been the domain of States which have undertaken missions of exploration since the second half of the 20th century. Nowadays, the number of actors engaged in space-related activities is becoming all the more diversified. In fact, the recent years have seen a rapid growth in the space industry leading to the emergence of new activities.² This is due to the discovery and implementation of cutting-edge technologies, as well as the continuous commercialisation of outer space, which increasingly involves private enterprise in activities of space exploration, utilisation, and exploitation for profit.³

In this context, private investment in outer space is on the rise, and this trend is expected to continue.⁴ With more companies and entrepreneurs exploring opportunities in, *inter alia*, satellite deployment, asteroid mining and space tourism, it has become of the utmost importance to establish a consistent legal framework for private actors (and the regulation of their investments) in outer space.⁵

¹ Vladlen S Vereshchetin, ‘Outer Space’ in the *Max Planck Encyclopedia of Public International Law. Vol VII* (Oxford University Press 2012).

² Guglielmo S Aglietti, ‘Current Challenges and Opportunities for Space Technologies’ [2020] *Frontiers Space Technologies* <<https://www.frontiersin.org/articles/10.3389/frspt.2020.00001/full>> accessed 8 March 2024.

³ See Anthony L Velocci, Jr, ‘Commercialization in Space: Changing Boundaries and Future Promises’ (2012) 33(4) *Harvard International Review* 49.

⁴ See European Space Policy Institute, ‘ESPI Report 85 - Space Venture Europe 2022 - Full Report’ (May 2023, ESPI) <<https://www.espi.or.at/reports/space-venture-europe-2022/>> accessed 8 March 2024. According to the report, from 2014 onwards, 482 private investment deals involving European space start-ups, for a total amount of EUR 2.9 billion have been recorded. In this context, 2022 alone accounted for 35% of all investments since 2014 and represents more than the total invested from 2014 to 2019.

⁵ Sergio Marchisio, ‘Space Law and Governance’ (10th United Nations workshop on Space Law, Vienna, 5-8 September 2016) 3. On the importance of private actors in the context of the NewSpace Economy see Peter van Fenema ‘Chapter 7: Legal aspects of launch services and space transportation’ in Frans G von der Dunk and others (eds), *Handbook of Space Law* (Edward Elgar Publishing 2015) 446 and, John Adolph, ‘The Recent Boom in Private Space Development and the Necessity of an International Framework Embracing Private Property Rights to Encourage Investment’ (2006) 40(4) *International Lawyer* 961, 961-962. On the notion of space tourism see Erik Seedhouse, ‘Space Tourism’, *Encyclopedia Britannica* (2023) <<https://www.britannica.com/topic/space-tourism>> accessed 8 March 2024. In this regard it should be noted that, private agencies are offering private orbital and suborbital flights. By way of example, the two main



This is all the more so considering that the growing presence of private actors and rising number of stakeholders in the space industry is likely to result, in the near future, in disputes between said actors and States operating in outer space. In this context, alongside the disputes arising from the regular conduct of activities in outer space, disputes could also arise out of outer space collisions which are expected to become more and more frequent. The cause is to be attributed to two intertwining factors: on the one hand, the increasing volume of space traffic; on the other hand, the Low Earth Orbit (LEO)⁶ getting saturated with space objects and space debris, that is the set of “non-functional, artificial objects, including fragments and elements thereof, in Earth orbit or re-entering into Earth’s atmosphere”⁷.

Evidently, the settlement of the abovementioned disputes in the outer space scenario necessarily requires enhanced clarity as per which resolution mechanisms are available to private actors and to what extent they can be resorted to.

Against this backdrop, International Space Law as the “part of existing legal systems on Earth which relates to outer space”⁸ does not seem capable of offering, at the current state of play, sufficient protection to private investors engaged in commercial space-related activities.⁹ This holds true from both a substantial and a dispute

companies active in the context of suborbital space tourism are: Virgin Galactic and Blue Origins, the latter being a privately-owned space company primarily financed by Amazon’s founder, Jeff Bezos. As far as orbital flights are concerned, SpaceX is the leading company in the market.

⁶ In this regard, note that there are three different orbits where satellites can be located: Low Earth Orbit (LEO), Medium Earth Orbit located at 26,560 kilometres from the centre of the Earth (MEO) and Geostationary Orbit located at 42,164 kilometres from the centre of the Earth (GEO). For further details on the matter see ‘Catalogue of Earth Satellite in Orbit’ (NASA Earth Observatory, 4 September 2009) <<https://earthobservatory.nasa.gov/features/OrbitsCatalog#:~:text=There%20are%20essentially%20three%20types,orbit%20and%20low%20Earth%20orbit>> accessed 6 March 2024.

⁷ On the definition of space debris see ‘FAQ: Frequently asked questions’, European Space Agency (ESA) <https://www.esa.int/Space_Safety/Space_Debris/FAQ_Frequently_asked_questions> accessed 28 February 2024. For further details of perspective disputes in outer space see Gérardine Meishan Goh, *Dispute settlement in international space law: a Multi-door Courthouse for Outer Space* (Martinus Nijhoff Publishers 2007) 3 and Tereza Pultarova, ‘Space Debris from Russian Anti-Satellite Test Will be a Safety Threat for Years’ (SPACE.COM, 16 November 2021) <<https://www.space.com/russia-anti-satellite-test-space-debris-threat-for-years>> accessed 8 March 2024. Additionally, disputes between private actors and states could arise from the conduction of government run anti-missile tests. By way of example, in November 2021 Russia carried out anti-missile tests with the purpose to defunct the Cosmos 1408 satellite. However, the satellite broke apart into at least 1,500 trackable fragments which resulted in the formation of space debris that threatened to collide the International Space Station and SpaceX’s Starlink Satellite.

⁸ Bin Cheng, *Studies in International Space Law* (OUP 1997) lxi.

⁹ Notably, International Space Law combines different sources of various origins, aiming to grant humanity the use and exploration of outer space without discrimination. While it initially emerged as a branch of Public International Law, consisting of treaties and soft law instruments, governing the behaviour of States in their inter-se relations, as time progressed, International Space law has expanded to include domestic laws and regulations. This notwithstanding, International Space Law is, to date, still largely based on five universal multilateral treaties which were negotiated within the framework of the United Nations Committee on the Peaceful Uses of Outer Space between 1960 and 1980, the UN Space Law Treaties. These are known as: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 27 January 1967, 610 UNTS 205 (entered into force on 10 October 1967) [Outer Space Treaty]; the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space Apr. 22, 1968, 672 UNTS 119; the Convention on International Liability for Damage Caused by Space Objects, 22 March 1972 961 UNTS 187; the

resolution perspective. In fact, it is under debate not only whether commercial space-related activities fall under the scope of application of International Space Law but also whether private actors, including private investors, can enjoy the status of subjects of International Space Law at all.¹⁰ *A fortiori*, it is also not settled yet if private actors can bring claims under the International Space legal framework which, in any case, lacks an established dispute resolution mechanism and, to date, operates within a fragmented patchwork.¹¹

It follows that, as International Space Law appears to be unequipped in providing safeguards for private investors and, consequently, in supporting the needs of the continuously evolving space industry,¹² it either evolves or, and in any case in the meanwhile, becomes necessary to turn to other branches of International Law.

In this regard, International Investment Law, the branch of International Law which, together with Domestic Investment Rules, governs the protection of foreign investment, comes into mind first.¹³ In light of its structure and tools, it has been attracted attention as a structured, rule-based framework equipped with an effective dispute settlement mechanism, capable of fostering and sustaining private investment in outer space.¹⁴

Convention on the Registration of Objects Launched into Outer Space Jan 14 1975 1023 UNTS 15 [Registration Convention] and Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, May 12, 1979, UNTS 1363 (entered into force on 11 July 1984) [Moon Agreement]. Notably, these treaties do not address the behaviour of a Contracting party towards another Contracting Party's investments or nationals' investments.

