## 1AC - TOC v3

### 1AC---Plan

#### Plan: States should reduce appropriation of outer space by private entities that engage in anti-competitive business practices in accordance with the higher ethical principles of the outer space treaty.

Top of Form

#### Antitrust is uniquely compatible with the OST---the plan generates momentum for international harmonization.

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Equality and Free Access

Secondly, it could be argued that the principle of “equality” and “free access” as enshrined within article I of the OST would seem to preclude monopolies insofar as equal access to celestial bodies must be maintained while, in theory, monopolization would potentially bar such equal access:

(...) Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies (...) (42). (emphasis added)

The main concern raised by the above-cited paragraph is to determine to what extent the article I applies to space resources on the celestial bodies in question. Since celestial bodies are not defined, as previously stated, and since there is no mention of space “resources” within the OST, national law or doctrine can be used to answer the question. The only national legislations mentioning space resources are the ones in favor of the commercialization, as listed supra (43). Secondary sources, or doctrine, reflect divergent views expressed by scholars at the international level (44). This situation illustrates how national law is filling the legal void previously referred to. Nevertheless, which void does it precisely try to fill? The term “appropriation” appears in article II of the OST, alongside with the term “celestial body” which, in article I appears next to “free access”, “equality” and “benefit”. By association, it can be inferred that the States in favor of space commerce do not object to the idea of the extension of these principles to space resources. In this case, as space resources regulation seems to emanate from the national level, national antitrust measures constitute, (at the first stage) an adequate legal response, in parallel, to contain and monitor the risk of monopolization or other anti-competitive behavior in space (an international level field). Such measures could indeed be included within current and future national space legislation and enforce fair competition based on the OST principles. This could in turn generate enough momentum and critical mass to trigger an international framework and intensify harmonization efforts (at the second stage), especially with regards to the commercialization of the space sector.

#### Exemptions collapse Rule of the Road – those are necessary to a thriving space industry.

Larsen 18, Paul B. "Minimum International Norms for Managing Space Traffic, Space Debris, and Near Earth Object Impacts." J. Air L. & Com. 83 (2018): 739. (taught air and space law for more than 40 years respectively at Southern Methodist University and at Georgetown University. He is co-author of Lyall and Larsen, Space Law a Treatise (2ne edition Routledge 2017) and of Larsen, Sweeney and Gillick, Aviation Law.)//Miller

D. NON-GOVERNMENTAL ORGANIZATIONS AS MODELS FOR MINIMUM SPACE NORMS Space industry operators are concerned that national and international government-established operating norms may be too restrictive and may kill off the inventive start-up space business initiatives now appearing in the marketplace. No one state or non-governmental entity can appropriate or assert sovereignty over outer space. The Outer Space Treaty Article IX requires states to pay due regard to the corresponding activities of other states.218 But that requirement does not give one state regulatory authority over the business authorities of other states. Article IX merely requires appropriate international consultations.219 Individual space businesses need room to experiment.220 At the same time, they are concerned about the intense competition and the need for some basic safety and traffic rules. Another complication is that the competing space businesses are of different nationalities, and the space businesses authorized by one state may receive inadequate protection from their authorizing state against competing businesses authorized by another state. The nations have to coordinate in order to establish order and basic operating rules for non-sovereign outer space by voluntary agreement. Several operators have sought to join together in associations for their own protection and coordination. A good example is the Space Data Association, in which large space operators like Intelsat, SES, and Euelsat have joined with large manufacturers such as Airbus, and even some space agencies like NASA and the German DLR, to pool information about traffic in outer space.221 They have formed subcommittees on urgent issues such as safety, procedural developments, and interference with radio frequencies.222 However, the large number of small satellite operators have tended to form their own association representing New Space. It is recognized that industry standardsetting organizations, such as the International Standardization Organization (ISO),223 and the new space standardization organization, CONFERS,224 have important roles for setting product standards for the space industry. However, the norms needed for management of space traffic, space debris, and NEOs require minimum government coordination among the states to establish international uniformity. Several industry observers call for some kind of international policing of outer space.225 The private associations can only depend on the goodwill of their competitors in obeying and complying with association rules. Private associations have no inherent police powers for enforcement other than legal action for breach of contract.226 Enforcement of contracts may depend on national laws and on national courts that may favor domestic business over foreign business. Furthermore, associations may be restricted by national antitrust and anti-monopoly laws. Conflicting with the idea of operators working in unison for their common good is the proposition that space operators are basically in business for individual profit. Thus, an individual business may not be willing to sacrifice its profit motives for the sake of public safety. That becomes the nub of the question of whether to leave safety in outer space to be resolved by the non governmental entities: each of the operators will always be motivated by self-interest. A neutral policing authority would therefore be more acceptable to direct traffic than competing business operators. Importantly, the individual national governmental authorities do not have exclusive policing authority in outer space. The only effective solution is to establish international minimum operating norms for space debris generation, space traffic, and planetary defense. It appears that, for space business to succeed, international norms with adequate input from business operators will be the best solution for these urgent public safety problems for space business to succeed. Standards and norms are commercial necessities. They enable businesses to satisfy a larger market demand for their products and services. Some technical standards and norms can be established by the commercial interests without government involvement, but others require minimum governmental regulation and oversight. Space traffic norms will benefit business enterprises, but they require international coordination and policing to assure uniformity. Reduction and elimination of space debris is another activity that requires international coordination combined with national enforcement. Planetary defense against threatening NEOs is yet another area beyond the ability of commercial enterprises to control. These three space activities requiring minimum government safety norms will help businesses prosper and allow space exploration to continue.

#### The Plan’s grounding in OST principles harmonizes space governance and broader applications of noble anti-trust.

**Rhimbassen 22** [Maria Rhimbassen, Research Fellow with Open Lunar & PhD Candidate in Space Law at the University of Toulouse and CNES, 2-8-2022, accessed on 4-22-2022, Openlunar, "From Toxic to Noble Competition: Implementing A New Perspective of Antitrust in Outer Space based on Ethics and Beyond - Open Lunar Foundation" <https://www.openlunar.org/library/from-toxic-to-noble-competition>] Adam

National legislation can also be approached with amendments proposals in terms of licensing requirements. State aid should hence comply with such new requirements. Prior to this, to come up with a clearly defined set of ethical standards, the creation of an interdisciplinary working group composed of a variety of stakeholders, such as the Hague International Space Resources Governance Working Group (HISRGWG) [76] is strongly recommended. There needs to be consensus on determining the exact ethical principles to be selected, the correlating parameters to be relied upon and the key performance indicators (KPI) necessary for appropriate assessments. This is reminiscent of the Massachusetts Institute of Technology (MIT)’s recent Space Sustainability Rating (SSR) [77], which measures sustainability compliance to assess resulting eligibility for incentives. The product of this kind of cross-sectoral working groups represent a high potential of productivity as in the case of the HISRGWG which crystallized into recommendations that are: adopted by the now growing Artemis Accords (e.g., with regards to the “safety zones”). These recommendations are used both as a foundational start and as a pillar of academic debatable material, for instance, by the Outer Space Institute (OSI)’s Vancouver Recommendations [78], in terms of what “benefit sharing” should entail [79]. They are also cited at the UNCOPUOS for future international guidelines, recommendations and groundwork for the new working group on the governance of space resources [80], and they inspire international non-governmental organizations such as the Moon Village Association (MVA)’s Global Expert Group on Sustainable Lunar Activities (GEGSLA) (81).

These overarching realizations are expected to lay the foundations for a substantial harmonization in terms of standardizing a new competitive dynamic. The proposed working group, which could be tentatively called “Space Antitrust Group of Experts” (SAGE) must involve antitrust experts, space lawyers, ethicists, and so forth to find the perfect common ground where antitrust and space can best prevail. Designing a roadmap with these elements in mind is already underway, following a special session at the International Astronautical Congress (IAC), held in Dubai, in October 2021, where a multidisciplinary group consisting of over a dozen academic leaders and representatives from the public sector met, on a personal capacity, and helped to design, together with the audience, a roadmap to identify clashes between the emerging transnational space commercial law and international space law in its current state, and to anticipate contention points before formulating recommendations 5 . This is only the start for a long-term initiative to further develop the foundational pillars of this new discipline (e.g., noble space antitrust). The resulting network of interdisciplinary nexuses is a most valuable asset for ensuring the perennial protection of space ethics that are enshrined within the OST while bearing in mind the growing role of the private sector. Finally, a group similar to SAGE should also include actors from the private sector, at the strategic level, because antitrust is part of competitive intelligence and not to be contained at a mere technical level. On the contrary, it can be the central pivot to a company’s business model, and therefore this kind of feedback is critical for successful implementation.

### 1AC---Adv---Space Law

#### International space law isn’t equipped for the privatization of space BUT space antitrust checks its erosion AND allows for international harmonization

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11. Discussion

Traditionally, international space law, as opposed to national space law, is not equipped to deal directly with the private sector. However, antitrust has the tools to do so. The broader range of space antitrust might help delve further down into the elusive and transnational commercial law, which is likely to accelerate in the near future and multiply interest around the commodification of the space market. As suggested throughout this paper, space concentration, leading to monopolies, is a likely outcome of the further development of space commerce. To mitigate the risks of monopolization, collusive and of other anti-competitive behavior, especially when considering the particular nature of space resources, to be exchanged on the emerging space-based market – including the complex and specialized services attendant thereto – special ethical and legal safeguards must be put in place to incentivize competition while containing the risks of fragmentation mentioned previously.

This is important to enable a healthy expansion of the ecosystem. Our emphasis on the market forces at play is rooted in the assumption that through the observation of the current trends of commercialization and of the growing number of non-traditional actors (either public or private) stemming from old and from new space-faring nations, it is easier to anticipate risk and to provide supporting regulatory proposals.

Our suggested approach toward an adaptive and polycentric governance model attempts to resolve some of these challenges, by allowing for a bottom-up framework that fosters commercialization, to surface organically, from the players, with minimal outside intervention. Our goal is to prevent the risk of privatization and commercialization that might gradually erode the ethical principles of international space law. To use the analogy of the carrot and the stick in striking a balance between regulatory intervention and free initiative, we prefer the carrot approach. Incentivizing the private sector to compete around ethically balanced markets has the potential to unlock new and unforeseen forces of antitrust in space to channel the fragmentation of forces in a sustainable manner while ensuring the respect of the conventional set of ethical principles to which many corporations already subscribe to in the context of their corporate compliance programs. Here we would an additional layer of space law higher ethical principles (such as enumerated supra) and investigate into further incentivizing soft law implementations. These higher principles are rooted in system interconnectivity and complexity, and have direct consequences on life, planetary protection, environmental aspects, intergenerational equity, etc. In approaching these issues through the angle of antitrust, we argue that antitrust is bound to evolve and to adapt, both in Space and on Earth. Furthermore, a broad space antitrust scope might also benefit from polycentric governance when concrete self-determination claims would manifest, such as Elon Musk’s self-governing principles on Mars. Any future space colonies (or settlements) would either rely on their own resources or would depend on the import and the export of resources, and therefore, on resource commodification. It then follows that having an ethical space antitrust regime well in place appears as a foreseeable necessity. An ethical space antitrust should also consider non-market factors such as the potential new rights granted to specific resources and regulate accordingly (e.g. the equivalent in space of legal rights to natural resources, etc.). Without such an ethical regime framework harnessing uncoordinated competitive forces, one possible outcome would be the dystopia described by Andy Weir’ Artemis economy on the Moon based on “soft landing grams” credits directly applied to one’s consumption of oxygen. A bleak perspective. Finally, antitrust is an adequate response to space property and resources, as property law is, at its basis, domestic law and so is competition law. They can evolve in parallel in the space sector and merge into an international framework, adapted to the international space law forum. There is no internationally harmonized antitrust framework as of this writing, except non-binding UN guidelines. Perhaps, a “space antitrust” would help bridge that gap and contribute to reducing growing issues such as “forum shopping,” fragmentation and “conflict of laws.”

12. Limitations and further research

While this paper is at the exploratory level, further research is necessary in determining the scope of antitrust in space, property and commodities and how ethics can play a role specifically, at the implementation level. Case studies should be conducted with a clear methodology. Moreover, the research must include other financial aspects such as spacebased assets and securities, notably the Space Assets Protocol of the UNIDROIT Cape Town Convention. Finally, more work must be done in terms of international/transnational recommendations for antitrust, as there is no internationally harmonized antitrust governance or regime and it remains heavily politicized – or not enough, depending on the school of thought (Teachout, 2020, p. 212).

