An Innovative Repossession Right in the UNIDROIT Space Protocol and Formation of New Contract Practices in the Space Sector

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Abstract

Inquiry into the Space Protocol does not end simply because of the adoption at the Diplomatic Conference in 2012. The challenge in the drafting process of the Space Protocol is to produce a workable document that can accommodate the particularity of space assets and meanwhile sustain the commercial value of the Cape Town Convention. The final version takes a different approach as compared to other protocols in terms of repossession. On one hand, it takes a cautious attitude towards repossession of space assets and subjects this issue to the regulations of the Contracting State. On the other hand, it respects the asset-based approach and links the assignment of debtor's rights to international interests on space assets. Therefore the Space Protocol is still a viable tool for financing space programs and will interact with the existing financing structures in a constructive way.

1. Introduction

The commercialization trend of outer space activities has been enriching the sources of space law in recent years. It is submitted that space law is a broad discipline, which encompasses any regulations relevant for outer space activities, regardless of whether such activities are of a public or private character.[1] The proliferation of private space actors and ever-increasing commercialization might as well lead to the formation of private international space law. Karl-Heinz Böckstiegel has offered great insight into the need for a broader scope of space law grounded on the fact that while in the early stages space activities have been mainly coordinated by the governmental regulations, nowadays the growing number of commercial space activities calls for the new

1 Stephen Gorove, "The Growth of Space Law Through the Case" (1996) 24 (1) *Journal of Space Law* 1-21. *See* also Francis Lyall, "Space Law—What Law or Which Law" (1991) *34th Colloquium on the Law of Outer Space* 240-243.

instruments on contractual arrangement to coordinate space activities.[2] The Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets ("the Space Protocol")[3] is a treaty affiliated with the Cape Town Convention ("the Convention"). It stands as the very first endeavor to produce rules that are tackling rights and obligations of private parties other than States.

The Space Protocol aims to facilitate and promote asset-based financing pattern in the space sector. The working project for the Space Protocol was formally initiated in 2003; and it went through five rounds of government expert discussions and produced four interim versions. Each time the revised draft came up with a more detailed and workable version, especially in terms of the key provisions on the scope of space assets, identification of space assets, transferability of related rights and debtor's rights, public service, etc. Deadlock also happened to the process. The final text was adopted at the Diplomatic Conference in Berlin, 2012. So far four States have signed this document.[4] And other States are considering the domestic consultation process to evaluate the cost and benefit in order to make the decision.

The structure and substance of the Space Protocol in many ways carry implications for the evolution of space law, especially the symbolic meaning of "revival of space legislation in the international arena."[5] The necessity to examine the Space Protocol is grounded upon the following factors. First, it does not follow the bottom-up approach of the Aircraft Protocol. In most countries there are no *lex specialis* dealing with the priority and rights upon space assets so that the Space Protocol takes a top-down approach. Secondly, the Space Protocol sheds a light on the interface between public law and private law. Recourse to mobile equipment in cases of defaults and bankruptcies presumed in the Convention framework has to be modified so as to accommodate the justified restrictions on access to space assets by States. Premised upon the primacy of public law, how could the interests of private entities be protected and realized in a transparent and predictable way? Thirdly, the correlation between the Space Protocol and exiting financing alternatives should be noted and explored by States, especially by developing countries without much access to the international capital.

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2 Karl-Heinz Böckstiegel, "The Law Applicable to Contracts on Space Activities" (1982) *25th Colloquium on the Law of Outer Space* 203-208.

3 Throughout the article, it will be referred as the Space Protocol. While in the title, it is referred as the UNIDROIT Space Protocol to make it clear that it is UNDROIT that undertakes the drafting work.

4 Burkina Faso, Germany, Saudi Arabia, Zimbabwe have signed the document and have not ratified it in their domestic procedure. UNIDROIT website, available at <www.unidroit.org/english/implement/i-2012-spaceassets.pdf> (last accessed: 1 January, 2013).