¹⁰ In this regard see Christina Isnardi, 'Problems with Enforcing International Space Law on Private Actors' (2020) 58 *Columbia Journal of Transnational Law* 489, 499-512. Indeed, it is not definitely settled whether private entities operating in outer space can be granted the status of subjects of International Space Law and therefore, whether they are recipients of the rights and obligations established thereof. Notably, as International Space Law lacks any precise indication as per whether private entities operating in outer space can enjoy the status of subjects, one may refer to Public International Law within whose framework scholars generally uphold the view that non-governmental entities and multinational corporations are empowered with rights and encumbered with obligations at the international level.

¹¹ Mahulena Hofmann and PJ Blount 'Space Law Disputes' *the Max Planck Encyclopedia of Public International Law* (OUP 2015) 1.

¹² See Peter Malanczuk, 'Investment Protection of Commercial Activities in Space: Treaties, Contracts, Licences, Insurance, Arbitration' (2018) 19 *Journal of World Investment and Trade* 951.

¹³ On the recognition of International Investment Law as a branch of International Law, see Rudolf Dolzer, Ursula Kriebaum and Christoph Schreuer, *Principles of International Investment Law* (3rd ed, OUP 2022) 19. Additionally, Peter T Muchlinski, Federico Ortino and Christoph Schreuer (eds), *The Oxford Handbook of International Investment Law* (OUP 2008) 6; Valentina Vadi, *Proportionality, Reasonableness and Standards of Review in International Investment Law and Arbitration* (Edward Elgar Publishing 2018) 4; Cristina-Elena Popa Tache, *Introduction to International Investment Law* (ADJURIS - International Academic Publisher 2020) 14. On the definition of International Investment Law as the branch of law covering foreign investments, see Sarah M Alshahrani, 'What Should We Know About the Origins of International Investment Law?' (2020) 48 *International Journal of Legal Information* 122, 123. Additionally, International Law Commission 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law' (United Nations Publications 18 July 2006) <https://legal.un.org/ilc/documentation/english/a_cn4_l702.pdf> accessed 8 March 2024. The report is worth noting as it defines international investment law as the specialised field of "general international law" dealing with foreign investment.

¹⁴ On the application of International Investment Law to space-related investments see *inter alia* Christopher Greenwood, 'Oceans and Space: Some New Frontiers for International Investment Law' (2018) 19 *Journal of World Investment & Trade* 775; Stephan Hobe, Rada Popova, Hussaine El Bajjati and Julian Scheu, 'The Protection of Satellite Telecommunications Activities Under Bilateral Investment Treaties' (2018) 19 *Journal of World Investment & Trade* 1024; Vivasvat Dadwal and Charles B Rosenberg, 'Looking to the Past for the Future: International Investment Law as a Framework to Protect Private Actors in Outer Space' (2020) 3(3) *ITA in review* 52; Ingo Baumann, Hussaine El



However, the application of this law to outer space investments is not necessarily straightforward. This is because International Investment Law requires specific conditions for investment protection. Accordingly, and provided that the investment in question qualifies as such within the meaning of the applicable International Investment legal rules, this should be made by a foreign investor in the territory of a certain State, i.e. the host State, and a territorial nexus between the investment and said territory must exist. Seemingly, fulfilling these requirements is rather complex in a scenario, such as that of outer space, where investments and their underlying assets are not always located on Earth but are often located in outer space (i.e. satellites in orbit). In fact, outer space is not subject to “national appropriation by claims of sovereignty”¹⁵ since it constitutes the common “heritage of mankind”¹⁶ and, as such, does not fall under the spatial scope of any International Investment Legal instruments.¹⁷ Therefore, determining the jurisdiction of a certain State with respect to another, and construing the territorial nexus, required under International Investment Law, is rather problematic.

Starting from the above premises, the present work seeks to explore the intersection of these two branches of International Law, namely International Space Law and International Investment Law in the frame of the increasing commercialisation of outer space. More precisely, after determining the scope of application of International Investment Law, it investigates the applicability of the international investment legal framework to private investments made in the context of commercial space activities and, *a fortiori*, the application of Investor State Dispute Settlement, as a dispute settlement mechanism developed within the above body of law, to conflicts between private investors and States arising from the activities carried out in outer space.

Bajjati and Erik Pellander, ‘NewSpace: A Wave of Private Investment in Commercial Space Activities and Potential Issues Under International Investment Law’ (2018) 19(5-6) Journal of World Investment and Trade 930.

¹⁵ Outer Space Treaty (n 9) at Art. II. At paragraph 1, the Article reads: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”.

¹⁶ Moon Agreement (n 9) at Article 11. The Article constitutes the hub of the Agreement as under paragraph 1 it states that “The moon and its natural resources are the common heritage of mankind [...]”, a principle further elaborated under paragraph 5 of the same Article. Notably, it should be noted that the perception of outer space as belonging to humanity as a whole finds general consensus. By way of example, in the Joint Communication to the European Parliament and the Council entitled ‘European Union Space Strategy for Security and Defence’, the High Representative of the Union for Foreign Affairs and Security Policy explicitly states that ‘the EU recognises Outer Space as a Global Common’.

¹⁷ On the interpretation of the principle of ‘common heritage of mankind’ see, *inter alia*, Seokwoo Lee and Jeong Woo Kim, ‘Applying the principle of the common heritage of mankind’ in Keyuan Zou (ed), *Global Commons and the Law of the Sea* (Brill Nijhoff 2018) 15-49. Additionally, Rüdiger Wolfrum, ‘The Principle of Common Heritage of Mankind’ (1983) 43 Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 312 and Stephen Gorove, ‘The Concept of “Common Heritage of Mankind”: A Political, Moral or Legal Innovation?’ (1972) 9 San Diego Law Review 390. With regard to outer space specifically, see Virgiliu Pop, ‘Is outer space proper the “Common Heritage of Mankind”?’ (59th IISL Colloquium on the Law of Outer Space, 2016) 239-246 and Irmgard Marboe, ‘The end of the concept of “Common Heritage of Mankind”? The views of state parties to the Moon Agreement’ (59th Colloquium on the Law of Outer Space, 2016) 225-238.

2 International Investment Law: the scope of International Investment Protection

Extensively recognised as among the most rapidly evolving branches of International Law, International Investment Law revolves around approximately 3000 International Investment Agreements (IIAs), including 2,340 Bilateral Investment Treaties (BITs) and 319 treaties with investment provisions (TIPs). As mentioned, by encompassing a set of principles, rules, and agreements that guide the relations between foreign investors and their host States, i.e. the States where the investment takes place, International Investment Law is designed to strike a balance between the protection of investors and the regulatory autonomy of the host State.¹⁸ More precisely, International Investment Law aims at encouraging investment flows thus promoting the common interest of the States involved. Accordingly, it seeks to grant investors protection and fair treatment within a structured legal framework, regardless of the location of their investments, at the international level, i.e. beyond and/or outside the domestic jurisdiction of the host State.¹⁹

Notably, in order to determine the scope of International Investment Law and, *a fortiori*, the extent to which, in case of disputes, investors can resort to Investor-State Dispute Settlement for the protection of their investments,²⁰ a number of concepts need to be clarified in their essential elements. These are those of foreign investment, investor and the territorial nexus between the investment and the host State.²¹

As concerns the notion of foreign investment, two factors shall be taken into account for the purpose of international investment protection. First, investment is a concept of economic origins which does not find a precise definition under International Law and does not encompass all types of property interests. Second, the relevant investment treaties further define the scope of the investments protected therein.²²

It follows that, while no single definition of foreign investments can be found in the realm of International Investment Law, in practice, international investment legal

¹⁸ Organisation for Economic Co-operation and Development (OECD), 'FDI in Figures. April 2023' (OECD Publishing 2023) <<https://www.oecd.org/daf/inv/investment-policy/FDI-in-Figures-April-2023.pdf>> accessed 8 March 2024. Despite the drop by 24% in 2022, the global FDI volume reaches an approximate value of USD 1 286 billions.

¹⁹ See Dolzer, Kriebaum and Schreuer (n 13) 20.