13. Conclusion

This paper explored a roadmap into managing fragmentation triggered by the accelerated development of the outer space ecosystem and the rise in non-traditional space actors, be they public or private. International space law no longer suffices to cope with all the new actors, and therefore, transnational alternates are recommended. This paper recommends a transformed antitrust regime, adapted to space, based on the corpus juris spatialis ethics. This could help preventing the risk of space law erosion while privatization and commercialization of space are trending and potentially leading to the commodification of the space market and ecosystem, while space lawyers are still debating internationally as per the principle of non-appropriation and as per what a “space object” should consist of and what property rights could be applicable in space. An interdisciplinary approach could prove very helpful to address this problem. For instance, E. Ostrom’s work on classifying the goods into four categories from an economic standpoint might help space lawyers into classifying space goods once and for all and this could serve as a catalyst for polycentric space governance, governed inter alia, by competing forces. However, these competing forces should rather be seen as the dark matter in a space ecosystem, enabling sustainable synergies and interactions, with intergenerational equity in mind. This would be essential to avoid unregulated speculation based on space commodities, which could prove to be more detrimental in such an extreme environment as space. For instance, speculation benefits from climate change impact on crops and other commodities on Earth. We are all too familiar with the consequences. Imagine what space weather-based speculation could do in space. It could obliterate entire economies at once. One could argue that either space antitrust monitors the space commoditization closely, either space derivatives should be significantly regulated.

#### Space law erosion causes space wars.

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Interregional Academy of Personnel Management, “Private International Space Law. Philosophical and Legal Factors of Approval by the World Community,” 2019, Philosophy and Cosmology, Volume 22, p. 21-22

Consequences of the lack of legal rules of conduct for individuals in space

As the authors have shown above, public international law well regulates the exploration and use of outer space by States. However, more and more private companies and individuals are making real or virtual use of comic space and space bodies. So far, private companies are working closely with the relevant national structures. For example, SpaceX works closely with NASA. It works for profit, but according to public international and national space laws of the United States. Accordingly, while significant problems in this area do not arise. However, after the withdrawal of the orbit of the Earth by the SpaceX company of about 12000 satellites that will give away “free” Internet traffic of all comers, problems without doubt arises. First of all, it will be connected with the protection of intellectual property rights and counter-terrorism. The such States, such as China and Russia, will be categorically against all available Internet because they profess the theory and practice of the state-controlled Internet. In other words, the activities of a private company that will operate under soft (softlaw) space law will conflict with the national laws of sovereign States. Consequently, in the context of private companies and individuals, when using space, they enjoy soft law and act in accordance with a constitutional principle of English law: “Everything which is not forbidden is allowed”.

Even more, there is a violation of the principle of justice and sometimes common sense about the virtual use of cosmic bodies. For example, Dennis M. Hope, the formal owner of the Moon since 1980. In 2015, two private companies, Moonestates and Moonlife Ltd, merged and merged is bring together the community of over 6 million space enthusiasts that have purchased land on the Moon (https://www.moonestates.com/about-us/). MoonEstates.com, and Moonlife Ltd view the “legalities” of selling extraterrestrial property and are quite legally valid in the U.S.A. legislative field (<https://www.moonestates.com/about-us/space-law/>).

From our point of view, it is unacceptable that individuals and organizations that do not enjoy any legitimacy from society should (albeit virtually) use or dispose of space objects as their property. This is a direct road to the future confrontation for the natural resources of space. The worst consequence of which can be real space wars. Philosophy of War and Peace, as well as its influence on the formation of the foundations of national and planetary security strategies, are considered in the study Philosophy of War and Peace: in Search of New European Security Strategy [Bazaluk & Svyrydenko, 2017]. Private international space law, adopted by the international community through the legalization in the UN, has the right to regulate the activities of individuals about comic objects. Consequently, the lack of legal rules of conduct for individuals in space leads to two main types of incidents:

1. Not the settlement of the right of private ownership of space bodies, will not lead to the fair capture of space bodies by persons who do not have the right to do so, and the redistribution of such objects will objectively lead to space wars.

2. Not controlled by the right of private companies to use the near-earth space will lead to a threat to the life and health of the inhabitants of the Earth, negative environmental consequences and legal conflicts, both interstate and private.

#### They go nuclear---AND erode nuclear deterrence.

Dr. Robert Farley 22, Assistant Professor of Security and Diplomacy at the Patterson School at the University of Kentucky, Ph.D. in Political Science from the University of Washington, B.A. from the University of Oregon, “Does A Space War Mean A Nuclear War?,” 1945, 1/9/2022, https://www.19fortyfive.com/2022/01/does-a-space-war-mean-a-nuclear-war/

The recent Russian anti-satellite test didn’t tell the world anything new, but it did reaffirm the peril posed by warfare in space. Debris from explosions could make some earth orbits remarkably risky to use for both civilian and military purposes. But the test also highlighted a less visible danger; attacks on nuclear command and control satellites could rapidly produce an extremely dangerous escalatory situation in a war between nuclear powers. James Acton and Thomas Macdonald drew attention to this problem in a recent article at Inside Defense. As Acton and MacDonald point out, nuclear command and control satellites are the connective tissue of nuclear deterrence, assuring countries that they’re not being attacked and that they’ll be able to respond quickly if they are.

For a long time, these strategic early-warning satellites were akin to a center of gravity in ICBM warfare. Nuclear deterrence requires awareness that an attack is underway. Attacks on the monitoring system could easily be read as an attempt to blind an opponent in preparation for general war, and could themselves incur nuclear retaliation. Thus, the nuclear command and control satellites are critical to the maintenance of nuclear deterrence. They make it possible to distribute an order from the chief of government to the nuclear delivery systems themselves. Consequently, their destruction might lead to hesitation or delay in performing a nuclear launch order.

It was only later that the relevance of satellites for conventional warfare became clear. Satellites could reconnoiter enemy positions and, more importantly, provide communications for friendly forces. Indeed, the expansion of the role of satellites in conventional warfare has complicated the prospect of space warfare. States have a clear reason for targeting enemy satellites which support conventional warfare, as those satellites enable the most lethal part of the kill chain, the communications and recon networks that link targets with shooters. Thus, we now have a situation in which space military assets have both nuclear and conventional roles. In a conflict confusion and misperception could rapidly become lethal. If one combatant views an attack against nuclear command and control as a prelude to a general nuclear attack, it might choose to pre-empt.

Nuclear powers have dealt with problems in this general category for a good long while; would a conventional attack against tactical nuclear staging areas represent an escalation, for example? Would the use of ballistic missiles that can carry either conventional or nuclear weapons trigger a nuclear response? Do attacks against air defense networks that have both strategic and tactical responsibilities run the risk of triggering a nuclear response? There’s also the danger that damage to communications networks designated for conventional combat could force traffic onto the nuclear control systems, further confusing the issue.

No one has ever fought a nuclear war, and no two nuclear powers have engaged in a prolonged, high-intensity conventional conflict. Now that conventional systems have become implicated in space technologies for reconnaissance, targeting, and communications, leaders will have to make very difficult, very careful decisions on what enemy capabilities they want to disrupt. Acton and MacDonald propose a straightforward ban on attacks against nuclear satellite infrastructure, which would also require agreement to keep nuclear and conventional communications networks separate. This is the little ask; countries should plan to fight more carefully. The big ask is for a multilateral ban to prevent future anti-satellite weapons tests in space. This would reduce the danger that debris could close off, temporarily or permanently, human access to certain locations in earth orbit. But given that countries use satellites for the conduct of conventional military operations, it’s a lot to ask for warfighters to consider critical military infrastructure off-limits in any particular conflict.

#### Antitrust harmonization prevents extinction from resource depletion, human rights abuse, and war

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A. The international political environment

At the root of international political theory is the fundamental maxim that relations between sovereign nations in the absence of mitigating factors is characterized by intense competition, mutual distrust, the inability to make credible commitments, and war.20

[FOOTNOTE] 20 Political scientists characterize the international system as “anarchic.” In the absence of world government (or other mitigating force), competition between states is largely unregulated by external laws or enforcement. The world is characterized by mistrust, the inability to contract, and the ultimate reliance on a state’s own devices. See THOMAS HOBBES, LEVIATHAN 80 (Edwin Curley ed., 1994) (in the state of nature “the condition of man . . . is a condition of war of everyone against everyone”). In fuller terms:

There is no authoritative allocator of resources: we cannot talk about a ‘world society’ making decisions about economic outcomes. No consistent and enforceable set of comprehensive rules exists. If actors are to improve their welfare through coordinating their policies, they must do so through bargaining rather than by invoking central direction. In world politics, uncertainty is rife, making agreements is difficult, and no secure barriers prevent military and security questions from impinging on economic affairs.

ROBERT O. KEOHANE, AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY 18 (1984). Efficiency-enhancing gains from trade are difficult to appropriate because trade itself (and any other form of exchange or agreement between nations) is characterized by the absence of credible commitments to future behavior. And underlying the problem is the ever-present threat of the use of force. See, e.g., Kenneth N. Waltz, Anarchic Orders and Balances of Power, in NEOREALISM AND ITS CRITICS 98, 98 (Robert O. Keohane ed. 1986) (“The state among states . . . conducts its affairs in the brooding shadow of violence . . . . Among states, the state of nature is a state of war.”). Although this dire characterization of the international environment is, of course, a stylized approximation of the real world—there are always overlying constraints on sovereign behavior in the form of norms, reputational effects, and customary international law, HEDLEY BULL, THE ANARCHICAL SOCIETY: A STUDY OF ORDER IN WORLD POLITICS (1977)—it is a useful and widely accepted heuristic for crafting a theory of international politics. [END FOOTNOTE]

As one commentator notes, “Nations dwell in perpetual anarchy, for no central authority imposes limits on the pursuit of sovereign interests.”21 And states are “unitary actors who, at a minimum, seek their own preservation and, at a maximum, drive for universal domination.”22 As a result, states operating on the international stage are unable to judge the sincerity of each others’ stated intentions when those intentions are contrary to this manifest interest. Because of self-help rules, states are forced in the main to assess their own security environment by assessing the capabilities of competitors, downplaying their motives. Given that the nature of the competition can implicate the fundamental survival of one (or more) of the actors, actions taken by one state to improve its own security must necessarily decrease the security of its competitor; in the absence of mitigation, security is a zero-sum game.23 In a world where cooperation is exceedingly difficult (because there is no authority to enforce agreements, nor any basis for assessing the reliability of another state’s commitments), international relations are characterized by a continuous race to the bottom, a mindless arms race rather than the opportunity to realize gains from cooperation.

It is obvious that not all relations between states are characterized by the security dilemma, however. Canada, for example, shares an unprotected border with the most powerful nation in the world without degenerating into a destructive and costly arms race. By some mechanism, then, Canada must be able reliably to judge U.S. intentions, even absent the apparent ability by the United States credibly to bind itself to a nonaggressive policy toward Canada. The key to mitigating the pressures of the security dilemma is the ability to distinguish a state with aggressive and expansionist tendencies from a benign one.24 States can be distinguished by their fundamental type. They can be classified as “revisionist,” that is, they seek to subvert the dominant order, or they can be classified as “status quo,” that is, they seek to support it.25 But, as noted, a state’s ability to judge another’s intentions (as opposed simply to counting its armaments) is extremely tenuous and comes at great cost. In fact, political science offers few well-understood mechanisms for judging a state’s propensity for aggression.

At the same time, hegemonic states have an abiding interest in spreading and maintaining their dominant worldview.26 Not only is it imperative that dominant states receive credible signals about other states’ intentions, but it is also important that dominant states attempt to inculcate their norms within other states that, over time, might mount credible challenges to the dominant states’ security.27 The spread of hegemony through internalization of norms occurs for three reasons. First, states with similar institutions and sympathetic domestic norms are simply better and more reliable trading partners, and it is in the hegemon’s economic interest to instill its norms.28 Second, states with defensive military postures and that adhere to the status quo present significantly less security risk to dominant states.29 And finally, the hegemon has a normative interest in the spread of its culture, its worldview, and its norms.30 This conception of the playing field upon which states interact leads to the conclusion that, entirely apart from the immediate and substantial economic benefits to a state from well-ordered interactions with other states, hegemonic states also have a national security and a normative interest in the information to be gleaned from the fact that these interactions are, in fact, well ordered.