5 Yun Zhao, "Revisiting Selected Issues in the Draft Protocol to the Cape Town Convention on Matters Specific to Space Assets" (2011) 76 (4) *Journal of Air Law and Commerce* 805-831.

2. The Rationale of the Convention vs. the Particularity of Space Assets

Phillip Dann highlighted the role of municipal law based on the understanding that space law is not self-contained but a functional regime.[6] Yet there is no distinctive body of private law for commercial space activities. In the domestic scenario, space-related contracts apply the general private law in a way similar to other commercial contracts.[7] In contractual arrangements relating to satellite manufacturing, launching and insurance, there are clauses embodying the peculiarity of space assets, e.g., risk allocation. In cases of financing space projects, deals are often reached and conducted on the basis of project finance. It would be helpful to take a step further and develop rules that can apply to commercial transactions.

In the analogous areas like the aviation sector, the owners of aircraft often grant proprietary rights in the equipment as a way of security to the creditors. Proposals to draft the Space Protocol to facilitate the granting of similar rights in space assets were raised at the beginning of 1990s. Albeit the fact that no empirical study was formally conducted before the formation of the Space Working Group, the Space Protocol was motivated first by the prosperous practices in analogous areas such as the aviation sector; secondly by the ambition to improve legal certainties in financing space projects.

2.1 The Rationale of the Cape Town Convention

The traditional *lex situs* rule[8] does not fit in the characteristics of mobile equipment frequently moving across national frontiers. The interests vested upon the mobile equipment created under one system of law may not be recognized and enforced in another jurisdiction. The rationale of the Convention is concluded as "a sound legal framework that facilitates the creation, perfection and enforcement of security interests will provide confidence to lenders and institutional investors both within and outside the country concerned, and make it easier to attract domestic and foreign capital."[9] So what the Convention provides is a process of unification of law, other than harmonization of law.[10] It

6 Phillip Dann, The Future Role of Municipal Law in Regulating Space—Related Activities, in Tanja L. Zwaan, Walter W.C. de Vries, Paul Henry Tuinder, and Illas I. Kuskuvelis (eds) *Space Law, Views of the Future: A Compilation of Articles by a New Generation of Space Law Scholars*, (Deventer: Kluwer Law and Taxation Publishers, 1988), 125-134.

7 Ibid.

8 Lex situs: "the law of the place where property is located." Black's Law Dictionary (7th Edition).

9 Study LXXII of UNIDROIT, International Interests in Mobile Equipment, available at <www.unidroit.org/english/workprogramme/study072/main.htm> (last accessed: April 6 2013).

10 David René, "The International Unification of Private Law" 1971 (2) *International Encyclopaedia of Comparative Law* 24-54.

produced substantive rules, not resolving the issue of conflict of law, or providing model rules and standards.[11]
The Convention aims to facilitate the financing of the acquisition and use of high-value equipment.[12] The enforcement of international interests is the most important tool to achieve this goal. In cases of security agreement, the available remedies for the chargee are:"(a) take possession or control of any object charged to it; (b) sell or grant a lease of any such object; (c) collect or receive any income or profits arising from the management or use of any such object."[13] These remedies can be realized by self-help or judicial assistance, subject to the declarations made by States when ratifying the Convention and the associated protocols. For title reservation agreement and leasing agreement, the remedies provided to the conditional seller or lessor are to "terminate the agreement and take possession or control of any object to which the agreement relates; or apply for a court order authorizing or directing either of these acts."[14] Recourse to the mobile equipment is the corner stone of the Convention. It is an effective tool for risk management and simplifies the lending decision for the creditor.[15] Each protocol may modify and supplement the remedies provided in the Convention based on the special industry needs.[16]
The World Bank has done in-depth study on the affect that recourse to collateral has on mobilizing the capital market for high-value assets. The advantages for the lender are summarized as: (i) the value of the collateral is easy to assess so that it reduces the creditor's dependence on the evaluation of the debtor's business plan and the monitoring cost generated therein, it mitigates the negative consequence of asymmetric information to the creditor's knowledge; (ii) to mitigate the risk of adverse selection, the lender can still adjust the interest rate and the loan size according to their judgments on the commercial viability of the project the collateral is to carry out; (iii) the lender can overcome moral hazard by demanding more collateral from the creditor in proportion to the larger loans to be guaranteed.[17] In order to realize these economic advantages,