²⁰ In this regard note that, for the purpose of Investor-state Dispute Settlement, international investment agreements have adopted conciliation, mediation and arbitration. In this context, investor-State arbitration has emerged as the dominant method, eclipsing the other two amicable dispute settlement processes. This is not solely due to its adversarial nature, but primarily because it results in binding and enforceable decisions. For further details on Investor-State dispute settlement see, *inter alia*, Dolzer, Kriebaum and Schreuer (n 13) 238. On the emergence of investor-State arbitration over conciliation and mediation see Romesh Weeramantry and Brian Chang, 'Investor-State Conciliation and Mediation', Oxford bibliographies <<https://www.oxfordbibliographies.com/display/document/obo-9780199796953/obo-9780199796953-0219.xml>> accessed 8 March 2024.

²¹ See Barton Legum, 'Defining Investment and Investor: Who is Entitled to Claim?' (2006) 22(4) *Arbitration International* 521, 522.

²² Lucy Reed, Zoe Scanlon and Dafina Atanasova, 'Protected Investment', *Max Planck Encyclopedias of International Law* (OUP 2015).



instruments define investment either on an “enterprise” or “asset” basis.²³ According to the former, it is the establishment or the acquisition of an enterprise in the host State that is considered as investment. On the contrary, the latter definition encompasses “every kind of asset”, both tangible and intangible, and is normally complemented by an illustrative but non-exhaustive list.²⁴

Evidently, the enterprise-based approach entails a higher degree of legal certainty if compared to its counterpart. However, even adopting the asset-based approach, some common traits distinctive to foreign investments can be identified.²⁵ These include: i) the duration of the project; ii) the regularity of profit and return; iii) the risk for both sides; iv) a substantial commitment; and v) significant impact of the operation for the development of the host State.²⁶

On a different note, the definition of investor finds a broader consensus under International Investment Law. While investors can be of two kinds, natural persons and juridical persons, for International Investment Law to apply, specific requirements need to be met which vary depending on the form taken up by the investor. Normally, investors in the form of natural persons are required to be nationals or residents of a State party to the relevant International Investment Agreement or BIT, while investors in the form of juridical persons are to be incorporated or established within a State party to an International Investment Agreement or Bilateral Investment Treaty.²⁷ In this

²³See International Institute for Sustainable Development (IISD), ‘Definition of Investment’ (Sustainability Toolkit for Trade Negotiators) <<https://www.iisd.org/toolkits/sustainability-toolkit-for-trade-negotiators/5-investment-provisions/5-2-definition-of-investment/#:~:text=Investment%20can%20be%20defined%20on,enterprise%20in%20the%20host%20state>> accessed 6 March 2024. It is noteworthy that, while the asset-based definition is adopted by over ninety percent of investment treaties, the enterprise-based definition is rarely relied upon and can be found, for instance, in Canada bilateral treaty practice.

²⁴ Dolzer, Kriebaum and Schreuer (n 13) 63. As indicators of the treaty practice with regard to the notion of “asset-based definition of investment”, the authors bring three examples. First, the 1991 Argentina-US BIT. Second, the 1992 Ukraine-Denmark BIT, which requires an economic purpose for an asset to qualify as investment. Third, the 2003 USA-Chile BIT which makes reference to the commitment of resources, the expectation of profit and the assumption of risk as necessary characteristics of an investment.

²⁵ Anastasiya Ugale and Dafina Atanasova, ‘Definition of Investment’ (*Jus Mundi*, 2023) <<https://jusmundi.com/en/document/publication/en-definition-of-investment>> accessed 6 March 2024. Although it does not grant legal certainty, this flexible approach entails a number of advantages: not only does it acknowledge the evolving nature of investment but also it accommodates new forms of investment that may emerge over time.

²⁶ In this regard, Leïla Choukrone and James J Nedumpara, *International Economic Law. Text, Cases and Materials* (CUP 2021). The above listed elements are the elements that the ICSID arbitral tribunal in the Salini case (*Salini Costruttori S.p.A. and Italstrade S.p.A. v. Kingdom of Morocco*, ICSID Case No. ARB/00/4, Decision on Jurisdiction, 23 July 2001 [Salini case]) have indicated when investigating the presence of an investment within the definition provided under the ICSID Convention. Notably, this approach was endorsed by arbitral tribunals in subsequent decisions and is now established in the prevailing jurisprudence.

²⁷ In this regard note that the Organization for Islamic Cooperation (OIC) constitutes a peculiar type of investor. With its headquarter in Jeddah and 57 member States, The OIC represents and protects the interests of the muslim world. In the context of International Investment Law, the OIC Investment Agreement is worth mentioning since it represents a powerful tool for investment protection inasmuch as it provides protection to foreign investments between OIC Members where no BIT exists. For further details on the matter and on the role played by the OIC as investor see *inter alia* Craig D Gaver and Yusuf Kumtepe, ‘Checking in on the OIC Investment Agreement: New Arbitrations, But Slow Progress on Creating A Permanent Dispute Settlement Mechanism’ (*Kluwer Arbitration Blog*, 17 March 2023)

regard, it is worth noting that the latter category of investors includes, *inter alia*, private corporations and public entities such as State-Owned Entities (SOEs),²⁸ Sovereign Wealth Funds (SWFs)²⁹.

Remarkably, for a foreign investment to enjoy protection under International Investment Law, the fulfilment of the above two requirements alone is not sufficient: a territorial nexus needs to be construed between such investment and the territory of the host State.³⁰ Leaving aside issues related to the definition of “territory”,³¹ while determining the existence of this requirement is easily ascertainable for enterprises or tangible assets, it becomes more complex for intangible assets such as contractual rights and financial instruments which do not require a physical transfer of funds into the host State.³² In such cases, investment tribunals have extended the notion of territoriality requirements as provided for under the relevant international investment legal instrument to encompass situations where the existence of such nexus was less straightforward.³³ By way of example, the fulfilment of the territoriality requirement has been considered achievable through participation via shares or equity in the invested company, even if such participation is remote or indirect.³⁴ In the same vein, some

<<https://arbitrationblog.kluwerarbitration.com/2023/03/17/checking-in-on-the-oic-investment-agreement-new-arbitrations-but-slow-progress-on-creating-a-permanent-dispute-settlement-mechanism/>> accessed 6 March 2024.

²⁸ In this regard, State-owned entities are commonly referred to as entities owned or controlled by States, established with the purpose to achieve financial objectives through a commercial approach. For further details on the matter see Albert Badia and Kabir AN Duggal, ‘State-Owned Enterprises’ (*Jus mundi*, 2023) <<https://jusmundi.com/en/document/publication/en-state-owned-enterprises#:~:text=%E2%80%9CA%20SOE%20%5BState%20Owned%20Enterprise,from%20its%20public%20administrative%20functions.%E2%80%9D>> 8 March 2024.

²⁹ See Xenia Karametaxas, ‘Sovereign Wealth Funds as Socially Responsible Investors’ in Giovanna Adinolfi, Freya Baetens, José Caiado, Angela Lupone and Anna G Micara (eds) *International Economic Law* (Springer 2017). The author defines SWFs as ‘public investment vehicles, owned and managed directly or indirectly by governments and set up to achieve a variety of macroeconomic purposes’.

³⁰ *Inter alia*, Salma Selim and Makane Moïse Mbengue, ‘Territoriality of Investment’ (*Jus Mundi*, 2023) <<https://jusmundi.com/en/document/publication/en-territoriality-of-investment>> accessed 6 March 2024. Please, note that numerous International Investment Agreements (IIAs) explicitly mention the territorial aspect of the investment, whereas others remain silent. In this sense, while the latter do not address whether the investment must be made ‘within the territory of’ the host State, they sometimes make references to the territorial nexus in their Preamble. On the contrary, the ICSID Convention is silent as per whether there should be a territorial link between the investment and the host State to the investment. Nevertheless, the Report of the Executive Directors sets the need to ‘stimulate a larger flow of private international investment into the territory of the host State’ as the ‘primary purpose of the ICSID Convention’. Therefore, with the attempt to fill in the above lacuna, scholars are of the view that the territoriality of the investment is a requirement implicitly enshrined in the body of Article 25 of the Convention.