In the absence of centralized enforcement, privately held and nonverifiable information as to a state’s fundamental type is the critical problem in assessing motives.31

[FOOTNOTE] 31 See KEOHANE, supra note 20, at 31 (“Order in world politics is typically created by a single dominant power [or hegemon].”). States are consequently classified as one of two types, “revisionist” or “status quo,” based on their acceptance and adherence to the political norms, institutions, and rules created by the hegemon. Status quo states are those that try to improve their condition from within the framework of the accepted world order. Revisionist states, by contrast, seek to gain position both by working outside that order and by working to subvert the hegemonic order itself. For instance, the existing world order is generally accepted to be that created by the United States after World War II. It comprises a liberal international economic order, the use of multilateral institutions (such as the United Nations and the WTO), negotiation for dispute resolution rather than the threat of violence, and the promotion of liberal democratic moral norms. See, e.g., Schweller, supra note 24, at 85; HANS J. MORGENTHAU, POLITICS AMONG NATIONS: THE STRUGGLE FOR POWER AND PEACE 32 (1948). Trade disputes between status quo states (like tariff disputes between the United States and Europe) are resolved through peaceful negotiation rather than the threat of war. Although status quo states do not entirely eschew the use of violence, they typically seek international authorization and legitimization before employing military force, as in the multilateral operations in Iraq, Kosovo, and Afghanistan. Revisionist states, on the other hand, such as North Korea, Iran, and China, will more readily use military force as a bargaining tool and are more reluctant fully to participate in transparent military, economic, and political negotiations. [END FOOTNOTE]

States wishing to escape the pressures of the security dilemma and engage in cooperative behavior need a means of conveying their preferences to others in a credible manner. There are, in general, two means by which such information can be transmitted: states can either bind themselves in such a way that they are unable to deviate from a stated behavior (known as “hands tying” in Schelling),32 or they can signal their intention to engage in a specified course of action by incurring costs sufficiently large that they discourage the misrepresentation of preference.33

International institutions can play a crucial role in facilitating the transmission of this information.34 In particular, international agreements over the terms of trade, even without binding supranational enforcement authority, provide a means for states to bind themselves to a desirable course of behavior in the short run and, more importantly, to signal their acquiescence to the ruling world order in the long run. Because compliance with treaty obligations often requires signatories to alter their domestic laws to reflect the terms of the treaty, the costs of compliance can be substantial. In the short run, to the extent that states enforce their domestic laws they can bind themselves to a certain course of behavior. In the long run, a state’s willingness to incur the substantial costs of changing its laws, both the transaction costs inherent in changing domestic laws and the even more substantial costs in domestic political capital, signals a willingness to engage other states on the terms set by the reigning international power. Moreover, there may be unintended effects, as changes in domestic laws result in a new set of domestic incentives to which actors respond, and new windows of opportunity may open up through which policy entrepreneurs can push for the internalization of new norms.35 Competition laws in particular are susceptible to this mode of analysis.

Most nations have adopted competition laws as a way to actualize (as well as to symbolize) a degree of commitment to the competitive process and to the prevention of abusive business practices . . . . The introduction of competition laws and policies has also gone hand in hand with economic deregulation, regulatory reform, and the end of command and control economies.36

The surest way to remove the threat of war, increase wealth, conserve resources, and protect human rights is through fundamental agreement between all states (or at least effective agreement between verifiably status quo states) under a normative umbrella that promotes all of those values. This normative convergence can be effected through the stepwise internalization of the sorts of economic and democratic values inherent in international economic liberalization, perhaps most notably through the adoption of principled international antitrust standards.37

#### Rules of the road check Russian and Chinese ASATs--- cause Taiwan war, AND deck cred among allies.

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* Modified for ableist language

The Necessity for Space Traffic Management

In 2018, the Long Term Sustainability (LTS) Working Group of the Committee on the Peaceful Uses of Outer Space (COPUOS) tried to establish voluntary “measures for the safe conduct of proximity space operations.”15 Russia blocked adding these RPO measures to the 21 guidelines developed by the working group over the prior eight years.16 Finally, in June 2019, Russia endorsed the 21 guidelines, but RPO rules were not included. While these guidelines will help avoid accidental collisions of functional satellites with space debris, they will not prevent satellites from being deliberately threatened or disabled by robotic spacecraft.

Even if Russia and China agreed to reconsider RPO measures, there is another problem. COPUOS has long focused only on guidelines for commercial safety, not military security. Taking advantage of this tradition, Russia and China could steer RPO guidelines toward helping commercial operators avoid accidental collisions but leaving the option of using proximity operations to threaten critical US military satellites. This threat could be a powerful instrument for executing their asymmetric strategies to counterbalance the more superior US military capabilities in space. For example, in its 2019 document China Military Power, the US Defense Intelligence Agency states, “PLA [People’s Liberation Army] writings emphasize the necessity of ‘destroying, damaging, and interfering with the enemy’s reconnaissance . . . and communications satellites,’ suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to ‘~~blind and deafen~~ [disorient] the enemy.’ ”17

Such an attack would be most damaging if it is the fateful opening of a war in space or on Earth. China could pre-position and maintain multiple dual-use robotic spacecraft arbitrarily close to our critical satellites. Even more worrying is that this threat will grow. Sometime in the latter half of the 2020s, China will have the capability to pre-position dozens of cheap RPO small satellites (smallsats18) close to dozens of our satellites, such as the Global Positioning System (GPS). Although these spacecraft are slow-moving, they will be able to legally pre-position during peacetime and get unreasonably close. After “legitimately” setting up this threatening posture, China would have an advantage in a crisis, such as one involving Taiwan. If the US intervenes, China could disable critical satellites so quickly that we would not have enough time to defend them. The disabling could severely degrade US war-fighting capabilities. Furthermore, knowing an intervention could fail, the US might decide not to intervene in the first place and would risk its credibility among allies.19 The US could prevent such a threat scenario and outcome by creating and enforcing a more comprehensive STM regime that provides timely warning and prevention.

Already, “rumors have been circulating for years that the Chinese Communist Party (CCP) has developed small satellites with robotic arms that could be used as anti-satellite weapons.” The rumors indicate that “some of the smaller satellites are lighter than 22 pounds, yet have a triple-eye sensor to gauge the shapes of targets and can adjust their speed and rotation, allowing them to grab objects within a distance of six inches, using a single robotic arm.”20 Considering their significant research and development in RPOs and smallsats,21 China as well as Russia can likely deploy a few attackers in the first half of the 2020s and then, in the second half of the decade, dozens of inexpensive smallsats capable of RPOs to mount a simultaneous proximity attack. These proximity ASATs would have a cost ratio (e.g., millions each for ASATs versus hundreds of millions each for a victim’s satellites) highly favorable to the attacker. It would be even more favorable to the attacker if one includes the high cost to the victim of losing the services provided until its satellite capability is fully replaced. Constellations of even dozens of satellites could still be vulnerable. For example, the 32 GPS III satellites, which will replace the current GPS by 2025, cost about half a billion dollars each.22 Dozens of cheap, robotic ASATs could defeat most of these 32 satellites, degrading or eliminating a critical service needed in peacetime and wartime.

#### Chinese ASAT attacks go nuclear.

Lee Billings 15, Editor at Scientific American covering space and physics, Citing Michael Krepon, an arms-control expert and co-founder of the Stimson Center, and James Clapper, Director of National Intelligence, The Scientific American, August 10, 2015, “War in Space May Be Closer Than Ever”, http://www.scientificamerican.com/article/war-in-space-may-be-closer-than-ever/

The world’s most worrisome military flashpoint is arguably not in the Strait of Taiwan, the Korean Peninsula, Iran, Israel, Kashmir or Ukraine. In fact, it cannot be located on any map of Earth, even though it is very easy to find. To see it, just look up into a clear sky, to the no-man’s-land of Earth orbit, where a conflict is unfolding that is an arms race in all but name.

The emptiness of outer space might be the last place you’d expect militaries to vie over contested territory, except that outer space isn’t so empty anymore. About 1,300 active satellites wreathe the globe in a crowded nest of orbits, providing worldwide communications, GPS navigation, weather forecasting and planetary surveillance. For militaries that rely on some of those satellites for modern warfare, space has become the ultimate high ground, with the U.S. as the undisputed king of the hill. Now, as China and Russia aggressively seek to challenge U.S. superiority in space with ambitious military space programs of their own, the power struggle risks sparking a conflict that could ~~cripple~~ [destroy] the entire planet’s space-based infrastructure. And though it might begin in space, such a conflict could easily ignite full-blown war on Earth.

The long-simmering tensions are now approaching a boiling point due to several events, including recent and ongoing tests of possible anti-satellite weapons by China and Russia, as well as last month’s failure of tension-easing talks at the United Nations.

Testifying before Congress earlier this year, Director of National Intelligence James Clapper echoed the concerns held by many senior government officials about the growing threat to U.S. satellites, saying that China and Russia are both “developing capabilities to deny access in a conflict,” such as those that might erupt over China’s military activities in the South China Sea or Russia’s in Ukraine. China in particular, Clapper said, has demonstrated “the need to interfere with, damage and destroy” U.S. satellites, referring to a series of Chinese anti-satellite missile tests that began in 2007.

There are many ways to disable or destroy satellites beyond provocatively blowing them up with missiles. A spacecraft could simply approach a satellite and spray paint over its optics, or manually snap off its communications antennas, or destabilize its orbit. Lasers can be used to temporarily disable or permanently damage a satellite’s components, particularly its delicate sensors, and radio or microwaves can jam or hijack transmissions to or from ground controllers.

In response to these possible threats, the Obama administration has budgeted at least $5 billion to be spent over the next five years to enhance both the defensive and offensive capabilities of the U.S. military space program. The U.S. is also attempting to tackle the problem through diplomacy, although with minimal success; in late July at the United Nations, long-awaited discussions stalled on a European Union-drafted code of conduct for spacefaring nations due to opposition from Russia, China and several other countries including Brazil, India, South Africa and Iran. The failure has placed diplomatic solutions for the growing threat in limbo, likely leading to years of further debate within the UN’s General Assembly.

“The bottom line is the United States does not want conflict in outer space,” says Frank Rose, assistant secretary of state for arms control, verification and compliance, who has led American diplomatic efforts to prevent a space arms race. The U.S., he says, is willing to work with Russia and China to keep space secure. “But let me make it very clear: we will defend our space assets if attacked.”

Offensive space weapons tested

The prospect of war in space is not new. Fearing Soviet nuclear weapons launched from orbit, the U.S. began testing anti-satellite weaponry in the late 1950s. It even tested nuclear bombs in space before orbital weapons of mass destruction were banned through the United Nations’ Outer Space Treaty of 1967. After the ban, space-based surveillance became a crucial component of the Cold War, with satellites serving as one part of elaborate early-warning systems on alert for the deployment or launch of ground-based nuclear weapons. Throughout most of the Cold War, the U.S.S.R. developed and tested “space mines,” self-detonating spacecraft that could seek and destroy U.S. spy satellites by peppering them with shrapnel. In the 1980s, the militarization of space peaked with the Reagan administration’s multibillion-dollar Strategic Defense Initiative, dubbed Star Wars, to develop orbital countermeasures against Soviet intercontinental ballistic missiles. And in 1985, the U.S. Air Force staged a clear demonstration of its formidable capabilities, when an F-15 fighter jet launched a missile that took out a failing U.S. satellite in low-Earth orbit.

Through it all, no full-blown arms race or direct conflicts erupted. According to Michael Krepon, an arms-control expert and co-founder of the Stimson Center think tank in Washington, D.C., that was because both the U.S. and U.S.S.R. realized how vulnerable their satellites were—particularly the ones in “geosynchronous” orbits of about 35,000 kilometers or more. Such satellites effectively hover over one spot on the planet, making them sitting ducks. But because any hostile action against those satellites could easily escalate to a full nuclear exchange on Earth, both superpowers backed down. “Neither one of us signed a treaty about this,” Krepon says. “We just independently came to the conclusion that our security would be worse off if we went after those satellites, because if one of us did it, then the other guy would, too.”

Today, the situation is much more complicated. Low- and high-Earth orbits have become hotbeds of scientific and commercial activity, filled with hundreds upon hundreds of satellites from about 60 different nations. Despite their largely peaceful purposes, each and every satellite is at risk, in part because not all members of the growing club of military space powers are willing to play by the same rules—and they don’t have to, because the rules remain as yet unwritten.

