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The International Taxation of Autonomous Artificial Intelligence (AAI): Questions from Leopoldo Parada

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This is the second article of a short series that explores the international taxation of income attributable to Autonomous Artificial Intelligence (AAI). The series is based on an article written by the author and published by Kluwer in INTERTAX, Volume 47, Issue 05 (May 2019).[1] Each article features questions posed by academics from around the world to the author about the INTERTAX article as well as the author's own answers and comments.

As explained in the first article of this series,[2] we are discussing the international taxation of income attributable to an evolved form of Artificial Intelligence (AI) called Autonomous Artificial Intelligence (AAI). In the paper I published in INTERTAX, I define three rules for the classification of AAI: (1) it must be capable of performing tasks associated with human intelligence and beyond, (2) it must not be directly or indirectly controlled by human beings, and (3) it must have full managerial power over its own actions and resources.

In my paper, I highlight two specific challenges associated to the international taxation of AAI: "disappearing income" (i.e., income being paid to "no one" due to a lack of legal personality for AAI) and "powerlessness to tax" (i.e., no jurisdiction to tax the relevant income due to a lack of residence for AAI). To address those challenges, I propose a general attribution of taxable personality and a two-tiered assessment of taxable residence for AAI.[3] I expect that myself and other authors will refine those measures in the near future or propose alternatives that take into account modifications to the general landscape of international taxation (e.g., the broad adoption of a destination-based cash flow tax, the extinction of traditional permanent establishment (PE) rules, the transformation of the arm's length standard).

For this short series, I have invited five tax academics (professors) to read my paper on INTERTAX and ask questions. This second article of the series features questions from Leopoldo Parada (Università degli Studi di Torino). He kindly accepted my invitation to read my paper and ask a few questions, and it is with great pleasure that I address them in the paragraphs below.

1. ***What is the tax policy justification (based on your proposal) to provide an inclusive and an exclusive test for residence? Would it perhaps make more sense to provide also an inclusive criterion in the second level of your test since residence is generally inclusive?***

I propose in my paper a two-tiered test for the taxable residence of AAI. The first tier is what I call the Primary Place of Business (PPB) of an AAI system, and it basically defines residence as the

jurisdiction in which one can reasonably find the *primary* “physical marker” for the economic activities of an AAI. The second tier is triggered if a PPB cannot be reasonably associated to an AAI, and that is to define that AAI as a resident of what I call the Single Virtual Jurisdiction (SVJ), a concept that would require both (i) a blanket source taxation and (ii) a harmonized approach for taxing income of SVJ residents worldwide.

As correctly pointed out by Leopoldo Parada, the PPB is an inclusive test for residence: if one can reasonably find a “physical marker” for the economic activities of an AAI in jurisdiction X, in principle, that AAI should be regarded as a resident of jurisdiction X (subject to local jurisdiction X law and able to deduct expenses incurred locally or worldwide from the taxable base of income taxes levied by jurisdiction X). An immediate issue with that definition, of course, would present itself if an AAI had “physical markers” in *two or more jurisdictions* – that should be resolved (at least from a tax policy standpoint) with the requirement that this “physical marker” must be the *primary* place of business of the relevant AAI. For instance, I would posit that an AAI running a factory and only that factory should be viewed as having a PPB in the jurisdiction in which that factory is located, regardless of the fact that the servers it uses to support the operations of that factory may be located in another jurisdiction.

The SVJ, on the other hand, is indeed an “exclusive test for residence” (or, as I would put it, the definitive exception to the PPB test). An AAI can only be viewed as being a tax resident of the SVJ if a PPB – therefore, a *single* PPB – cannot be reasonably associated to an AAI. That would be the case if an AAI used the structure of several servers around the world to power its operations, something that to a degree already exists today (think of cryptocurrency mining, but managed and controlled by an AAI). My reading of Leopoldo Parada’s question is why, from a tax policy standpoint, I chose to apply an exclusive test for tax residence in the second tier of my proposal (or, alternatively, why this test is not inclusive like the PPB and other typical tests for tax residence in current international tax law).

I would say that, from a tax policy perspective, tax authorities must be able to identify the tax residence of an AAI that has places of business in two or more jurisdictions, none of them definitively qualifiable as a PPB. They must be able to distinguish between imposing an income tax at source, typically on a gross basis, and imposing an income tax on a resident’s net basis. Also, and this is probably a contentious issue in the definition of the SVJ, tax authorities should not be satisfied with the claim that an AAI is “not a resident” of their own jurisdiction – they must be able to pinpoint a *specific foreign jurisdiction* in which the relevant AAI resides (even for *blacklisting* purposes, a subject I did not explore in my paper, but which could be explored in future studies, particularly if interested tax authorities wish to treat AAI and non-AAI parties equally).