³¹ *ibid.* In this regard, it should be noted that the issue has turned out to be especially significant in investment disputes concerning State succession and annexation. A recent example is the claims made by Ukrainian investors against Russia regarding investments situated in Crimea which was part of Ukraine before its annexation by Russia in 2014.

³² *ibid.*

³³ In this regard see, *Abaclat (formerly Beccara) v. Argentina*, ICSID Case No. ARB/07/5, Decision on Jurisdiction and Admissibility, 4 August 2011 [*Abaclat v. Argentina*] at paras 374 - 378; 498. Additionally, *Bayview Irrigation District et al. v. United Mexican States*, ICSID Case No. ARB(AF)/05/1, Award, 19 June 2007 [*Bayview v. Mexico*] at para 98.

³⁴ Selim and Mbengue (n 30). See also *Teinver S.A., Transportes de Cercanías S.A. and Autobuses Urbanos del Sur S.A. v. Argentina*, ICSID Case No. ARB/09/1, Award, 21 July 2017 [*Teinver v. Argentina*].



tribunals have suggested that the key factor for determining the location of the investment is whether the host State ultimately benefits from the intangible asset, irrespective of whether direct money transfer into the host State occurred or if foreign forum selection and governing law clauses were established.³⁵

3 Investment protection of space assets: the troublesome fulfilment of the territoriality requirement

From the above it is clear that, for an investment to be granted international investment protection under International Investment Law, a number of conditions need to be met. This applies to space assets as well. However, due to the peculiar nature of the outer space scenario and of the space industry as well, such fulfilment is not immediately straightforward. This is first and foremost due to the lack of a generally agreed definition of space assets for the purposes of International Investment Law.³⁶ In fact, while and as it is the case for the notion of investment under International Investment Law, that of “space assets” is a concept of economic origins not precisely defined under either International Investment Law or International Space Law, the 2012 Space Protocol to the 2001 UNIDROIT Convention on International Interests³⁷ constitutes the only attempt made by the International Community for the definition of the above term. Despite not pertaining to International Investment Law, under Art. 1 .2 let. (k), the Protocol defines space assets as “any man-made uniquely identifiable asset in space or designed to be launched into space”, comprising both moveable and immoveable property potentially located in outer space, including but not limited to satellites. Notably, as it does not encompass certain categories of assets, such as licences or concessions under contract or public law which, especially when relating to the extraction of natural resources, play an important role in the context of space-related investments, such definition can only be regarded as a starting point. In fact, in light of the constant evolution of the space industry, when undertaking an assessment of whether a particular asset qualifies as a space asset, it becomes imperative to depart from considerations strictly pertaining to the legal sphere and, instead, adopt a factual perspective, providing an analysis of the assets that de facto populate outer space/pertain to the industry although not necessarily located in outer space. In this regard, while the former comprises satellites, space objects, the upper stages of launchers and

³⁵ Caroline Kleiner and Francesco Costamagna, ‘Territoriality in Investment Arbitration: The Case of Financial Instruments’ (2018) 9 *Journal of International Dispute Settlement* 315, 323.

³⁶ See Cheng (n 8) 462-474.

³⁷ Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets, 9 March 2012 <<https://www.unidroit.org/instruments/security-interests/space-protocol/>> accessed 6 March 2024 (not entered into force) [Space Protocol]. Notably, the Protocol under discussion is a Protocol to the Convention on International Interests in Mobile Equipment, 16 November 2001, 2307 UNTS 285 (entered into force on 1 April 2004) [Cape Town Convention].

space stations, the latter includes space mining equipment, private entities engaged in the space sector, contractual rights and, most importantly, concessions contracts for the use of geostationary orbits.

Overall, while based on the above, it can be accepted that space investments in the form of space assets fall under the broad definition of Investment under International Investment Law³⁸ and are generally made by investors taking up the forms provided by such a body of law, it is the fulfilment of the territoriality requirement to pose particular issues.³⁹ This is all the more so considering that investments made in the space industry are not necessarily always located on the Earth's surface and within the territory of one State, but are oftentimes located in outer space. Significantly, this makes the ascertainment of the existence of a territorial nexus in the context of investments made in the space sector rather complex.⁴⁰ The reason is twofold. First, outer space does not fall under any explicit geographical coverage in the spatial application of a given International Investment Agreement or BIT.⁴¹ Second, as outer space is not subject to claims of national sovereignty,⁴² inquiries related to the degree of investment protection granted to space assets in orbits (such as space colonies on Moon or Mars, space transport and space mining activities) by a specific investment treaty arise.⁴³ It follows that, when it comes to assets in outer space, i.e. in orbit, as it is difficult to determine the territorial limits of the jurisdiction of one State with respect to that of another, it is challenging to establish whether a State can qualify as

³⁸ As space assets entail a commitment of capital and resources, a certain duration, the expectation of gain or profit and the assumption of risk, they would fall under the definition of investment under the ICSID Convention as well as the generally adopted asset-based/enterprise-based definitions of investment by Bilateral Investment Treaties. See for example, the definition of investment under 2015 India Model BIT at Art. 1(4).

³⁹As concerns the challenges related to the construction of a territorial nexus see Luc Colin, 'Washington Arbitration Week 2022: International Investment Protection of Space Assets, Quo Vadis?' (*Kluwer Arbitration Blog*, 28 December 2022) <<https://arbitrationblog.kluwerarbitration.com/2022/12/28/washington-arbitration-week-2022-international-investment-protection-of-space-assets-quo-vadis/>> accessed 6 March 2024.

⁴⁰ Allison Torline, 'Looking Back While Looking Up: A Review of Space Arbitration Topics' (*Kluwer Arbitration Blog*, 22 February 2023) <<https://arbitrationblog.kluwerarbitration.com/2023/02/22/looking-back-while-looking-up-a-review-of-space-arbitration-topics/>> accessed 6 March 2024.

⁴¹ In this regard note that International Investment Agreements, generally the investment to be made "*in the territory of one contracting party*". Since, from an International Space Law perspective, outer space cannot be subject to national appropriation, investments located in outer space fall outside the geographical coverage of said Agreements. By way of example see Art. 1(4) of the Agreement for the Protection and Promotion of Investment between The Government of the Kyrgyz Republic and the Government of the Republic of Austria, 22 April 2016 <<https://investmentpolicy.unctad.org/international-investment-agreements/treaty-files/5993/download>> accessed 6 March 2024 (entered into force on 1 October 2017).

⁴² Malanczuk (n 12).

⁴³ *ibid.* More precisely, some scholars are of the view that the only factor that matters is whether, from both economic and legal perspectives, the investment, namely the company that possesses assets as property or controls relevant contractual rights, is located within the host State's territory and whether the action affecting the investment, which might potentially constitute a violation of the Bilateral Investment Treaty (BIT), can be attributed to the host State. Therefore, the fact that these assets, i.e. the space assets, would physically be located outside the jurisdiction of the State, would not be of relevance. On the other hand, some other scholars give the utmost importance to the jurisdictional requirement arguing that it is whether the space assets are located under the jurisdiction of the host State that counts.



the host State to the investment and, *a fortiori*, whether possible disputes arising therefrom could be covered by an IIA and solved by means of International Investment Arbitration.

Leaving aside space-related investments on Earth where the territorial nexus has generally been regarded as construed, in the attempt to provide a solution to the complex issue outlined above, a number of approaches have been explored by scholars and adopted by case law. These in principle allow for the establishment of said territorial nexus and, consequently, allow for international investment protection of the abovementioned asset depending on whether they are located in outer space or on Earth.

3.1 Space-related Investments on Earth

As opposed to space investments located in outer space, when it comes to space-related investments on Earth the fulfilment of the territorial requirement does not raise any particular issue.⁴⁴

This category of space-related assets comprises both tangible assets in the territory of a certain State, such as enterprises engaged in the space sector or spacecrafts/rockets before they are launched, and intangible assets - including contractual rights and concession contracts for the use of geostationary orbits. In this case, the ascertainment of the territorial nexus follows the general rules clarified by case law.