Space junk is the greatest threat. Satellites race through space at very high velocities, so the quickest, dirtiest way to kill one is to simply launch something into space to get in its way. Even the impact of an object as small and low-tech as a marble can disable or entirely destroy a billion-dollar satellite. And if a nation uses such a “kinetic” method to destroy an adversary’s satellite, it can easily create even more dangerous debris, potentially cascading into a chain reaction that transforms Earth orbit into a demolition derby.

In 2007 the risks from debris skyrocketed when China launched a missile that destroyed one of its own weather satellites in low-Earth orbit. That test generated a swarm of long-lived shrapnel that constitutes nearly one-sixth of all the radar-trackable debris in orbit. The U.S. responded in kind in 2008, repurposing a ship-launched anti-ballistic missile to shoot down a malfunctioning U.S. military satellite shortly before it tumbled into the atmosphere. That test produced dangerous junk too, though in smaller amounts, and the debris was shorter-lived because it was generated at a much lower altitude.

More recently, China has launched what many experts say are additional tests of ground-based anti-satellite kinetic weapons. None of these subsequent launches have destroyed satellites, but Krepon and other experts say this is because the Chinese are now merely testing to miss, rather than to hit, with the same hostile capability as an end result. The latest test occurred on July 23 of last year. Chinese officials insist the tests’ only purpose is peaceful missile defense and scientific experimentation. But one test in May 2013 sent a missile soaring as high as 30,000 kilometers above Earth, approaching the safe haven of strategic geosynchronous satellites.

#### Taiwan conflict causes global nuke war.

Joseph Gerson 21, Executive Director of the Campaign for Peace, Disarmament and Common Security and Vice-President of the International Peace Bureau, “Taiwan: The Most Dangerous Flashpoint in the U.S.-China Cold War”, Mass Peace Action, 7/19/2021, https://masspeaceaction.org/taiwan-the-most-dangerous-flashpoint-in-the-u-s-chinese-cold-war/

Preventing accidents or miscalculations (political as well as military) that could trigger armed conflict and escalate to nuclear war must now become an urgent priority. Taiwan is the most dangerous flashpoint for great power and potentially nuclear war, followed by the South China/West Philippine and Baltic Seas. With the contradictory forces of popular Chinese backing for Taiwan’s reunification and growing support for Taiwanese national independence, as well as the inevitable tensions between rising and decline powers, a nervous sailor who pulls a trigger or a Taiwanese political leader who makes a reckless statement could ignite a nuclear World War.

#### Universalizing principles under the OST creates rules of the road for sustainable space activities.

Rhimbassen 21, Maria, and Lucien Rapp. "Competitive space foresight: Incentivizing compliance through antitrust." Acta Astronautica 189 (2021): 235-240. (serves as a Research Associate at the Chaire SIRIUS and is also a PhD Candidate in space law since 2016)//Miller

The purpose of this paper is to address STM through an unconventional but pragmatic angle to help optimize efficient compliance governance. This paper proposes using antitrust mechanisms in space as a pragmatic and utilitarian tool for sustainable purposes with regards to STM within a soaring space ecosystem. In the context of accelerated space commercialization and privatization, having a new space antitrust framework at the helm of such transition might indeed prove to be a flexible yet decisive tool into shaping the future of STM and ensuring perennial protection of higher space principles which are enshrined in the Outer Space Treaty and form the essence of space law. On one hand, examples of antitrust key components include fair competition while, on the other hand, higher ethical principles of space law include non-discrimination and benefits sharing. Furthermore, in between these two extremes, security and commerce both rely, respectively on non-harmful interference and competitiveness. To navigate through all these factors, a new space antitrust framework might indeed prove strategic and beneficial to incentivizing the creation of an adaptive, polycentric and action-oriented governance mechanism with great resonance among the commercial new space players and reaffirm the importance of sustainable space traffic management before return on investment, while still making a profit in the long run. Previous article in issue Next article in issue Keywords STM Antitrust Compliance Governance Security 1. Introduction While higher ethical principles such as non-discrimination, equal access, and benefit sharing are enshrined within the magna carta (the Outer Space Treaty (OST) of 1967) [1], of the corpus juris spatialis, it becomes a challenge to ensure the perennialism of such principles given the recent acceleration of commercialization and privatization of the outer space sector. Given this transitional trend, it is important to delve into new regulatory methods to deal with the private actors contributing to the thriving new space economy and to regulate accordingly. Arguably, global outer space governance is lacking, and space law is facing fragmentation. Consequently, space traffic management (STM), including space situational awareness (SSA), faces the risk of a battle of standards of sorts. In the meantime, the Kessler effect [2] urges action since time is ticking. In that regard, it is relevant to look for regulatory alternatives and find a pragmatic and efficient approach for STM governance, since STM implies both a technical and a regulatory aspect. In this paper, we propose that such an alternative approach might be found in antitrust -- or competition law, especially given its power to intervene in the commercial sector. We also address some of the key arguments in favor or against our proposal and make some recommendations as to how antitrust might provide answers to the STM conversation. 2. Context STM is becoming a top priority in the space sector as, so far, there are no “rules of the road” on orbit. The lack of regulation and inherent legal void leaves room for either navigating through loopholes or setting customary practices, especially by the private sector seeking to protect commercial interests, regardless of ethics, public policy or international law. This might trigger a battle of standards in the realm of STM, which would rather be unacceptable as there is no place for more than one code of conduct about “rules of the road” and interoperability in that regard is essential. A battle of technical standards, downstream, might be caused, inter alia, by a battle of suppliers and services, upstream. Most strikingly, such upstream battle might be exacerbated by the fact that STM services, including SSA, are engulfed by the digital sector, including artificial intelligence (AI), algorithms (algos), big data, cloud infrastructure, and intellectual property (IP). Since cloud providers are part of the GAFAM world [3] which appeared relatively recently in antitrust hearings [4], and since IP plays a determining role in antitrust, we formulate the hypothesis that antitrust is a relevant regulatory option, when there is no global consensus in either space law or in STM standards, and when harmonization efforts need to be set in motion. 3. The decade-long problem As mentioned above, there is no global space governance in STM as of this writing. According to a recent report by the Institute for Defense Analysis (IDA), there is a danger that no international STM regime will be agreed upon within the next decade: “Issues related to lack of trust and transparency pose challenges to efforts to develop more binding and formal institutions for STM. For these and other reasons, unless some “wildcards” (an example being a significant collision event in space) come into play, or unless significant political will is exerted, there is likely to be no international agreement on an international STM regime in the next decade” [5]. At the fast pace with which the space exploration is soaring and given the growing number in both space faring nations and private actors, ten years is a long time and, therefore, it increases the risks of fragmentation despite the urgency to act (e.g., Kessler effect). As far as fragmentation concerns the private actors, a recent report by the Chatham House confirms that: “The rise in private space actors has increased the number of commercial STM providers and, with plans in the US to move responsibility for STM to civilian control, there will likely be more opportunities for international collaboration, particularly through the EU Space Surveillance and Tracking (SST) programme” [6]. In an ideal world, such collaborations would indeed solve the issue rapidly. However, the fragmentation does not stop there. International geopolitical differences cause further hurdles, as stated in the same report: “There are worldwide challenges, both political and technical, to providing STM coverage, which may lead to a lack of collaboration and gaps in understanding of activities in orbit. Existing sensors have limitations in terms of the size of objects that can be detected and the precision with which their movements can be predicted. These capability gaps represent opportunities for the EU to contribute.” These fragmentation issues might slow down the progress of collaborative efforts such as the recent UN Long Term Sustainability (LTS) guidelines [7], which lays down the foundations of behavioral sustainability in outer space. 4. The imminent need While the digital sphere of influence is skyrocketing and while regulation struggles to keep up, it is important to monitor and contain the high-tech industry which is growing out of control and if, “too big to fail”, it might overlap with the sectoral regulation of the aerospace sector. Traditionally, the outer space sector was a sanctuary for states and public actors, hence its reliance on international space law. However, due to the privatization and commercialization of the space sector, diversified non-governmental actors are growing both in size and importance. Moreover, some of these new entities are of a multinational nature. However, this multinationalism is in fact turning into an elusive transnationalism, which is more complex to deal with in legal terms. This adds to the fragmentation of international space law since it faces new challenges. For this reason, global space governance is at an impasse. Therefore, we propose the alternative of antitrust. Furthermore, as previously mentioned, the OST focuses on principles such as non-discrimination, benefit sharing, equality of access and opportunity. The International Telecommunications Union (ITU) Constitution protects fair competition of telecommunications services through “equitable distribution” [8]. Interestingly, antitrust provides protection to fair competition, more particularly, fair economic competition. The economic term here responds to the newly privatized space sector and market. Antitrust defines what an economic activity is and whether it prevents fair competition within that market. In our case, that would be space-based services, more precisely, space-based STM services. 5. Commercial aspects of STM As explained, STM is composed of both a technical and a regulatory side [9]. On the one hand, the technical aspect delves gradually more into the information age (AI, etc.) and IP plays a crucial role. On the other hand, on the regulatory part, we witness initiatives such as the recent US Space Policy Directive-3 (SPD-D) to transfer civilian and commercial STM from the Department of Defense (DOD) to a civilian governmental agency such as the Department of Commerce (DOC) [10]. If this goes on as planned, initially, it will open the possibility of further commercialization of STM and hence the growing role which will be played by the lex mercatoria. However, due to more recent policy and budget modifications, this particular scenario is on hold. Regardless, STM rules and potential related services include: Safety provisions for launches; specific regime for space between airspace and outer space; zoning (selection of orbits); right of way rules for in-orbit phases; prioritization with regard to maneuvers; security rules for human spaceflight; specific rules for GSO, LG Points, Polar Orbits; specific rules for LEO satellite constellations; debris mitigation regulations; safety rules for re-entry (i.e. descent corridors); environmental provisions (e.g. pollution of the atmosphere/troposphere); radiofrequency use and avoidance of interference, etc. [11]. These are important elements to be aware of with regards to the development of the sector and to potentially new services. As a reminder, here is a broad definition of STM, while keeping in mind that there is no single definition accepted worldwide: “… the set of technical and regulatory provisions for promoting safe access into outer space, operations in outer space and return from outer space to Earth free from physical or radiofrequency interference.” [12]. This definition once again brings us to competition, and most particularly ethical and fair competition. Firstly, let us emphasize the word “access”. While one of the OST's principles focuses on the need to protect equal access to space, anti-competitive behavior should consequently be precluded. Secondly, radiofrequency (RF) interference refers to non-harmful interference, as enshrined within the OST, but it also refers to the ITU constitutional provisions which include fair competition and non-discrimination. Therefore, both “access” and “RF interference” add up to our arguments in terms of adopting pro-competitive regulatory measures in outer space, notably in the STM sub-sector.