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11 Iwan Davies, "The New *Lex Marcatoria:* International Interests in Mobile Equipment" 2003 (52) *International and Comparative Law Quarterly* 151-176.
12 Preamble to the Convention on International Interests in Mobile Equipment
13 Cape Town Convention, Article 8.
14 Ibid, Article 10.
15 Douglas W. Arner, Charles D. Booth, Berry F.C Hsu, and Paul Lejot, "Property Rights, Collateral, Creditor Rights and Financial Development" (2006) 17 (5) *European Business Law Review* 1215-40.
16 Article 9 of the Cape Town Convention provides that "[t]his Convention and the Protocol shall be read and interpreted together as a single instrument. To the extent of any inconsistency between this Convention and the Protocol, the Protocol shall prevail."
17 Heywood W. Fleisig, "The Proposed UNIDROIT on Mobile Equipment: Economic Consequences and Issues" (1999) 4 *Uniform Law Review* 253-264. Douglas W. Arner, Charles D. Booth, Berry F.C HSU, and Paul, Lejot, "Property Rights, Collat-

the legal infrastructure should eliminate uncertainties of a financier's repossession right.

Three core principles of the Aircraft Protocol are the "transparent priority principle", the "prompt enforcement principle", and the "bankruptcy law enforcement principle."[18] Establishing a central registry would satisfy the requirement of the priority principle. Prompt recourse to the underlying aircraft equipment plays a decisive role in the evaluation of the risk in asset-based financing and leasing.[19] Aircraft has a strong leasing and resale market. According to the data collected from a few countries, it can be repossessed through a few methods: (a) voluntary surrender by the obligor; (b) self-help; (c) expedient court processes; (d) litigation.[20] There are provisions in the Aircraft Equipment Protocol facilitating the repossession process, "the creditor may (a) procure the de-registration of the aircraft; and (b) procure the export and the physical transfer of the aircraft object from the territory in which it is situated."[21]

2.2 Application of the Convention's Remedies to Space Assets

When John T. Stewart made the proposition to draft a treaty governing asset-backed financing by UNCITRAL or UNIDROIT, he explored the possibility to transplant the experience in aviation, maritime practice and satellite communications to the whole space environment.[22] He proposed to develop such an instrument, which would establish liens and their priorities, protect the transferability of these interests in a systematic and predictable way, and encourage investment on space activities eventually.[23] Meanwhile he acknowledged the complexity in identifying and formulating rules to be applied to space-related contracts.[24]

Financing of space assets is much more complex than that of other high-value equipment. Space assets cannot be repossessed in the way similar to aircraft

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eral, Creditor Rights and Financial Development" (2006) 17 (5) *European Business Law Review* 1215-40.

18 Jeffrey Wool, "The Case for A Commercial Orientation to the Proposed UNIDROIT Convention as Applied to Aircraft Equipment" 1999-2000 (31) *Law and Policy in International Business* 79-98.

19 Anthony Saunders & Ingo Walter, "Proposed UNIDROIT Convention on International Interests in Mobile Equipment as Applicable to Aircraft Equipment through the Aircraft Equipment Protocol: Economic Impact Assessment" 1998 (23) *Air and Space Lawyer* 339.

20 Vadim Linetsky, Economic Benefits of the Cape Town Treaty, October 18, 2009, available at <www.awg.aero/assets/docs/economicbenefitsofCapeTown.pdf> (last accessed: 1 January 2013).