Of particular interest is the treatment of intangible assets in the space industry. Against this backdrop, existing case law suggests that the crucial factor in identifying if an investment is located within a particular State is whether that State ultimately benefits from the intangible asset. This holds true irrespective of whether there was a direct financial transfer to the host State or the inclusion of foreign forum selection and governing law clauses.⁴⁵ Along these lines, in situations where intangible assets do not require a physical transfer of funds into the host State, the territoriality requirement can be deemed satisfied through share or equity participation in the invested company, even if such participation is remote or indirect.⁴⁶ In this context, all three existent

⁴⁴ Colin (n 39).

⁴⁵ Kleiner and Costamagna (n 35) 323. Among the case law mentioned by the authors, the case of *Abaclat v. Argentina* is of particular relevance. At para 374, the Tribunal ruled: 'The Tribunal finds that the determination of the place of the investment firstly depends on the nature of such investment'. Notably, a settlement agreement between the parties, in the form of an award, closed the case in 2016.

⁴⁶ Selim and Mbengue (n 30). Additionally, see *Teinver v. Argentina* (n 34) at paras. 230. In this case, the Tribunal ruled that shares indirectly held through the subsidiaries of a company fell under the coverage of the applicable legal instrument (the 1991 Argentina-Spain BIT). As a matter of fact, the definition of investment provided for by the relevant BIT refers to "every kind of asset", including "property and rights of any kind" thus comprising shares, even in case of indirect or remote participation. For further details on the territorial requirements interpreted in *Teinver v. Argentina* see Eric De Brabandere, 'Teinver S.A., Transportes de Cercanías S.A. and Autobuses Urbanos del sur S.A. v. The Argentine Republic' (2014) 15 *Journal of World Investment and Trade* 295, 298.

Investor-State Space cases, namely *CC/Devas v. India*,⁴⁷ *Deutsche Telekom v. India*⁴⁸ and *Eutelsat v. Mexico*⁴⁹ concerned investments belonging to this category.⁵⁰ In fact, while the case of *CC/Devas v. India* and that of *Deutsche Telekom v. India* both regarded the lease of a S-band satellite spectrum from Antrix, an Indian State owned entity, to Devas, the case of *Eutelsat v. Mexico* relates to a concession contract granting the rights to the use a geostationary orbital position. Although the cases had inherent differences, it is important to consider that in all three cases the ascertainment of the territorial

⁴⁷ *CC/Devas (Mauritius) Ltd., Devas Employees Mauritius Private Limited, and Telcom Devas Mauritius Limited v. Republic of India*, PCA Case No 2013/09 [CC/Devas v. India]. The proceedings, conducted under the 1998 India - Mauritius BIT, arose from the early termination, in 2011, by the Indian Cabinet on Security of the so-called "Devas Agreement" between Devas Multimedia Private Limited, an Indian company with ties to three Mauritian Entities (collectively "CC/Devas") as well as to Deutsche Telekom AG, a German telecommunications conglomerate, and Antrix Corporation Limited, a fully owned Indian Company. The agreement concerned the lease of a portion of S-band satellite spectrum for Antrix to provide multimedia services and broadband wireless access to India remote areas through the Devas System that is a terrestrial-satellite communications infrastructure. Among the claims brought by CC/Devas are the violation of the fair and equitable treatment and the unlawful expropriation of their investments. Notably, the Tribunal ruled in favour of both indirect expropriation and violation of the principle of Fair and Equitable Treatment. For further details on the case and on the ruling of the tribunal see, *inter alia*, Sanjay Sujaya, 'Necessity in Investment Arbitration: Essential Security Interests in the Devas Era' (2021) 3 Indian Arbitration Law Review 15, 18. Additionally, Susannah Moody, 'Mauritius court blocks treaty claim in Devas saga' (*Global Arbitration Review*, 17 January 2023) <<https://globalarbitrationreview.com/article/mauritius-court-blocks-treaty-claim-in-devas-saga>> accessed 9 March 2024.

⁴⁸ *Deutsche Telekom AG v. The Republic of India*, PCA Case No. 2014-10 [Deutsche Telekom v. India]. This case, initiated under the 1995 Germany - India BIT, arises from the same facts leading to the commencement of the arbitral proceedings in CC/Devas vs India, namely the termination of the 'Devas Agreement'. Similarly, to those brought by CC/Devas, the claimants contended the violation of the principle of Fair and Equitable Treatment and that India had unlawfully expropriated their investment. As concerns the outcome of the case, it is worth noting that despite the analogous in the claims and defences, the tribunal found India to have violated the principle of fair and equitable treatment only. On the interpretation of the Fair and Equitable clause in the case of *Deutsche Telekom v. India*, see Ridhi Kabra, 'Return of the Inconsistent Application of the 'Essential Security Interest' Clause in Investment Treaty Arbitration: CC/Devas v. India and Deutsche Telekom v. India.' (2019) 34(3) ICSID Review - Foreign Investment Law Journal 723, 736-741.

⁴⁹ *Eutelsat S.A. v. United Mexican States*, ICSID Case No. ARB(AF)/17/2 [Eutelsat v. Mexico]. Concluded in 2021, it is the most recent publicly known case of investment arbitration arising from space-related activities. Brought before an ICSID Tribunal and administered through the application of the ICSID Arbitration Rules, the case concerns the acquisition by the French company Eutelsat of the Mexican Satellite Company, Satélites Mexicanos ("Satemex") which caters the telecommunication demands of 90 % of the population of the American continent for a value of approximately USD 831 million in 2014. Relevantly, by acquiring the 100 % of the share capital of Satmex, Eutelsat became also the owner of the concessions that were given to said satellite company to occupy geostationary orbital positions in Mexico. Shortly after Eutelsat's investment in Satmex, the government of Mexico implemented regulatory rules requiring satellite operators to allocate a portion of their signal transmission capacity, namely megahertz that could be employed for commercialization, to the use of the government for its own purposes. In this context, deeming to have been obliged to offer a greater amount of megahertz, i.e. 362 megahertz, if compared to its competitors, which instead were required to provide 8 megahertz, Eutelsat commenced the arbitral proceedings. In doing so Eutelsat argued that Mexico had allegedly violated, *inter alia*, the principle of fair and equitable treatment as provided under the 1998 France - Mexico BIT. In 2021, the case was awarded and Eutelsat's claim regarding Mexico's failure to grant fair and equitable treatment was dismissed. The award of the case is not made publicly available. In this regard see Gobierno de México "México prevalece en caso inversionista-Estado promovido por la empresa francesa Eutelsat, S.A. al amparo del APPRI México-Francia" <<https://web.archive.org/web/20220309124455/https://www.gob.mx/se/prensa/mexico-prevalece-en-caso-inversionista-estado-promovido-por-la-empresa-francesa-eutelsat-s-a-al-amparo-del-appri-mexico-francia>> accessed 9 March 2024.

⁵⁰ Colin (n 39).



requirements proceeded relatively smoothly thus demonstrating the non-problematic nature of the territoriality requirement for these types of investments.

3.2 Space Investments in Outer Space: Can a Territorial Nexus be Construed?

As discussed, when it comes to space assets located in outer space, construing a territorial nexus between the investment, i.e. the space asset, and the host State is rather complicated.⁵¹ This is for two reasons, which are largely intertwined with one another. First and foremost, unlike airspace,⁵² outer space is not subject to national appropriation by claims of sovereignty.⁵³ Instead, it constitutes the “common heritage of mankind”.⁵⁴ Evidently, this results in the determination of - at least physical - boundaries between the different territories in outer space being impossible.