#### STM reverse causally solves Debris.

Larsen 18, Paul B. "Minimum International Norms for Managing Space Traffic, Space Debris, and Near Earth Object Impacts." J. Air L. & Com. 83 (2018): 739. (taught air and space law for more than 40 years respectively at Southern Methodist University and at Georgetown University. He is co-author of Lyall and Larsen, Space Law a Treatise (2ne edition Routledge 2017) and of Larsen, Sweeney and Gillick, Aviation Law.)//Miller

II. BENEFITS OF INTERNATIONAL NORMS A. PUBLIC SAFETY BENEFIT Commercial space operations are more vulnerable than military activities. They need regulatory protection from threatening elements, such as space debris from collision with other satellites. Moreover, uncertainties raised by NEOs threaten all commercial satellites, regardless of their nationality. As governments authorize more launches of commercial satellites, potential for damage to and interference with current space operations grows.36 These dangers are greatest for the United States, which has the most exposure in terms of space investment and technology.37 Loss of satellites from collisions can be financially ruinous. Operators need to know where other satellites and space debris are located in outer space. Operators need to have exclusive radio frequencies and orbital slots for safe navigation and control of their satellites. Space traffic management and rules of the road for outer space are now necessary for safe operations in outer space.38 Commercial operators do not have policing powers in outer space. Only states can establish and enforce STM under current rules. Only states can manage and provide exclusive radiofrequencies and orbital slots free of interferences. Only states can save operators from the growing dangers of collisions with space debris. However, states do not have exclusive sovereignty in outer space; therefore, they need to coordinate and cooperate with other states and to arrange for uniform international norms so that national regulations do not conflict with operators authorized by other nations. B. EFFICIENCY International norms are needed for efficient commercial operations in outer space. Coordinated international standards would be more efficient and less confusing than would one hundred different sets of norms set by individual national agencies. The ability to operate without interference from other operators and free from space debris will create better results for organiza tions doing business in space. States could organize efficient commercial environments in outer space by coordinating and cooperating with other states. Operators in regulated outer space would be free from having to negotiate terms with a variety of other commercial operators because there would already be an agreed-upon, worldwide standard. C. CONFLICT PREVENTION Article II of the Outer Space Treaty specifically outlaws claims of exclusive appropriation.39 Each state has an equal legal right to operate in outer space,40 so no state can be the exclusive user by excluding other states and their operators from also using celestial bodies. Nevertheless, conflicts and occasional assertions of exclusive use occur.41 Conflicts lead to delays and to possible loss of and damage to space objects. Only coordination and cooperation among states will result in establishing conflict-free environments in which operators can conduct profitable businesses. D. COMMERCIAL OPERATORS’ NEEDS FOR ORDER IN OUTER SPACE The current shift from military to commercial space enterprises has made the operators of the commercial endeavors apprehensive about heavy-handed governmental regulation.42 On the one hand, commercial space operators require “agile, transparent, and internationally coordinated rule-making to make it sustainable.”43 Too much regulation can kill the commercial revolution.44 On the other hand, the current launches and planned launches of thousands of commercial satellites threaten collisions among satellites and with space debris. Commercial operators have come to appreciate government regulation of space traffic and reduction of debris dangers.45 The collision danger led a 2018 study by the Aerospace Corporation to conclude that “[t]o facilitate the envisioned New Space activity and maintain a safe operating environment for everyone in space, the issues of establishing an effective next-step STM conjunction assessment system must be addressed as soon as possible.”46 The question is how to develop internationally-needed regulation without killing the many valuable start-up enterprises now fueling the commercial revolution. Again, the Chicago Convention shows the way. At the conference, there were active industry experts not only advising but also actually negotiating through working groups.47 Perhaps most valuable for the aviation industry was the participation and contributions of the then-general counsel for Pan-American Airlines, John Cobb Cooper.48 Through industry participation, the commercial enterprises were able to not only contribute but also guide the formation of the new Convention on International Civil Aviation. A similar infusion of active commercial guidance will be needed for a corresponding new regime establishing norms on space debris and STM, so that the many dangers that threaten commercial space operations can be avoided. E. WHERE TO BEGIN It is important to note that, while this discussion is about international space traffic norms, the actual implementation of international, uniform norms would be by the individual states. Negotiation of a separate treaty to establish international norms for space debris, space traffic, and NEO defense would very likely begin in the UN Committee on the Peaceful Use of Space (COPUOS) Legal Committee. It would be approved by the full committee then finalized by a diplomatic conference. Alternatively, the new regime could become a protocol to the Outer Space Treaty the same way the 2012 Berlin Space Protocol became a protocol to the Cape Town Convention.49 The result would be a protocol that would only become binding on parties to it. However, all the space-interested states would want to ratify as soon as possible in order to gain the advantages of the new safety norms. Consequently, traffic in outer space would become orderly, the debris problem would become less urgent, and the Kessler Syndrome prospect of foreclosure of access to outer space would disappear. III. THE SCOPE OF INTERNATIONAL TECHNICAL REGULATION OF CIVIL SPACE ACTIVITIES The following section will discuss establishment of international operating norms for STM, space debris, and NEOs. A. INTERNATIONAL NORMS FOR CIVIL STM50 Travel in outer space is highly dangerous. One danger is the tremendous speed at which space objects move.51 Available assistance is minimal, and collisions are likely to be catastrophic. There are currently no uniform norms for traffic in outer space.52 With increasing traffic and more obstacles to navigate around, indications are that travel in outer space may eventually become impossible unless uniform traffic norms are established.53 The advantage of international STM norms is that all navigable traffic would use the same uniform traffic rules. International STM is in constant need of updating. These norms would have to be administered, analyzed, and supplemented by knowledgeable experts as traffic conditions change. The result would be greater safety.54 Traffic in outer space is increasing drastically in the New Space age. There are currently more than 1,200 functional satellites in orbit.55 Estimates of satellites to be launched into orbit in the immediate future range up to 27,000 satellites.56 Most of the new launches are expected to be in low Earth orbit.57 The amount of space debris in orbit is also increasing rapidly. There is estimated to be close to 1 million debris objects in orbit, of which only approximately 23,000 are currently being tracked, although new tracking technology now being deployed will increase tracking capability four-fold.58 The point is that the totality of outer space traffic congestion is increasing rapidly. For new launches to be safely orbited, new international STM is urgently needed. Individual states supervise the traffic that they authorize,59 and while states may try to track the space objects60 launched by other states, current tracking technology still leaves some space objects untracked. For example, when the re sponsible state lacks the capability to track objects, it may simply warn space operators to avoid the general location of its existing, known space objects. Additionally, some objects are so small that they cannot be safely tracked.61

#### Debris cascades---nuke war.

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Whatever the initial cause, the result may be the same. A satellite destroyed in orbit will break apart into thousands of pieces, each traveling at over 8 km/sec. This virtual shotgun blast, with pellets traveling 20 times faster than a bullet, will quickly spread out, with each pellet now following its own orbit around the Earth. With over 300,000 other pieces of junk already there, the tipping point is crossed and a runaway series of collisions begins. A few orbits later, two of the new debris pieces strike other satellites, causing them to explode into thousands more pieces of debris. The rate of collisions increases, now with more spacecraft being destroyed. Called the "Kessler Effect", after the NASA scientist who first warned of its dangers, these debris objects, now numbering in the millions, cascade around the Earth, destroying every satellite in low Earth orbit. Without an atmosphere to slow them down, thus allowing debris pieces to bum up, most debris (perhaps numbering in the millions) will remain in space for hundreds or thousands of years. Any new satellite will be threatened by destruction as soon as it enters space, effectively rendering many Earth orbits unusable. But what about us on the ground? How will this affect us? Imagine a world that suddenly loses all of its space technology. If you are like most people, then you would probably have a few fleeting thoughts about the Apollo-era missions to the Moon, perhaps a vision of the Space Shuttle launching astronauts into space for a visit to the International Space Station (ISS), or you might fondly recall the "wow" images taken by the orbiting Hubble Space Telescope. In short, you would know that things important to science would be lost, but you would likely not assume that their loss would have any impact on your daily life. Now imagine a world that suddenly loses network and cable television, accurate weather forecasts, Global Positioning System (GPS) navigation, some cellular phone networks, on-time delivery of food and medical supplies via truck and train to stores and hospitals in virtually every community in America, as well as science useful in monitoring such things as climate change and agricultural sustainability. Add to this the [destruction] ~~crippling~~ of the US military who now depend upon spy satellites, space-based communications systems, and GPS to know where their troops and supplies are located at all times and anywhere in the world. The result is a nightmarish world, one step away from nuclear war, economic disaster, and potential mass starvation. This is the world in which we are now perilously close to living. Space satellites now touch our lives in many ways. And, unfortunately, these satellites are extremely vulnerable to risks arising from a half-century of carelessness regarding protecting the space environment around the Earth as well as from potential adversaries such as China, North Korea, and Iran. No government policy has put us at risk. It has not been the result of a conspiracy. No, we are dependent upon them simply because they offer capabilities that are simply unavailable any other way. Individuals, corporations, and governments found ways to use the unique environment of space to provide services, make money, and better defend the country. In fact, only a few space visionaries and futurists could have foreseen where the advent of rocketry and space technology would take us a mere 50 years since those first satellites orbited the Earth. It was the slow progression of capability followed by dependence that puts us at risk. The exploration and use of space began in 1957 with the launch of Sputnik 1 by the Soviet Union. The United States soon followed with Explorer 1. Since then, the nations of the world have launched over 8,000 spacecraft. Of these, several hundred are still providing information and services to the global economy and the world's governments. Over time, nations, corporations, and individuals have grown accustomed to the services these spacecraft provide and many are dependent upon them. Commercial aviation, shipping, emergency services, vehicle fleet tracking, financial transactions, and agriculture are areas of the economy that are increasingly reliant on space. Telestar 1, launched into space in the year of my birth, 1962, relayed the world's first live transatlantic news feed and showed that space satellites can be used to relay television signals, telephone calls, and data. The modern telecommunications age was born. We've come a long way since Telstar; most television networks now distribute most, if not ali, of their programming via satellite. Cable television signals are received by local providers from satellite relays before being sent to our homes and businesses using cables. With 65% of US households relying on cable television and a growing percentage using satellite dishes to receive signals from direct-to-home satellite television providers, a large number of people would be cut off from vital information in an emergency should these satellites be destroyed. And communications satellites relay more than television signals. They serve as hosts to corporate video conferences and convey business, banking, and other commercial information to and from all areas of the planet. The first successful weather satellite was TIROS. Launched in 1960, TIROS operated for only 78 days but it served as the precursor for today's much more long-lived weather satellites, which provide continuous monitoring of weather conditions around the world. Without them, providing accurate weather forecasts for virtually any place on the globe more than a day in advance would be nearly impossible. Figure !.1 shows a satellite image of Hurricane Ivan approaching the Alabama Gulf coast in 2004. Without this type of information, evacuation warnings would have to be given more generally, resulting in needless evacuations and lost economic activity (from areas that avoid landfall) and potentially increasing loss of life in areas that may be unexpectedly hit. The formerly top-secret Corona spy satellites began operation in 1959 and provided critical information about the Soviet Union's military and industrial capabilities to a nervous West in a time of unprecedented paranoia and nuclear risk. With these satellites, US military planners were able to understand and assess the real military threat posed by the Soviet Union. They used information provided by spy satellites to help avert potential military confrontations on numerous occasions. Conversely, the Soviet Union's spy satellites were able to observe the United States and its allies, with similar results. It is nearly impossible to move an army and hide it from multiple eyes in the sky. Satellite information is critical to all aspects of US intelligence and military planning. Spy satellites are used to monitor compliance with international arms treaties and to assess the military activities of countries such as China, Russia, Iran, and North Korea. Figure 1.2 shows the capability of modem unclassified space-based imaging. The capability of the classified systems is presumed to be significantly better, providing much more detail. Losing these satellites would place global militaries on high alert and have them operating, literally, in the blind. Our military would suddenly become vulnerable in other areas as well. GPS, a network of 24-32 satellites in medium-Earth orbit, was developed to provide precise position information to the military, and it is now in common use by individuals and industry. The network, which became fully operational in 1993, allows our armed forces to know their exact locations anywhere in the world. It is used to guide bombs to their targets with unprecedented accuracy, requiring that only one bomb be used to destroy a target that would have previously required perhaps hundreds of bombs to destroy in the pre-GPS world (which, incidentally, has resulted in us reducing our stockpile of non-GPS-guided munitions dramatically). It allows soldiers to navigate in the dark or in adverse weather or sandstorms. Without GPS, our military advantage over potential adversaries would be dramatically reduced or eliminated.

### 1AC---Adv---Noble Anti-trust

#### The plan creates a testing ground for “noble competition,” creating proof of concept and spilling over broadly.

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Noble competition: ethics and beyond

The competition law issues raised by consortium DLTs, their increasing consolidation and concentration, such as collusion or other anti-competitive behavior, is addressed through antitrust law. However, in the space sector, this might prove more difficult since antitrust falls under national law, while space falls under international law, if not under transnational law given the increasing commercialization of the sector (lex mercatoria spatialis19). For this reason, the authors recommend the adoption of a new discipline, “space antitrust”, based on the corpus juris spatialis higher principles and ethics, such as benefit sharing, equality, due regard, non-interference, and equitable distribution through competition law mechanisms.20 The difficulty in implementing antitrust as is in the space sector, meaning national law, is that there can be attribution of jurisdiction issues if the parties entering a dispute do not originate from the same launching state. Space is an international law arena, which complexifies the equation. If, however, the parties do originate from within the same launching state, theoretically their national antitrust legislation could apply. The problem would result in such cases differing in outer space each time a dispute is being settled by other national legislation, and thus, a heterogeneous mosaic of jurisprudence could increase fragmentation. Furthermore, national antitrust does not take into account higher ethical principles of outer space (e.g., equality of access, freedom of exploration and exploitation, non-discrimination, due regard, non-interference, benefit sharing, duty to assist, cooperation and mutual understanding). Antitrust, as is, takes into account the interest of the consumer (i.e., low prices) and prevention of artificial monopolies.