21 Aircraft Protocol, Article IX.

22 John T. Stewart, "Emerging Patterns of A Private International Space Law Regime—Evolutionary or Revolutionary" (1980) *23rd Colloquium on the Law of Outer Space* 201-208.

23 Ibid.

24 Ibid.

and maritime vessels.[25] On one hand, repossession of mobile equipment is a critical factor in the secured transactions; on the other, the elements needed to repossess space assets are subject to a set of regulations in domestic regime. Compared to other kinds of mobile equipment, the particularity of space assets can be summarized as follows: (i) exclusive reliance on orbital resources; (ii) integration between space assets and its ground control facilities; (iii) integration between intangible rights of space assets and its physical counterpart. Furthermore, it always takes years to carry out a space program; and each step needs intensive capital.[26]

Hypothetically, space assets can be repossessed by enabling the creditor to have control over the physical facilities and the technical means (code and data). This process is subject to the following parameters: (i) the applicable export control regime of space-related items; (ii) the national regime empowering the private sector to launch and operate space assets; (iii) any other detailed regulations to supervise national space activities. Export control is a case in point to exemplify the geopolitical influences on contract practices.[27] Export controls are set up in major space powers to regulate exports of any items involving space-related technology. It definitely goes too far to argue for reform of the regime based on the negative impact on the default remedies in financing contracts. Yet in U.S. the industry has been lobbying the government for loosening the excessive control on exports of space items and has now succeeded with the transfer of many space-related items from the Munitions List of ITAR to the Commerce Control List of EAR.[28]

It is confirmed that in no way will the Space Protocol affect the regulatory power of the Contracting States.[29] Even if the Protocol provides for the transfer of a space asset, transfer will not be possible if prohibited under other domestic law (such as export controls) and operation may be prohibited (under licensing regimes); no matter whether are titled as licences, approvals, permits or authorisations in the domestic law of the Contracting State.[30] This has dissipated the concerns of States and informed the private sector of the cost and risk in designing the remedy clauses.

International and national space law address liability and responsibility of space activities, scarcity of orbital resources, national security considerations and dual-use of outer space.[31] They did not contemplate repossession as a pos-

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25 P.M. Sterns and L.I. Tennen, "Security Interests and Creditors' Remedies in the Law of Outer Space" (1990) *33th Colloquium on the Law of Outer Space* 102-120.

26 See n 22 above, p 29.

27 Joanne Gabrynowicz, "Space Law: Its Cold War Origins and Challenges in the Era of Globalization" (2004) 37 (4) *Suffolk University Law Review* 1041-1065.

28 International Traffic in Arms Regulations (ITAR); Export Administration Regulations (EAR).

29 Space Assets Protocol, Article XXVI.

30 Space Assets Protocol, Article XXVI (2)(a).

31 Preamble of the Space Protocol provides that, "mindful of the principles of space law, including those contained in the international space treaties of the United Na-

sible situation. State practices to date do not present an optimistic prospect to the feasibility of repossessions. The case of transfer in orbit of ownership is conducted based on the agreement between the State launching the space object and the State planning to operate the space object. The prompt recourse to aircraft and expedient enforcement of international interests runs counter to the nature and the regulatory basis of space activities. Therefore, repossession of space assets cannot be an efficient tool of financing space assets.