Second, the line of demarcation between airspace, which is subject to the principle of vertical sovereignty, and outer space is far from being agreed upon, thus making it rather controversial to determine when an investment is indeed located in outer space and when, on the contrary, it is located in the airspace.⁵⁵ Although this might seem irrelevant for the purposes of our analysis, it instead plays a major role. In fact, in case an investment is deemed to be located in the airspace, the construction of a territorial nexus between the host State and the investment would be rather straightforward as it would follow the same reasoning as the one applied for investments on earth.⁵⁶

Despite the difficulties enshrined in the very peculiar nature of space investments located in outer space, scholars and practitioners have developed several theories in the attempt to - at least tentatively - construe the above territorial nexus and, *a fortiori*, ensure that investments of this kind are granted protection under International Investment Law.

Against this backdrop, before delving into the substance of the subject matter, it is necessary to say a few words on the ruling of the ICSID tribunal in the case of *Abaclat v.*

⁵¹ For the sake of clarity, it should be noted that, for the purposes of our analysis, the category of investments located in outer space encompasses those investments made in the space sector entailing activities carried out in outer space to a large extent.

⁵² See the Convention on International Civil Aviation, 7 December 1944, 15 U.N.T.S.295 (entered into force on 4 April 1947). Pursuant to Article I, airspace is governed by the principle of vertical sovereignty, meaning that each state has jurisdiction over the airspace above their territory in accordance with the latin dictum ‘*cujus est solum, ejus est usque ad coelum*’. More precisely, the Article reads: ‘The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory’.

⁵³ See Outer Space Treaty (n 9) at Art. II.

⁵⁴ See Moon Agreement (n 9) at Art. 11.

⁵⁵ For further details on the matter see, Colin (n 39). The author points out that while scholars have proposed numerous different limits, an example of which is the Karman line, set at approximately 62 miles above the sea level, even the lowest space objects are orbiting well above this definition.

⁵⁶ In this regard see *supra* section 3.1. Additionally, Jinyuan Su, ‘The Delimitation Between Airspace and Outer Space and the Emergence of Aerospace Objects’ (2013) 78(2) *Journal of Air Law & Commerce* 355, 361; additionally, Gbenga Oduntan, ‘The Never Ending Dispute: Legal Theories on the Spatial Demarcation Boundary Plane between Airspace and Outer Space’ (2003) 1 *Hertfordshire Law Journal* 64, 64-65.

Argentina, in which the concept of territorial nexus was expanded to extend beyond the physical territory of a State. In this regard, it is noteworthy that, in that case, the investment consisted of the ownership of sovereign bonds issued by Argentina and that the claims were brought forward, following Argentina's default in sovereign bonds resulting from the implementation of laws related to the restructuring of its public debt. Notably, when asked to provide an answer to the jurisdictional issue as to whether the investment in subject was made in the territory of Argentina, the Tribunal ruled that "the determination of the place of the investment firstly depends on the nature of such investment"⁵⁷ and that the physical presence is not *per se* fatal to meeting the territorial requirement.⁵⁸ In this context, the Tribunal ruled that "the relevant criteria should be where and/or for the benefit of whom the funds are ultimately used, and not the place where the funds were paid out or transferred. Thus, the relevant question is where the invested funds ultimately made available to the host State and did they support the latter's economic development".⁵⁹ Therefore, as the funds raised through the bond issuance process were eventually provided to Argentina, contributing to the financing of the country's economic growth, the Tribunal found that the investment was made in the territory of Argentina.⁶⁰

This approach being undisputed and adopted by the majority of the subsequent jurisprudence, it is now time to investigate how the non-physical territorial nexus between a space investment in outer space and the host State can be determined. For this purpose, three different theories will be analysed, the first one of which points towards the registration of the space assets on a certain national registry as a decisive factor to determine whether an investment has been made in the territory of a certain State (3.2.1). On a different note, the second and the third theory under discussion

⁵⁷ *Abaclat v. Argentina* (n 33) at para 374. The Tribunal further elaborated on the matter by mandating that, with regard to investments of financial nature, "the relevant criteria should be where and/or for the benefit of whom the funds are ultimately used, and not the place where the funds were paid out or transferred. Thus, the relevant question is where the invested funds ultimately made available to the host State [sic] and did they support the latter's economic development". As reported by Kleiner and Costamagna (n 35) 324, that outlined above is normally referred to by the doctrine as the principle of "continuous credit benefit". In this regard, it is worth noting that in its dissenting opinion, the judge Georges Abi-Saab adopted a different approach. In fact, para 94 reads "And how can the fact that the investment has been made or realised in the territory of the host country be proved or demonstrated, except by tracing it to a specific project, enterprise or activity in that territory that corresponds to the economic meaning of investment in article 25 of the ICSID Convention (i.e. that it contributes to the expansion of the country's productive capacity)".

⁵⁸ Notably, this view finds widespread consensus in arbitral investment case law. *Inter alia*, as reported by Hobe, Popova, El Bajjati and Scheu (n 14), see *Ambiente Ufficio SpA and others v. Argentine Republic* ICSID Case No ARB/08/9, Decision on Jurisdiction and Admissibility, 8 February 2013 at para 498. For a critical analysis on the interplay between *Abaclat v. Argentina* and *Ambiente Ufficio SpA*, see Strong S I, 'Heir of Abaclat? Mass and Multiparty Proceedings: Ambiente Ufficio S.P.A. V. Argentine Republic' (2014) 29 ICSID Review-Foreign Investment Law Journal.

⁵⁹ *Abaclat v. Argentina* (n 33) at para 376.

⁶⁰ *Abaclat v. Argentina*, (n 33) at para 378. For a legal analysis of the ruling see Susan L Karamanian, 'Introductory note to *Abaclat & Others v. Argentine Republic: Decision on Jurisdiction and Admissibility* (ICSID)' (2013) 52(3) International Legal Materials 667, 667-670.



depart from the above and consider other elements as entailing the potential of establishing said territorial nexus (3.2.2).

3.2.1 Theories Related to Jurisdiction: The Registration of the Space Assets as an Indicator of the Existence of a Territorial Nexus

On the premise that the ICSID Tribunal in *Bayview v. Mexico* has interpreted “investment in the territory of a State” in the sense that the host State should be able to exert jurisdiction over the alleged investment,⁶¹ the first theory under consideration establishes a territorial nexus between the space asset in orbit and the State under whose jurisdiction the asset falls.⁶² In this regard, absent any international legal criteria as per the territorial limits of the jurisdiction of a State beyond Earth’s atmosphere, one needs to resort to other elements in order to determine the extent to which a certain State has jurisdiction over a space asset when this is located in outer space.

To this end, two International Space Law Treaties come into play: the already mentioned Outer Space Treaty and the Registration Convention. In fact, if read in conjunction, they confer to States the jurisdiction and control over space objects that appear on their national registry.⁶³ More precisely, as Article VIII of the Outer Space Treaty mandates that States retain jurisdiction over the objects they launch in outer space⁶⁴ and Article II of the Registration Convention requires launching States to maintain a registry of said objects,⁶⁵ the registration of a space object in a national registry has been considered as an indicator of the existence of a territorial nexus between the investment, i.e. said object, and the host State to the investment, i.e. the State of registry. Accordingly, private investors would in principle be entitled to bring

⁶¹ *Bayview v. Mexico* (n 33), at para 98. On this occasion the ICSID Tribunal ruled that “a salient characteristic will be that the investment is primarily regulated by the law of a State other than the State of the investor’s nationality, and that this law is created and applied by that State which is not the State of the investor’s nationality”. As regulating an investment implies exerting jurisdiction over said investment, the tribunal implicitly considered that of “jurisdiction” as necessary to ascertain the territoriality requirement. Additionally, see the explanatory note of the decision prepared by Shapiro N, ‘International Arbitration. *Bayview Irrigation District v. United Mexican States*, ICSID Case No. ARB(AF)/05/1, Award 19 June 2007’ (2008) 32 Suffolk Transnational Law Review 231.

⁶² In this context see Greenwood (n 14) 785. The author specifies that granting investment protection to objects (regardless of whether relating to space or not) within the ‘jurisdiction’ of a State would align International Investment Law with Human Rights Law which is deeply rooted in this principle.

⁶³ Hobe, Popova, El Bajjati and Scheu (n 14).

⁶⁴ see Outer Space Treaty (n 9) at Art. VIII which reads “A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return”.