In contrast with artificial monopolies, natural monopolies are allowed as long as they enable economies of scale, or simply do not have any competitors. They can also be subsidized by the state on markets that incur high fixed costs and strong externalities, such as in the case of United Launch Alliance (ULA), a joint venture between Boeing and Lockheed Martin, on the defense launching market. However, a New Space entrant, Space Exploration Technologies (SpaceX), proved through several antitrust lawsuits, which ended up in settlement, that ULA’s natural monopoly did not enable economies of scale. On the contrary, ULA charged the U.S. Department of Defense (DOD) excessively and abused its dominant position. This illustrates how, albeit initially perceived legitimacy of a monopoly can, in fact, subsequently, hide a different reality. Space being “hard”, it is likely that other incumbent actors rely on state-aid and seek to secure a monopolistic status. It is to be expected due to the harsh and peculiar circumstances of the sector. However, it is also expected that such monopolies shift from natural to artificial and that antitrust lawsuits will be waiting around the corner. It is not in the interest of the space ecosystem to rely on lawfare to settle these issues, rather it is preferable to act ex ante with a noble space antitrust framework.

A number of legal scholars21 have revisited Adam Smith’s classical writings and have suggested an alternative reinterpretation that attempts to bypass some of the non-desirable outcomes resulting from some of the toxic effects of competition, to be defined below, which is based on a zero-sum game that does not benefit society at large when exclusively focused on lowering prices, impeding thus its advancement. The rationale is based on the fact that lowering the prices is not always in the interests of the final consumer, but to deter, through cross-subsidization, competitors from entering a market. Furthermore, this might have a detrimental impact on quality. These same scholars have called for a noble competition model, which focuses on a constructive and collective “race to the top”, instead of a classical “race to the bottom”. One basic criticism that can be levelled at the classic competition model is that today’s competition is in fact an antithesis to competition since increasingly highly concentrated markets kill it and impose oligopolistic market dynamics, which are themselves subject to monopolization. Regulators can intervene in these cases thanks to antitrust law, and break, in theory, these monoliths.

Nevertheless, as scholars rightfully note,22 the worst effect of antitrust law is that it is a double-edge sword. In fact, in an ever-escalating competitive environment, some industries would envisage lessening their drastically competitive behavior and opt for more sustainable strategizing. This would, according to competition law, translate as concerted practice and collusion and is therefore forbidden. In Adam Smith’s thinking, everything in the regulator’s power must be done to protect competition per se, which, according to competition advocates, is the best way to reach efficiency and low prices for consumers. There are two problems with this rationale. First, low prices are not destined, in fact, to benefitting the end customer, but rather to sink competitors, regardless of the high impact on quality. And second, the regulator’s role as envisaged by the Chicago School23 would mean, in fact, the lack of regulation. In other words, for competition to succeed at its best, deregulation must be increased. However, by the same token, since there is no competition law within space law, space law largely relies on the pursuit of ethical principles, and space law in its current state can be considered a legal laboratory par excellence to test “noble competition”. While noble competition is not yet precisely defined by literature, it is however destined to be beneficial to society at large, given that space law consists of principles, such as benefit sharing, within both the Outer Space Treaty (OST) of 1967 24 and the Space Benefits Declaration of 1996.25 In essence, while ethical competition precedes noble competition on Stucke’s and Ezrachi’s model, it is evident that fair competition does not reach far enough at this point, and the principles underpinning noble competition can help preclude some of the toxic effects of competition in space. In their Competition Continuum model (see Table 1), on the one hand, toxic competition refers to a highly competitive environment where there is no win-win situation, especially where stakeholders are motivated only by self-interest, which results in a zero-sum world and basically no benefit sharing nor cooperation. On the other hand, ethical competition takes a step towards transforming the competitive environment into a positive-sum setting, where there can be more than one winner owing to principles such as due regard and other ethical principles as mentioned previously throughout this paper. Adding a layer of purpose to that and noble competition can be attained and lead to sustainability.

Stucke and Ezraki, the main proponents of noble competition doctrine, argue that the competition law ideology must go further than mere ethics to shape the future of society constructively and sustainably. For them, noble competition justifies the fact that the current market dynamics based entirely on a competitive environment prove in reality to be toxic, effectively leading society into the race to be bottom logic mentioned above, in an unsustainable zero-sum world.27 For these scholars, on the contrary, to successfully achieve that race to the top, space must be used as an arena to test new models of thinking, such as noble competition. Since the authors has already postulated that space antitrust, building on space law ethics, could become a valuable solution, extending its mission even further towards the noble end of the spectrum as shown in Table 1. This can be the next great big challenge of space law, to protect itself against creeping concentration, jurisdiction blurring, and commodification.

With space resource commodification and space market infrastructure commoditization beckoning, at the same pace as society is advancing in the direction of an “algocracy”,28 it is not only important to anticipate “algolaw” measures,29 but to channel the commercial forces constructively and sustainably by promoting a race to the top through means of a noble space antitrust and its social mission, for which the next steps lay defining its implementation. Since ethical principles within space law include, inter alia, equality of access, freedom of exploration and exploitation, non-discrimination, due regard, non-interference, benefit sharing, duty to assist, cooperation and mutual understanding, one may ask why bother to introduce competition in all this and not just stick with a duty to cooperate and collaborate. This would not be advised as it restrains market opportunity and freedom, and space is becoming a sphere of business. Therefore, there is a need to strike a balance between healthy competition and sustainability. Noble competition can do that, according to the scholars introducing that concept through policy in the public interest.

Discussion

The space ecosystem is undergoing an interesting transition. Some argue that New Space should be replaced with “Fast Space”30 as the culture is leaning towards entrepreneurialism as nurtured within the spirit of Silicon Valley, advocating for minimum viable products (MVPs) and prototypes, fast iteration, and risk taking. This entrepreneurialism not only brings with it the further privatization of the space ecosystem, with a growing commercialization rationale, but also a lex mercatoria spatialis rooted in dematerialized systems and loopholes, such as this paper has listed, most of which are to be encoded through cyber technology. These means will prove elusive in terms of attribution and jurisdiction, but the privatization of space will also generate a certain privatization of law31; contractual law and international private law as such will play an increasing role in the space sector.

Nonetheless, this transition foreshadows the growing number of legal conflicts in terms of competition law between actors who are highly competing for the same markets. Today, the space sector has become an arena of such competitive conflicts as exemplified between SpaceX and Amazon Web Services (AWS) and/or Blue Origin, with a new case almost monthly over issues of orbits, launching contracts, launching pads, and patents, among others. While heavily regulated on Earth, national competition law is not problematic in space yet since the majority of cases today involve actors from the same jurisdiction. However, the situation might become very complex when several jurisdictions are to be involved. There is no international competition law as of yet, but only international non-binding guidelines whose role is rather mitigated. States seek to protect their national champions,32 and therefore international aerospace antitrust cases are found to be arbitrary, negotiated in terms of geopolitical interests and trade war. If this extrapolates to the future space infrastructure, its sustainability might become problematic and conflict with the OST higher principles, invalidating them. For this reason, it is important to determine a new space antitrust framework, based on ethics and beyond nobleness, to ensure the intergenerational sustainability of the space ecosystem.

Furthermore, with regard to intergenerational benefit sharing of the common resources in outer space, such new space antitrust framework might prove relevant to prevent monopolization and unchecked speculation based on such resources and emerging futures indexes in the space sector based on space resources and their commoditization. For example, paradoxically, a few decades ago, antitrust was used in a case to deregulate the financial market by opening the doors to international competition. Indeed, the financial “Big Bang” in the United Kingdom, in the 1980s, which ushered in major financial deregulation, was based on an antitrust settlement involving the London Stock Exchange.33 This deregulation followed through subsequently in Asia and in the United States in 2000, with serious financial consequences. This asserts the fact proper antitrust regulation is needed to keep the economy in balance, especially in the space economy, to avoid potentially erratic consequences since the space market is still fragile and in its infancy. For this reason, space antitrust must take into account the challenges of new space index initiatives and assess the pros and cons of deregulation on the long run.

Lastly, as scholars argue that the Chicago School deprived antitrust from its broader initial scope and restricted it only to the economic requirement of lowering prices for the sole benefit of the consumer instead of a larger role of promoting more socio-economic sustainability,34 it is timely to advocate for an ethical purpose of antitrust and the space sector as a testing ground. Moreover, this transformation should happen multilaterally to secure an international scope since space is not a territorial domain, and therefore, space antitrust must become international. Space ethics could be used as common tenets and axioms for such reasoning. Otherwise, a more conservative approach, based on national law, could also be used as a mechanism (since antitrust falls under national law). In this case, the use of the Sofia Model Guidelines35 is recommended to harmonize such national legal mechanisms or amendments to existing national legislation. Either way, the international community should be consulted on this and if consensus lags, then bilateral agreements could be investigated, especially involving the states with most antitrust cases shaking the space infrastructure and who are to be investing in the near future in a space commodities market, and who a likely to start building cyber infrastructure for commercial transactions of resources and rights (i.e., notably through tokenization). Imposing ethical boundaries before customary practice crystallizes is recommended, however, these boundaries must be adaptive and constructive for them to be successful.

#### Absent US-led noble competition, infrastructure collapse, inequality, and corporatism are inevitable.

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Duhigg’s classmates are unhappy despite well-paying jobs, but many of us don’t have the luxury of such well-cushioned unhappiness. We are working too hard for not enough pay, no benefits or lousy ones, and no job security. For us the promise of prosperity never arrived, even though we work in a competitive economy, which we’ve been told is the pathway to prosperity. That is the rationale policy makers have offered for their efforts to increase competition, fortify the laws to protect it, and eliminate many of the regulatory restraints that they deem harmful and unnecessary.

You would be right to ask: What went wrong? How have we found ourselves at this unfortunate juncture? And what path should we have followed?

Not the mostly abandoned paths of communism and totalitarianism, which are certainly no better and indeed much worse than the one we’re on. Few among us would want to work or live in a centrally planned economy. Competition often does promote efficiency, economic growth, innovation, and material well-being, just as the competition ideologues insist. And regulations that restrict the freedom of companies can indeed be counterproductive. But we must acknowledge that the oversimplified version of the competition ideology that is being sold to us today, with its assumption that unfettered competition is always and in every circumstance superior to any other path, has not delivered as promised. Increasingly, we see its darker sides.

If looked at objectively, it becomes apparent how reductive the ideology really is, and how much potential there is for abuse. Rather than competition serving us by improving our material living standards (income, consumption, and wealth), this economic tool has become the master that we must serve, the magic elixir we must swallow whole. The economists’ warning labels have been peeled off; the possibility of overdosing from toxic competition has been dismissed outright.

The ever-ascending arrow in the chart on the left depicts the promise of competition; the downward curve of the arrow on the right is a more realistic depiction of where it has led us.

It doesn’t have to be that way, however. From the late-1940s until the mid-1970s, competition really did foster innovation, increase quality, and improve our material living standards. But it was competition that operated in an environment with regulatory protections.

Beginning in the late 1970s, such protections were gradually stripped away as the competition ideology, like kudzu, took over and smothered everything in its path—including the social, moral, and ethical values that might have mitigated its pernicious effects.

Over the past forty years lobbyists, powerful firms, and ideologues have pushed for free market solutions, unmonitored and unregulated, even for services—like prisons—that are particularly ill-suited to an ideology that puts profits and “shareholder value” ahead of all other values. Politicians and policy makers promoted competition as the panacea for nearly every societal ill, while striving both to dismantle existing regulations and to resist any new ones, all in the name of avoiding “regulatory creep”—that supposedly lethal blow to the free market. The result: The regulatory framework and safety nets that are crucial to an inclusive and stable economy are gone. With few incentives to invest in infrastructure or the more general needs of society, the competitive companies that our policy makers promised us would maximize our earning potential have delivered their benefits instead to only a tiny percentage (less than 1 percent) of our population. We, the citizens, are often left to pay the bill (recall the financial meltdown) or the side effects (from your pay slip to your social rights). With most of the benefits pocketed by these fortunate few, income inequality around the globe reached its highest level for the past half century by 2018.3 Wealth inequality (a measure of how much we have rather than how much we earn) was even worse—twice the level of income inequality.4 The $1.5 trillion in tax cuts by the Trump administration, as the United Nations noted, overwhelmingly benefited the wealthy and worsened inequality: “The consequences of neglecting poverty and promoting inequality are clear. The United States has one of the highest poverty and inequality levels among the OECD countries,” and also ranks near the bottom among wealthy countries in terms of labor markets, safety nets, and economic mobility.