2.3 Assignment of Debtor' Rights: Remedies Tailored to the Particularity of Space Assets

Potential investors may be unwilling to lend money to space ventures given the multiple layers of restrictions on recourse to space assets for repayment. However, certain property rights to space assets might serve as a way of security for creditors.[32] It is pointed out "the inherent value of equipment in space is often determined by the availability of appurtenant rights such as intangible rights (license to use equipment, software and contract rights) and proceeds and revenues (income, insurance and warranty claims)."[33]

According to Article I(2)(a), "'debtor's rights' means rights to payment or other performance due or to become due to a debtor by any person with respect to a space asset." In other words, it includes payment and performance obligations linked to space assets due to the debtor by the obligor. The scope of 'other performance due to a debtor' can be broad, "including claims in tort and unjust enrichment, rights derived from assignment or subrogation and even government licence to the extent that these are capable of transfer."[34] Debtor's rights can be assigned to the creditor in proportion to the secured credit. The formality requirements for rights assignment are: (i) identification of debtor's rights; (ii) identification of the space assets relating to debtor's rights; (iii) identification of the secured obligation in the rights assignment by way of security.[35] In addition, the parties could carefully negotiate the scope of assignment of debtor's rights for the remedies clauses in their agreement. Future debtor's rights can also be assigned.[36] Because most of the time space assets are financed prior to their construction and launch, assignability of future debtor's rights will facilitate

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tion and the instruments of the International Telecommunication Union"; "recalling, for the carrying out of the transfer contemplated by this Protocol, the preeminence of State Party rights and obligations under the international treaties of the United Nations by which the State Parties concerned are bound."

32 P.M. Sterns and L.I. Tennen, "Security Interests and Creditors' Remedies in the Law of Outer Space" (1990) *33th Colloquium on the Law of Outer Space* 102-120.

33 UNIDROIT 1997 International Interests/ Study Group/ Drafting Group Fourth Session/ W. P. 4.

34 Roy Goode, "The Treatment of Intangible Assets under the Cape Town Convention and Protocols" (2013) *Cape Town Convention Journal* 41-49.

35 Space Assets Protocol, Article IX.

36 Ibid, Article XI.

the negotiation process and convince the creditor of the commercial viability of the space ventures.

The registration and priority rules governing international interest apply to rights assignment as if "references to the object were references to the debtor's rights."[37] The holders of an international interest record rights assignment as part of the registration of international interests, or supplement the recording of rights assignments by making amendments subsequently.[38] The recording of rights assignment, rights reassignments, and acquisition by subrogation linked to the physical space assets will be provided in the Registry.[39] The potential investors could search against the Registry and evaluate the exact status of the asset.

Assignability of debtor's rights is an efficient tool for both creditors and debtors, especially for the start-up companies with short credit history. It fills the gap between the high value of space assets and the international interests capable of being enforced. In contrast to treatment of related rights, allowing assignment of debtor's rights does not disturb the state power since there is no causal link between debtor's rights and the basis of national space regulation. Because debtor's rights cannot be independently registered, rights assignment is different from the assignment of receivables. Receivables are defined as "contractual right to payment of a monetary sum."[40] Yet rights assignment has to be linked with the physical space assets and be subordinated to the registration of international interests on space assets.[41] This avoids overlapping with the Convention on the Assignment of Receivables in International Trade. The effect of rights assignment is determined "to the extent permitted by the applicable law."[42]

'Debtor's rights' and 'rights assignment' are regarded as "the most innovative of the provisions relating to dealings in intangible property."[43] There are no similar clauses of rights assignment in other associated protocols of the Convention. So the Space Protocol mostly relies on the intangible part of space assets; while other protocols count on physical assets capable of repossession in the first place and execution of intangible assets as the secondary choice. It more or less departs from the tradition of asset-based financing advocated by the Convention.[44] The assignment of debtor's rights brings the Space Protocol

37 Ibid, Article XVIII.
38 Ibid, Article XII.
39 Ibid, Article XXXII (1).
40 United Nations Convention on the Assignment of Receivables in International Trade, Article 2.
41 Space Assets Protocol, Article XII.
42 Space Assets Protocol, Article X.
43 See n 34 above.
44 Martin Stanford, "The Availability of A New Form of Financing for Commercial Space Activities: The Extension of the Cape Town Convention to Space Assets" (2012) *Cape Town Convention Journal* 109-123.

into the realm of project finance, other than pure asset-based financing.[45] Yet the particularity of space assets necessitates the arrangement of rights assignment.[46] Exclusion of rights assignment will diminish the economic advantage of the Protocol.[47] So the advantages outweigh the disadvantages.