⁶⁵ See Registration Convention (n 9). Specifically, the Article II reads “When a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. [...] Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object”.

claims before arbitral tribunals against the State in whose national registry the space object they have invested in is registered,⁶⁶ as that would be the State exercising jurisdiction over said object.

Significantly, although pertaining to another sphere of international law, the Space Protocol to the Cape Town Convention can be relied upon in support of this approach. In fact, the Space Protocol stipulates that, for the purposes of an “international transaction” within the meaning of the Convention, a space asset must be physically located in the territory of the State of Registry.⁶⁷ Despite not straightforward, this might be interpreted as demonstrating how, in the eyes of the International Community, a territorial link between the State of registry and the space assets exists and, consequently, that the requirement of registration of a space asset may serve as an indicator of its international, and *a fortiori*, foreign dimension as an investment.

It is important to note, however, that this theory does not find general consensus. In fact, there are slightly opposite perspectives arguing that whether space assets fall under the jurisdiction of the host State may not be the decisive factor for the purposes of the territoriality requirement.⁶⁸ Conversely, what would hold greater significance is whether, from both economic and legal standpoints, the investment is situated within the host State's territory and whether the action that disrupts the investment can be attributed to the host State.⁶⁹

3.2.2 Possibly Relevant Factors Beyond the Registration of the Space Assets

As mentioned, factors other than the registration of a space asset have been interpreted as establishing a territorial link between said asset and its host State. Notably, as they are not *per se* indicative of the investment being made in the territory of a certain State, such factors form the basis of theories that depart from the concept for which the investment must occur within the territory of a State for the purposes of construing the territorial nexus and, instead, opt for a broader interpretation.

In this context, the first theory under analysis applies to the case of a damage to a space asset occurring in outer space. Accordingly, when a State in the exercise of its

⁶⁶ As reported by Colin L, ‘Washington Arbitration Week 2022: International Investment Protection of Space Assets, Quo Vadis?’ supra note 39, it should be noted that the adoption of this approach could, in principle, result in a contentious scenario where, respondent States, when brought before an arbitral tribunal in relation to an investment in outer space, could possibly deny the existence of a territorial nexus between their territory and said investment. On the contrary, investors would be prone to support a broader interpretation of the notion of “territory of the investor” including, thereinto, any territory over which the State retains jurisdiction and control.

⁶⁷ In this regard see Baumann, El Bajjati and Pellander (n 14) 930. Additionally, Hobe, Popova, El Bajjati and Scheu (n 14).

⁶⁸ Malanczuk (n 12).

⁶⁹ *ibid.*



activities causes such a damage and when this damage has a negative impact on Earth, a territorial link may be constructed between the State and the space asset in question.⁷⁰

An example of the application of this theory is the hypothetical collision between space debris stemming from a government-owned satellite irresponsibly managed by State A and the spacecraft of a space tourism company incorporated in State A. Provided that such damage is caused by the improper conduct of State A, if this has negative consequences on Earth, resulting, for example, in a reduction of the value of the shares owned by a foreign investor established in State B who has invested in the space tourism company and, *a fortiori*, in the spacecraft, it is possible to imagine a territorial nexus between the investment and the State A. It follows that the foreign investor would be entitled to bring a claim against such State on the basis of the BIT concluded between State B (i.e., the home State to the investor) and State A (i.e., the host State to the investment), if any.⁷¹ This is not because the investment would be made in State A but, instead, because the obligation of State A to protect the investment would encompass the outer space activities undertaken by objects under its jurisdiction.

On a slightly different note, the second approach under discussion which also departs from considerations related *stricto sensu* to the concept of jurisdiction, applies to the specific case of the licence of usage rights for orbital slots and frequency bands. In this situation, a territorial link may be established with the State that issues the licence on the basis of a licence agreement and upon the payment of licence fees. One may reach this conclusion on a twofold basis: first, the already mentioned judgement in *Abaclat v. Argentina*, which mandates to examine the presence of a territorial nexus depending on the nature of the investment; second, the existing arbitral practice with regard to financial instruments that, for the purposes of the construction of the territorial nexus, focuses not on the location of the funds but on the State actually benefiting from them.⁷² It follows that, since the issuing State directly benefits from the payments under the licence agreement, the territorial requirement may be regarded as met, provided

⁷⁰ For further details on this matter see, Colin (n 39).

⁷¹ Note that slightly different is the case of Kosmos 954, a satellite launched in orbit by the Soviet Union in 1977. Due to a malfunction, when the satellite re-entered orbit the following year, it dispersed radioactive fragments across northern Canada, thus causing damage within the Canadian borders. On that occasion, as two States were involved, Canada brought claims against the Soviet Union for the compensation of damages on the basis of the 1972 Liability Convention read in conjunction with the 1975 Registration Convention.

⁷² In this regard see, *Ambiente Ufficio S.p.A. and others v. Argentine Republic* (n 58). At para 499 the Tribunal ruled: “[...] in order to identify in which State’s territory an investment was made, one has to determine first which State benefits from this investment. Most observers will agree that the one criterion which may be taken from the ICSID Convention itself when it comes to determining the nature of an investment under this Convention, is that of a contribution “for economic development”, as referred to in the first preambular paragraph of the ICSID Convention. Accordingly, to assess where an investment was made, the criterion must be to whose economic development an investment contributed”. For the further analysis of the ruling of the case see, *inter alia*, the explanatory note of Sadie Blanchard, ‘Ambiente Ufficio S.p.A. and Others v. Argentine Republic’ (2014) 15(1-2) Journal of World Investment & Trade 314.

that the State issuing the licence is other than the State of nationality of the private investor acquiring it.⁷³

From a practical perspective and still remaining in the frame of space debris collisions, this theory, related to the licence of usage rights for orbital slots and frequency bands, could find application in case of a crash between space debris originating from the non-disposal of a government-owned spacecraft by State A and a satellite owned by a company established in State B but using frequency bands granted by State A by means of a licence agreement and upon payment of a licence fee. In this scenario, a territorial nexus could be construed with the State issuing the licence. Therefore, the company affected by the collision (i.e., the private investor) could in principle bring a claim against State A as long as an International Investment Treaty, whether of multilateral or bilateral nature, between State A and State B is in place.⁷⁴ Notably, this scenario, although hypothetical, is increasingly likely to occur. In fact, while there is a growing number of satellites and space objects orbiting in outer space, not enough satellites are being removed at the end of their life span. This could lead to an increase in the number of “in space collisions” and, due to the overcrowding of the Low-Earth Orbit (LEO) to a high risk of a “Kessler effect” with a single collision setting off a chain reaction of additional collisions.⁷⁵

4 Conclusions: The Possible Role of Investor-State Dispute Settlement in Outer Space Activities

As outlined in the preceding paragraphs, at the state of play and as opposed to International Space Law, International Investment Law is capable of establishing a structured legal framework for private investment in outer space.

In fact, it has been demonstrated that space-related investments of private or commercial nature, can enjoy protection under International Investment Law as the requirements posed therein can in principle be fulfilled. Notably, this holds true not only in the case of investments located on the Earth’s surface, but arguably also in the more complex scenario of investments located in outer space.

In regard of the latter, while space-related investments, whether on Earth or in outer space, fit the definition of investment under the relevant International Investment legal instruments without any apparent difficulty, for the purposes of including them within the scope of international investment legal sources the establishment of the territorial

⁷³ Malanczuk (n 12) 971.

⁷⁴ See Colin (n 39).