The middle class, in the United States and in much of Europe, is shrinking—down to just over 50 percent in the United States and 60 percent in the European Union.6 Once-thriving manufacturing centers where workers could earn a decent living have been reduced to a state of rusting decay brought about by declines in labor’s share of profits, low-skilled workers’ wages, labor force participation, and the start-up rate of new firms (due to barriers erected by powerful incumbents).7 Yet, our elected officials continue to defend the competition ideology, to insist that it will pay off, even as our pocketbooks, health care, and social rights tell us otherwise.

What has happened is that the idealized perfect competition portrayed in the economic textbooks has been squeezed out by the bad forms of competition—monopolistic or toxic or both. Crony capitalism, in which big business and big government cozy up to each other to stifle the good forms of competition, is the order of the day. Economists who have studied the data reveal that under this system many markets have actually become more concentrated and less competitive. And while the profit margins of the most powerful companies increased, innovation may have actually declined.8

Yet the consolidation in the marketplace continues to be defended as necessary. “Unless you have scale and power in the marketplace and with the consumer, you’re just out there scrambling on your own,” an executive at AT&T Inc. said after the federal court allowed it to acquire media conglomerate Time Warner.9

The alignment between big government and big business will continue as long as money and corporate help with reelection remain top-of-mind concerns for so many government officials. This means that we can expect many governmental policies to remain skewed toward helping the wealthy and powerful under the façade of competition, and against regulation in the name of freedom. Writers and thinkers as diverse as Martin Luther King, Jr., Senator Bernie Sanders, former Secretary of Labor Robert Reich, and Robert F. Kennedy, Jr., have inveighed against this state of affairs, which they describe as socialism for the rich (meaning government policy that sees to it that most resources go to the rich, their powerful corporations, and our financial institutions) and capitalism—or as King put it, “rugged individualism”—for the poor (meaning that they are left to struggle on their own). Nobel prize–winning economist Joseph Stiglitz describes the result this way:

We haven’t achieved the minimalist state that libertarians advocate. What we’ve achieved is a state too constrained to provide the public goods—investments in infrastructure, technology, and education—that would make for a vibrant economy and too weak to engage in the redistribution that is needed to create a fair society. But we have a state that is still large enough and distorted enough that it can provide a bounty of gifts to the wealthy.10

If we continue along the current path, our infrastructure will continue to crumble. Public education at the primary and secondary school level will deteriorate even further for those in poor or low-income areas. Rising college tuition will plunge even more students and their families into serious debt.11 And in order to mount a legal defense of their merger strategies, behemoths like AT&T will continue to bleat piteously about having to scramble on their own.

#### Infrastructure disruptions ripple---extinction.

Dennis Pamlin 15. Dennis Pamlin, Executive Project Manager Global Risks, Global Challenges Foundation, and Stuart Armstrong, James Martin Research Fellow, Future of Humanity Institute, Oxford Martin School, University of Oxford. February 2015. “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category,” Global Challenges Foundation, https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf

Global Challenges – Twelve risks that threaten human civilisation – The case for a new category of risks 89 3.1 Current risks System Collapse 3.1.5 Global Global system collapse is defined here as either an economic or societal collapse on the global scale. There is no precise definition of a system collapse. The term has been used to describe a broad range of bad economic conditions, ranging from a severe, prolonged depression with high bankruptcy rates and high unemployment, to a breakdown in normal commerce caused by hyperinflation, or even an economically-caused sharp increase in the death rate and perhaps even a decline in population. 310 Often economic collapse is accompanied by social chaos, civil unrest and sometimes a breakdown of law and order. Societal collapse usually refers to the fall or disintegration of human societies, often along with their life support systems. It broadly includes both quite abrupt societal failures typified by collapses, and more extended gradual declines of superpowers. Here only the former is included. 3.1.5.1 Expected impact The world economic and political system is made up of many actors with many objectives and many links between them. Such intricate, interconnected systems are subject to unexpected system-wide failures due to the structure of the network311 – even if each component of the network is reliable. This gives rise to systemic risk: systemic risk occurs when parts that individually may function well become vulnerable when connected as a system to a self-reinforcing joint risk that can spread from part to part (contagion), potentially affecting the entire system and possibly spilling over to related outside systems.312 Such effects have been observed in such diverse areas as ecology,313 finance314 and critical infrastructure315 (such as power grids). They are characterised by the possibility that a small internal or external disruption could cause a highly non-linear effect,316 including a cascading failure that infects the whole system,317 as in the 2008-2009 financial crisis. The possibility of collapse becomes more acute when several independent networks depend on each other, as is increasingly the case (water supply, transport, fuel and power stations are strongly coupled, for instance).318 This dependence links social and technological systems as well.319 This trend is likely to be intensified by continuing globalisation,320 while global governance and regulatory mechanisms seem inadequate to address the issue.321 This is possibly because the tension between resilience and efficiency322 can even exacerbate the problem.323 Many triggers could start such a failure cascade, such as the infrastructure damage wrought by a coronal mass ejection,324 an ongoing cyber conflict, or a milder form of some of the risks presented in the rest of the paper. Indeed the main risk factor with global systems collapse is as something which may exacerbate some of the other risks in this paper, or as a trigger. But a simple global systems collapse still poses risks on its own. The productivity of modern societies is largely dependent on the careful matching of different types of capital325 (social, technological, natural...) with each other. If this matching is disrupted, this could trigger a “social collapse” far out of proportion to the initial disruption.326 States and institutions have collapsed in the past for seemingly minor systemic reasons.327 And institutional collapses can create knock-on effects, such as the descent of formerly prosperous states to much more impoverished and destabilising entities.328 Such processes could trigger damage on a large scale if they weaken global political and economic systems to such an extent that secondary effects (such as conflict or starvation) could cause great death and suffering. 3.1.5.2 Probability disaggregation Five important factors in estimating the probabilities of various impacts: 1. Whether global system collapse will trigger subsequent collapses or fragility in other areas. 2. What the true trade-off is between efficiency and resilience. 3. Whether effective regulation and resilience can be developed. 4. Whether an external disruption will trigger a collapse. 5. Whether an internal event will trigger a collapse. 1. Increased global coordination and cooperation may allow effective regulatory responses, but it also causes the integration of many different aspects of today’s world, likely increasing systemic risk. 2. Systemic risk is only gradually becoming understood, and further research is needed, especially when it comes to actually reducing systemic risk. 3. Since systemic risk is risk in the entire system, rather than in any individual component of it, only institutions with overall views and effects can tackle it. But regulating systemic risk is a new and uncertain task. 4. Building resilience – the ability of system components to survive shocks – should reduce systemic risk. 5. Fragile systems are often built because they are more efficient than robust systems, and hence more profitable. 6. General mitigation efforts should involve features that are disconnected from the standard system, and thus should remain able to continue being of use if the main system collapses 7. A system collapse could spread to other areas, infecting previously untouched systems (as the subprime mortgage crisis affected the world financial system, economy, and ultimately its political system). 8. The system collapse may lead to increased fragility in areas that it does not directly damage, making them vulnerable to subsequent shocks. 9. A collapse that spread to government institutions would undermine the possibilities of combating the collapse. 10. A natural ecosystem collapse could be a cause or consequence of a collapse in humanity’s institutions. 11. Economic collapse is an obvious and visible way in which system collapse could cause a lot of damage. 12. In order to cause mass casualties, a system collapse would need to cause major disruptions to the world’s political and economic system. 13. If the current world system collapses, there is a risk of casualties through loss of trade, poverty, wars and increased fragility. 14. It is not obvious that the world’s institutions and systems can be put together again after a collapse; they may be stuck in a suboptimal equilibrium. 15. Power grids are often analysed as possible candidates for system collapse, and they are becoming more integrated. 16. The world’s financial systems have already caused a system collapse, and they are still growing more integrated. 17. The world’s economies are also getting integrated, spreading recessions across national boundaries. 18. The world’s political and legal systems are becoming more closely integrated as well. Any risk has not been extensively researched yet, and there remain strong obstacles (mainly at the nation state level) slowing down this form of integration. 19. The politics of the post-system collapse world will be important in formulating an effective response instead of an indifferent or counterproductive one. 20. System collapses can be triggered internally by very small events, without an apparent cause. 21. External disruptions can trigger the collapse of an already fragile system. 22. The trade-off between efficiency and resilience is a key source of fragility in a world economy built around maximising efficiency. 23. Climate change, mass movements of animals and agricultural mono-cultures are interlinking ecosystems with each other and with human institutions. 24. There is a lot of uncertainty about systemic risk, especially in the interactions between different fragilities that would not be sufficient to cause a collapse on their own.

#### Noble competition builds higher ethical values into antitrust, resulting in sustainable development and systemic resiliency, solving extinction.

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At the same time, the very foundations of competition policy are being revised in various contexts and for various purposes. The emergence of a sui generis approach to competition law in the area of the digital economy,1 discussions about the role of competition policy in remedying various societal, economic, industrial, racial, gender and other problems and challenges show that competition policy can no longer be addressed hermetically, only via the traditional toolkit of law and economics.

The main purpose of this article is to provide a legal theoretical framework explaining, justifying and conceptualising the existing reconfiguration of competition law, economics and policy. Its main purpose is not to use this legal theory to support a specific sustainability-related normative argument, but to analyse how the key arguments of the supporters and critics of a greener competition policy could be shaped and underpinned by the jurisprudential theory of legal realism. On an applied level, the article explains why the current situation in competition law is particularly susceptible to various versions of ‘competition law and …’ movements.

More specifically, this article aims to (i) examine and systematise the central arguments of the supporters and the opponents of the idea of sustainability-centred – or at least sustainability-minded – competition law; (ii) to place these arguments into a broader context of the development

of (primarily EU) competition policy; (iii) to transpose the discussion into legal-theoretical discourse and the apparatus of legal realism; and (iv) to operationalise the system by showing the mechanics of balancing. It summarises and explains its main contribution in the conclusion.

II. Competition and sustainability: pros & cons

A stylised argumentation of the proponents of a more sustainability-minded approach begins with reminding us of the dangers associated with rapid climate change, ‘a disaster in slow motion’ (Dolmans, 2020) and of humankind’s responsibility to adjust our economic and socio-cultural practices and habits accordingly. Then the scientific, political and legal sources of the UN, OECD,

EU and other international and domestic organisations and polities are analysed, with the demonstration of the topicality and the urgency of the issue and the availability of legally binding instruments for applying a more sustainability-minded approach to competition policy. Finally, advantages and shortcomings of the current case law are addressed and ways for re-interpreting

the legislative, administrative and judicial sources are offered.

One of the most comprehensive and well-argued pieces by the proponents of a more proactive sustainability-minded application of competition policy is Simon Holmes’ ‘Climate Change, Sustainability, and Competition Law’ (Holmes, 2020). The author’s central message is that competition law should become a solution rather than remain an obstacle to a more sustainable development. Holmes supports this normative plea with reference to the constitutional architecture of EU law, referring to some hierarchical primacy of sustainability and environmental protection over competition policy, as deduced from the provisions of the TFEU. Holmes notices a common tactical move of responsibility shifting, when any meaningful initiative to tackle climate change is relativised and downrated by the rhetorical arguments of the inability of such an initiative alone to achieve clearly measurable outcomes. He argues that the existing legal framework of EU law is sufficient for achieving much better results, and elaborates a conception of a purposeful reinterpretation of the provisions of its primary law. The main argument is that Article 11 TFEU stipulates that ‘[e]nvironmental protection requirements must be integrated into the definition and interpretation of the Union policies and activities, in particular with a view to promoting sustainable development’ (emphasis added by Holmes). This implies that these requirements must be also integrated into the definition and interpretation of competition policy.