3. Interaction with Existing Financing Alternatives

The alternatives in financing space activities were summarized as follows: (i) government expenditure; (ii) cooperative project between states; (iii) private companies manage to finance from banks; (iv) the government may subsidize private enterprise in particular projects.[48] It is from the perspective of financial resources/project sponsors. Under the third category, the private companies may turn to the equity market for long-term financing, use high-yield debt financing or project financing. Most of the time, established satellite operators can rely on their strong balance sheets and avail themselves of the financing resources.

In recent years, Export Credit Agency (ECA) financing turns out to be a useful tool for the space industry. ECA financing is not used exclusively for satellite finance. Other kinds of high-value mobile equipment also have benefited from it. The implementation of the Convention and the Aircraft Protocol has reinforced the role of ECA financing, as witnessed by the increasing volume of transactions. Since the Aircraft Protocol came into force, aircraft buyers in Contracting States are given a one-third reduction on the exposure fee from the U.S. Export-Import Bank.[49]

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45 Ibid.

46 UNIDROIT 2008 – Study LXXIIJ – Doc. 14 – Appendix VIII, STEERING COMMITTEE to build consensus around the provisional conclusions reached as regards the preliminary draft Space Assets Protocol to the Cape Town Convention on International Interests in Mobile Equipment by the Government/industry intersessional meeting held in New York on 19 and 20 June 2007: Launch Meeting (Berlin, 7/9 May 2008), Working Paper submitted by the French Ministry of Justice, p 2.

47 UNIDROIT 2008 – Study LXXIIJ – Doc. 14 – Appendix VIII, STEERING COMMITTEE to build consensus around the provisional conclusions reached as regards the preliminary draft Space Assets Protocol to the Cape Town Convention on International Interests in Mobile Equipment by the Government/industry intersessional meeting held in New York on 19 and 20 June 2007: Launch Meeting (Berlin, 7/9 May 2008), Working Paper submitted by the French Ministry of Justice, p 2.

48 See n 8 above.

49 Martin Stanford, The Preliminary Draft Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets, in Proceedings of the United Nations/Thailand/European Space Agency Workshop on Space Law: Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks, Bangkok, 16-19 November 2010.

It is confirmed that "[c]ompanies with weaker balance sheets or which are more speculative have to resort to either ECA backing or project financing."[50] In project financing the lender very much relies on the expected revenue of the project.[51] So the security for the loan is the recourse to the cash flow generated from the contract between the debtor and the third parties with respect to the operation or use of the assets.[52] So a viable commercial analysis of established project expenses is still indispensable. ECAs conduct "the same credit analysis as any bank would, and in the case of a loan guarantee, the participating banks also have to accept that the project is one that they would otherwise lend against."[53] ECAs would also request a collateral security package from the borrower. The options include "a mortgage on the financed asset (e.g. the satellite), assignment of the lease (if the project is done on a lease basis for tax or other reasons), assignment of the receivables from customers, a pledge of the stock of the SPV, assignment of the U.S. supply contract(s) and an assignment of any ancillary contracts like the O&M Agreement and insurance contracts."[54] The borrower with a weak credit history might be asked to seek additional guarantee from creditworthy third parties.[55]

ECAs have financed transactions successfully so that the established satellite operators also prefer to use it in recent years.[56] Assignment of debtor's rights corresponds with the nature of the space projects, which is revenue-based or subscriber-based. Yet during the drafting process of the Space Protocol, ECA financing was not frequently referred to. Government can exert substantial influence on ECA's attitude towards the Space Protocol.[57] In the final text, the attached Resolution 4 calls for discounts on exposure fee from States and financing organizations.[58] Therefore, the Space Protocol is not developing a

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50 Warren Ferster, Capitalizing Space: An Interview with Dara Panahy, Partner, Milbank, Tweed, Hadley and McCloy LLP, Space News, 3 October 2011, available at <www.milbank.com/images/content/6/4/6448.pdf> (last accessed: April 6, 2013).