⁷⁵ See Scott Atkins and Andrew Battison, ‘Dispute Resolution and Restructuring in Outer Space: Using ADR to Drive Efficiency and Better Outcomes for Creditors’ (Norton Rose Fulbright Publications, 2022) <<https://www.nortonrosefulbright.com/en/knowledge/publications/5bf5d3bb/dispute-resolution-and-restructuring-in-outer-space>> accessed 9 March 2024.



nexus between the investment and the host State can be a complex matter. This is particularly apparent when it comes to space-related investment in outer space. In fact, although the inherent characteristics of outer space as a *locus* not subject to national appropriation and, therefore, devoid of interstate borders and outside any domestic jurisdiction would seem to suggest that such a link cannot be constructed, theories have been developed that point in the opposite direction.⁷⁶ At present, they are relatively limited in number and primarily fall into two categories: on the one hand, theories that identify the registration of the space object in a national registry as the indicator of the existence of a territorial nexus between that object and the State of registry; on the other hand theories that, instead, rely on other factors such as the possible negative impact on Earth of a damage to a space asset occurring in outer space or the benefits deriving from a concession or licence agreement to a certain State. However, despite their innovative nature, both these categories are not without drawbacks, particularly in relation to their limited applicability. While the former, consisting of the theories related to the registration of the space asset, applies only provided that such registration has been carried out, the application of the latter, is even more circumscribed as it is subject of the co-existence of a number of different factors which are either highly specific, i.e. the occurrence of a damage in outer space with a negative impact on Earth, or difficult to ascertain, i.e. determining the end-receiver of the benefits deriving from a licence or concession contract.

Nevertheless, since the matter has come to the attention of doctrine only recently, concurrently with the development of the space industry and commercialization of space, it is expected that new theories will be developed in the near future.

Insofar as space-related investments can be granted investment protection under International Investment Law, it follows that Investor-State disputes arising in relation to such investments can be resolved by means of Investor-State Dispute Settlement. This is very interesting for investors, in the absence of any precise dispute resolution mechanisms available to them under International Space Law.

Against this backdrop, the exact role that Investor-State Dispute Settlement would play in the frame of Investor-State disputes arising in outer space from commercial space activities, such as those resulting from outer space collisions involving space-related investments, is not clear yet. The reason lies in the lack of precedents, with the few Investor-State space cases up to date only concerning disputes that, although involving space-related investments, arose on Earth.⁷⁷

⁷⁶ In this regard, as already mentioned, see Outer Space Treaty (n 17) at Art II. Notably, the theories that have been developed identify the spatial nexus by going beyond the spatial dimension and referring to a number of other factors including the registration of the space object, when this constitutes the investment.

⁷⁷ It is noteworthy that all three existing Investor-State Space Case Law revolve around disputes arising on Earth in relation to space-related investments. More precisely, in the Devas Saga, the element giving rise to the arbitration proceedings was the termination of the so-called Devas Agreement, a contract for the construction, launch and

In any case, envisaging the applicability of Investor-State Dispute Settlement to outer space disputes looks reasonable. This is not only because the requirements for triggering the international investment protection of space-related investments located in outer space can be met, which is a sufficient reason in itself, but also because investors investing in outer space face similar challenges as the ones investing on Earth. In fact, and despite the unique challenges and risks that outer space investments pose, these challenges include questions of fair and equitable treatment and expropriation, which are the standards most commonly involved in Investor-State disputes.⁷⁸ Evidently, these similarities support the application of Investor-State Dispute Settlement in a way akin to terrestrial disputes.

Furthermore, it is the *rationale* behind International Investment protection that justifies the extension of Investor-State Dispute Settlement to encompass outer space disputes. In fact, such extension would be in line with the fundamental purpose of Investor-State Dispute Settlement which, by providing a mechanism for addressing disputes, seeks to provide investors with international investment protection and fair treatment irrespective of where their investments are located.⁷⁹

From a slightly different perspective, provided that Investor-State Dispute Settlement aims, *inter alia*, at encouraging investment flows and promoting the common interest of the States involved, both these objectives would be met by turning the latter in the default dispute settlement mechanisms for conflicts between private investors and States, arising in outer space from commercial space activities.

In fact, enhanced legal certainty and predictability as per the mechanisms available for the settlement of outer space disputes have the potential to encourage investments in the space industry given that investors are more likely to invest when they have an understanding of the way the potentially arising disputes could be resolved.⁸⁰ Additionally, taking a related but somewhat different angle, it is noteworthy that the

operation of two satellites and the lease of satellite transponder capacity. On a slightly different note, the case of *Eutelsat v. Mexico* concerned the lease of geostationary orbits.

⁷⁸ Sebastian King, 'Incentivising Commercial Space Activities through International Investment Arbitration' (*Kluwer Arbitration Blog*, 31 October 2020) <<https://arbitrationblog.kluwerarbitration.com/2020/10/31/incentivising-commercial-space-activities-through-international-investment-arbitration/>> accessed 8 March 2024. Additionally, Dolzer, Kriebaum and Schreurer (n 13) 130. For the sake of comprehensiveness, it is noteworthy that under International Investment Law, the principle of Fair and Equitable Treatments concerns the treatment to be accorded to the foreign investor in the host State. Slightly differently, that of protection from expropriation is a principle of customary origins which requires a state to pay compensation when it expropriates the property of a foreign investor.

⁷⁹ On the rationale of ISDS see Dolzer, Kriebaum and Schreurer (n 13) at 20. Additionally, Choi Won-Mog, 'The Present and Future of the Investor-State Dispute Settlement Paradigm' (2007) 10 *Journal of International Economic Law* 725, 740. However, as is well known, ISDS has been the centre of a legitimacy crisis mostly due to the consistency and predictability of arbitral decisions, the lack of transparency and the fragmentation of the applicable legal instruments. For an overview of the criticisms underlying ISDS, see, among many others, Chen Yu, *Dispute Settlement and the Reform of International Investment Law* (Edward Elgar Publishing 2023).

⁸⁰ Atkins and Battison (n 75). Additionally, Hanneke L van Traa-Engelman, 'Legal Requirements Constituting a Basic Incentive for Private Enterprise Involvement in the Commercialization of Space Activities' (1995) 38 *Proceedings on the Law of Outer Space* 3.



application of Investor-State Dispute Settlement has been regarded as a possible contribution to mitigate the creation of space debris. This is because, absent any international treaty laying down a precise framework to prevent the creation of space debris, the application of Investor-State Dispute Settlement might serve as a mechanism that, by imposing liability risks, encourages States to strengthen their national measures directed at avoiding the formation of space debris.⁸¹ As the latter poses significant hazards to active spacecrafts and the long term sustainability of commercial space activities, mitigating space debris would not only ensure the safety of assets in space but also help maintain the overall accessibility of outer space for the international community, thus promoting the common interest.⁸²

From the above, the potential of Investor-State Dispute Settlement in the frame of disputes arising in outer space from commercial space activities is noteworthy. However, it remains to be seen how (and if) this potential will be fully implemented. In this sense, the wait will most likely not be long: the increasing commercialisation of outer space will lead to more and more disputes between States and investors which will in turn test the boundaries of Investor-State Dispute Settlement and its effectiveness to solve these disputes arising in the frame of such a rapidly evolving context.

⁸¹ In this regard see, Laura Yvonne Zielinski, 'Space Arbitration: Could Investor-State Dispute Settlement Help Mitigate the Creation of Space Debris?' (*EJIL:Talk!*, 19 March 2021) <<https://www.ejiltalk.org/space-arbitration-could-investor-state-dispute-settlement-help-mitigate-the-creation-of-space-debris/>> accessed: 8 March 2024.

⁸² For an overview of the risks posed by space debris see European Space Agency (ESA) 'ESA's Annual Space Environment Report' (ESA Publishing Office, 12 September 2023). The Report shows that the most severe threat posed by orbital debris is the potential occurrence of a Kessler Syndrome event, where an in-space collision triggers a cascading chain reaction, rendering low Earth orbit (LEO) inaccessible and spaceflight hazardous to undertake for many generations to come. Additionally, European Space Agency (ESA) 'Space Debris: Assessing the Risk' (*ESA.int*, 21 March 2005) <https://www.esa.int/Enabling_Support/Operations/Space_debris_assessing_the_risk> accessed 8 March 2024; J Armand Musey, 'Op-ed | Orbital debris and the threat to industry investment' (Spacenews, 1 November 2020) <<https://spacenews.com/op-ed-orbital-debris-and-the-threat-to-industry-investment/>> accessed 8 March 2024.