Obviously, several important clarificatory questions emerge: (i) who and how should the limits of such re-interpretation of established doctrinal avenues of competition policy be defined, particularly given that unlike the issues of competition, environmental policy belongs to shared, rather than exclusive, EU competences (Article 4 TFEU); (ii) the provisions of Article 7 TFEU requiring consistency between its policies and activities may well be interpreted not as an imperative that all its policies must be consistent with each other (i.e. that competition policy must be consistent with the environmental one), but that all EU activities must be consistent with its policies – and thus no direct requirement of consistency between the policies themselves; (iii) even the former interpretation refers to a mere consistency between policies, not primacy of one over the other, and as such could be interpreted both as ‘sustainability-minded competition policy’ as well as ‘competition-minded environmental policy’. Given that the EU has many other (often conceptually conflicting) policies, expecting all of them to be consistent with each other would be very hard to achieve. This can be deduced from the wording of Article 7 TFEU, which stipulates that all EU objectives must be taken into account rather than taxonomically subordinated to each other.

However, all these counterarguments do not negate the wording of Article 11 TFEU, requiring all EU policies being defined and interpreted with environmental protection in mind. This is an important legal imperative imposing a categorical requirement of sustainability-minded definition and interpretation of EU policies, providing thereby some hierarchical primacy of the latter over all former. Evidently, this interpretation would be unenforceable in reality – Holmes, for example, acknowledges that over his long and remarkable career in competition law, this legal argument never played an important role in daily enforcement – (Holmes, 2020, p. 359), and hard to conceptualise in theory as such an approach would also imply a primacy of environmental policy over e.g. (all other) human rights. Yet such an apagogical reductio ad absurdum alone does negate the fact that formally this imperative exists and despite the questions related to its enforceability, the imperative remains legally binding. These conflicts of policies are much more common in constitutional law and legal theory, and there is rich doctrinal and practical literature addressing these dilemmas (Andriychuk, 2017).

The next powerful argument of Holmes’ paper is that (i) the term consumer welfare is much broader than its economic dimension implies, and that (ii) the methodological reduction of consumer welfare – let alone the competitive process – to the neoclassical apparatus of price theory is myopic and distortive of the very meaning of the phenomena it seeks to comprehend and steer.

Finally, Holmes offers a convincing analysis of five formal ways of incorporating sustainable development into the current competition law framework: (i) some sustainability agreements do not restrict competition (as long as competition policy is reinterpreted in an environmentally-minded way); (ii) ‘Albany’ route of finding the provisions of Article 101 TFEU inapplicable to (some) sustainability agreements; (iii) ancillary restraints; (iv) Article 101(3) TFEU; (v) standardisation agreements. The remainder of his article focuses on the elaboration of the above five avenues, looking at other pillars of competition law and offering eight practical recommendations for implementing a more sustainability-minded competition policy: (i) positive statements by competition authorities; (ii) test cases in courts; (iii) publication of legal opinions which facilitate this approach for others; (iv) revising soft-law; (v) enforcement priorities; (vi) block exemptions; (vii) changes to the law and (viii) changes to the Treaties.

A stylised argumentation of the proponents of the status quo also begins with acknowledging the dangers of climate change and the need for a more proactive approach to remedying its negative implications. They question, however, if competition policy is indeed suitable for such purposes, showing examples of why and how the rhetoric of sustainability could be used for so called ‘greenwashing’ and other forms of opportunistic, if not deceptive, misuse of the idea of sustainable development. They counter the argument of sustainability-minded competition policy with the idea that many other societal values, which either conflict directly or at least diverge substantially, are also acknowledged by the political and legal documents, and that without a proper ‘division of labour’ between different policies the goal of a sustainable development – as well as many other societal policies – would suffer immeasurable loses, and submit that a greener competition policy would eventually backfire as ‘more, not less, competition [… is] the right stimulus for inducing sustainability efforts’ (Schinkel, Treuren, 2020).

Edith Loozen offers a range of appealing arguments from the perspective of EU constitutional law (Loozen, 2019). Unlike Holmes, Loozen is rather sceptical about the ability of EU competition law to encapsulate so proactively the sustainability-driven narrative. The author begins by offering an excellent reference to earlier literature on this issue. Then Loozen analyses the provision of Article 3(3) TEU and submits that the primary objective of the EU constitutional project concerns market integration. Questions about the characteristics of the internal market are of paramount importance, but they are not – and conceptually can never be – superior over the market integration narrative as such. The paper offers an appealing substantiation of this normative proposition, analysing inter alia the main jurisprudence of the Court of Justice (hereinafter: CJ).

Loozen begins with analysing Wouters2 followed by Meca-Medina3 and OTOC and CNG. 4 These cases offer prima facie the same rationale of the non-applicability of Article 101(1) TFEU to some types of sectorial agreements. In Wouters, Article 101(1) TFEU was held inapplicable. The otherwise anticompetitive Netherlands Bar’s measures were considered to be necessary for ensuring the proper functioning of the profession. However, according to Loozen, this case does not allow for a flexible weighing of the applicability of Article 101(1) TFEU any time when the ‘legitimate objective’ outweighs the rationale of Article 101(1) TFEU.

In Meca-Medina, anti-doping rules as adopted by sports federations were considered as capable of falling within the scope of Article 101(1) TFEU, but not infringing competition in practice. In other words, unlike the Netherlands’ Bar, the IOC does not enjoy immunity from Article 101(1) TFEU, and as such Loozen concludes that the recourse to the legitimate objective rationale was needed in the first place. She finishes by discussing why the attempts of some EU Member States to impose an imperative public mandate on some of the widely supported by the public sustainability initiatives violate the EU useful effect doctrine, imposing on and expecting from the Member States a duty of sincere cooperation and/or Article 105(1) TFEU.

Another impactful paper by the sceptics is written from an economic point of view by Maarten Schinkel and Leonard Treuren (Schinkel, Treuren, 2020). Their central normative position is based on the basic principle of non-intervention as the cornerstone of competition (qua invisible hand). They

also begin by acknowledging the urgency of environmental challenges, but submit that such an all-inclusiveness of competition analysis is likely to lead to cartel greenwashing, with the overarching formula: ‘minimum sustainability benefits for maximum prices’ underpinning the very idea. The authors submit that such a shift of responsibility would slow down those governmental divisions which are directly responsible for a more proactive sustainability policy.

A number of appealing arguments are raised by Giorgio Monti (Monti, 2020). He offers a conceptual resolution to the opposite parties. He begins by analysing cases in which environmental benefits were converted into a monetary dimension and balanced against eventual economic inefficiencies. Monti then reverts to the landmark CECED case,5 analysing the changes in approaches of the Commission to the scope of the definition of ‘consumers’ in Article 101(3) TFEU. The key question being if the definition embraces only those directly involved in the purchase – or also a broader category. Only if taken in the scope of the latter, the benefits from environmental improvements would be seen as sufficient for outweighing the anti-competitiveness of the agreement. This would be in line with the Guidelines on Horizontal Agreements6, adopted two years later, prescribing the analysis of net improvements. Monti than notices that this coincided with the growing popularity of the more economic approach and, thus, the Commission was moving towards a more restrictive approach to non-economic benefits of Article 101(3) TFEU, which was reflected, inter alia, in a new edition of the Guidelines.7 This has created quite a confusing situation – where both the supporters of private sustainability initiatives and their critics had strong legal arguments underpinning the position of both sides, arguments which are counterbalanced with the equally meritorious position of the opponents (as well as the middle-position). This Hartian ‘open texture of law’ is not a legal pathology, but the only possible condition of law.

The main contribution of the paper is in its development of legal avenues, which would remedy the existing uncertainty.

Monti puts forward four options for a reform. The lightest proposes a more cooperative approach of the enforcers to sustainability initiatives from the industry – an approach which would imply giving less attention to such agreements either in a form of enforcement de-prioritisation or any shape of comfort letters. Option 2 concerns a greener interpretation of Article 101(3) TFEU, focusing on refining the cost-benefit analysis – a difficulty, of course, would be the uncertainty and the burden of proof on the undertakings. Option 3 concerns deeper green alternatives, focusing on the issues, which are not always at the centre of the discussion – for example territoriality. Option 4, the greenest competition policy, implies internalising the rationale of Article 11 TFEU, and overall, a more proactive application of other non-competition law provisions of the Treaties and secondary legislation in tackling environmental problems via the competition law paradigm. Comparable examples may refer to the use of ethical standards in international trade and public procurement, GDPR, privacy and all other instances of instrumental competition enforcement of the ‘antidumping’ type.

III. The (post-) pandemic impact

A number of insightful contributions to the discussion on competition and sustainability were raised during the Commission’s consultation on ‘Competition Policy supporting the Green Deal’, which was launched in October 2020. It has generated a great deal of responses from the industry, academia, public authorities and law firms. Many submissions note that pursuing a greener competition policy is easier in the area of State aid (Bruzzone, Capozzi, 2020). Indeed, while the wording of Articles 101 & 107 TFEU both refer to actions restricting competition and declare these actions to be incompatible with the internal market, the nature of State aid – unlike the nature of the prohibition of anticompetitive agreements – concerns competition only peripherally. The main essence and the main mission of State aid control is the protection and promotion of the Internal Market, making it more homogeneous. The interest of protecting competition is used mainly as a convenient proxy (no other developed antitrust jurisdiction with a con-/federative system has its rules on State aid developed to a degree similar to the EU – as the integration of the internal market is not as an important task for any other such jurisdiction as it is for the EU).

In response to the consultation, for example, Francisco Costa-Cabral notes that we can learn from the model of how the reference to the protection of public health is being used in a competition law analysis: ‘[t]he Commission has done so by using the consequences for national health systems and for the research of new pharmaceuticals to ground novel anti- competitive behaviour and theories of harm in merger control (See Case A.37.507/F3 AstraZeneca 15.06.2005 112–132 and Case M.7275 – Novartis/GSK 28.1.2015 101–114)’ (Costa-Cabral, 2020), and this has been done despite the existence of ex ante regulation. He calls for a more proactive approach by the Commission in pursuing environmental objectives.

As far as the UK concerns, the Competition and Market Authority (hereinafter: CMA) issued in 2021 a guidance on ‘Environmental Sustainability Agreements and Competition Law’,8 outlining its vision on the key problems of the issue, focusing only on anticompetitive agreements and only on the environmental dimension of sustainable development. The central purpose of the CMA in this context is to avoid ‘unnecessary obstacles’ to sustainable development, rather than creating an atmosphere where any formally questionable environmental initiative is abandoned by the businesses as one susceptible of raising competition law concerns. Some anticompetitive agreements can indeed be exempted either individually or as part of an existing exemption category. The emphasis is placed on the subjective part of the agreement, questioning if its real intention is not a cover for a cartel. Standardisation agreements are a significant part of pro-environmental anticompetitive agreements and the guidance is focused on explaining the key criteria for the agreement being qualified as such. The document also offers a helpful ‘Framework for assessment’ flowchart.

A separate strand of literature contextualises the discussion to the (post-)pandemic crisis. Despite substantive differences between the issue of sustainability and crisis cartels, there are also some important similarities as both address situations where the economics-centred antitrust methodology interacts with broader (and for many ‘more important’) societal values.

Julian Nowag raises the issue of the resilience of competition law, looking at the pandemics as a test of the system against ad hoc emergency regulatory measures. A resilient system is expected to survive the exogenous shocks, ultimately getting out of it stronger. He argues for a need to strike a balance between some elements of the interventionist crisis-management and systematicity and certainty (Nowag, 2020).

Masako Wakui puts forward an argument for a more inductive, case-by-case approach to this highly contested issue, using market studies as the main legitimate cause for action. (Wakui, 2020: 316–318). Even such an approach is seen by the representatives of many producers as not sufficiently proactive. They would be prepared to undertake much more inclusive actions to tackle the pandemic-related challenges (Wakui, 2020). But many of such actions require coordination and/or synchronous entry to avoid the first mover disadvantage. This appears to be the real apple of discord for the entire matter.

Alison Jones emphasises that in such a situation, where multiple conflicting approaches to the issue may be chosen by the enforcers, what really matters is clear and expedient guidance about the approach chosen by the relevant agency (Jones, 2020).

Maurice Stucke and Ariel Ezrachi see the pandemic as an opportunity to recalibrate the overall societal vision about the very phenomenon of economic competition, submitting that if a major revision of competition policy is inevitable anyway, it should be done in an ethically minded manner, in a way promoting the instances of noble and discouraging toxic competition (Stucke, Ezrachi, 2020).