51 Ibid.

52 John Dewar, International Project Finance – Law and Finance (Oxford University Press, 2011), p 1.

53 See n 38 above.

54 Business Strategy: Satellite Finance Finds an Ally, Global Media and Communications Quarterly, November 2011, available at <www.hoganlovells.com> (last accessed: April 6, 2013).

55 Ibid.

56 Jeffrey Hill, Telecom Private Equity in a Post-ECA World: Where Does it Stand? June 1, 2012 available at <www.satellitetoday.com/telecom/2012/06/01/private-equity-in-a-post-eca-world-where-does-it-stand/> (last accessed: April 6, 2013).

57 Nick Hughes, UNIDROIT Draft Space Assets Protocol, available at <www.hfw.com/UNIDROIT-Draft-Space-Assets-Protocol> (last accessed: April 6, 2013).

58 Resolution 4 Relating to the Provision of Reasonable Discounts on Exposure Rates to Debtors by Financing Organisations: resolves to encourage all Contracting States, and international, national, as well as private financing institutions, to assist the developing Contracting States by providing them with reasonable discounts or rebates on any exposure rates or similar charges levied by such financing institutions.

new kind of financing alternative, but interacting with other kinds of alternatives and reinforcing the viability of ECA financing and project financing. The value of the Space Protocol is fairly put as to "provide additional transparency and legal certainty to space assets financing and that such a benefit was sure to invite additional capital to that industry."[59]

4. Conclusion and Reflections

Recourse to the tangible assets advocated in the Convention is largely adjusted to fit in the particularity of space assets. A significant portion of the treaty text is dedicated to clarify that the remedies sought by the creditors will not disturb the existing space law on either national or international level. The danger to diminish the economic value of the Cape Town Convention and the Space Protocol is mitigated by the availability of debtor's rights as a way of security. Therefore, the Space Protocol is a mixture of asset-based and receivables financing.

Patience will be needed for the implementation of the Space Protocol. It is arbitrary to announce the failure at the current stage. The entering into force of the Space Protocol does not automatically avail the space industry of a new option.[60] The potential is to be gradually exploited in the progress of space commercialization.[61] It takes years to draft this treaty; it also would take years to see its implementation and wide acceptance. The Space Protocol will not only reduce transaction cost and benefit the space sector, but also mobilize the capital market of the space industry in a sustainable way.

The Space Protocol also gives rise to a few conceptual issues, which are better to be analyzed against the emergence of private international space law in the new era. The dynamics can be summarized as below. First, it is effort-worthy to refer to practices in analogous areas and adapt them to meet the uniqueness of space assets and space sector. Secondly, it is agreed that the public space law regime supersedes over the private law. When coming to specific issues, the boundary is still better to be clarified. States have to develop a common "margin of appreciation" for commercial space interests. Thirdly, the Space Protocol is the first space treaty of private law character. We can learn from observing the process that the negotiation of private space treaties is not necessarily easy. Last but not least, private law rules can largely contribute to define the frontier of space commercialization by specifying rights and obligations of private entities. It will eventually establish a fair level playing field for all the stakeholders. The appropriate benchmark for assessing effectiveness of new space law, especially private law, is "do no harm" and be "business-friendly".

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59 UNIDROIT 2008 – Study LXXIIJ – Doc.15, p. 3.

60 The minimum requirement for entering into force of the Space Protocol is ratifications by ten States.

61 I.H.Ph. Diederiks-Verschoor, "Financing and Insurance Aspects of Spacecraft" (1996) 24 (2) *Journal of Space Law* 97-106.