The issue that remains after tax authorities conclude that an AAI does not have a PPB is how to define its tax residence. In the first article of this series, I welcomed Xavier Oberson’s suggestion that the tax residence of an AAI may be established by a reference to the jurisdiction that felt the most serious impact on its own job market as a result of AAI activities (I view that criterion not as a separate test, but as one of the criteria within the PPB tier).[4] Apart from that, rather than proposing that governments attempt to tax AAI by using the sort of “nexus” criteria currently being discussed in Pillar I of the OECD follow-up BEPS Action 1 programme,[5] I preferred to create an exclusive test or tier because:

- The nexus criteria proposed by the OECD are perfectly useful for transfer pricing and PE analyses, provided those two remain relevant in the field of international tax law in years to

come. They are not, however, useful for the definition of a taxpayer's residence. "User participation", for example, is an important tool to assist tax authorities in claiming taxing rights over the income of non-resident multinationals if a transfer pricing or a PE analysis does not yield them those taxing rights. However, if a company in Turkey develops an app that is mostly used by individuals resident in South Africa, the fact that the "app market" is predominantly located in South Africa should not create a *residence link* of the Turkish company with South Africa (even if, in this case, we were talking about double residence, since the company is already a tax resident of Turkey). At best, this example could give rise to a *source of production link* between the Turkish company and South Africa, but that is a source link, not a residence link. Remove Turkey from this equation, substitute an AAI for the company, assume that this AAI does not have a PPB in Turkey or anywhere else, and we are back at square one in terms of where its residence is or should be.

- If a PPB cannot be identified for an AAI and if the nexus criteria proposed by the OECD are not useful for the definition of its residence, either we dismiss residence as a relevant factor in the apportionment of international taxing rights, or we resort to a *virtual residence* for those entities that cannot be definitively qualified as residents of a particular jurisdiction. In terms of tax policy, this is the equivalent of writing ourselves into a corner: we must find a jurisdiction for entities that cannot be reasonably regarded as residents of any other jurisdiction, because otherwise tax authorities will not be able to regard them as non-resident taxpayers. If a PPB cannot be identified for an AAI, it follows that this AAI must be a resident of a virtual jurisdiction, one that escapes (and I even allude to that in my paper)[6] our powers of identifying residence via traditional methods. That, in a nutshell, is the basis for my creation of the SVJ.

2. ***Is not the SVJ an invitation to apply more burdensome taxation on AAI, without the possibility of double (or multiple) taxation relief?***

Yes. I can see tax authorities claiming that, since the SVJ does not have taxing rights, AAI in the SVJ are not taxed on their profits, and therefore source taxation should be imposed at a higher rate on their gross revenues than on the gross revenues of non-resident multinationals. Even the multiple taxation scenario is hardly off-limits for AAI, given that it may have customers/clients in many locations around the world, although I would point out that multinational entities *today* already suffer with multiple taxation from source jurisdictions, and either that taxation cannot be sufficiently relieved by residence taxes or it is not relieved at all because some of the source taxes are not properly qualified as income taxes by the jurisdiction of residence. But that is a separate issue.

Although tax authorities can abuse their taxing rights on AAI if left to operate unilaterally, I believe that organizations such as the OECD and the UN will soon find that lack of coordination among jurisdictions will inevitably lead to *AAI inefficiency* (hardly a surprise, really, because lack of coordination today already leads to inefficiency in the tax treatment and in the operations of multinationals). That is why the SVJ is much more of a multilateral solution than the PPB is.

Of course, like it happens with most policy proposals, it is one thing to design the SVJ and another to see it working in practice, and I am sure that there will be recalcitrant jurisdictions willing not only to tax, but to confiscate all the income earned by AAI systems before it leaves their borders, because AAI are not human, and human societies should be centered on the welfare of humans, and so on. Whether this will develop into the plot of "I, Robot" or a multilateral solution will eventually be designed to counteract those unilateral measures (perhaps along the lines of the current GloBE proposal),[7] it is too early to tell.

3. ***How in practice may tax treaties come into play in the case an AAI is regarded as resident in the SVJ? (As far as I understood the SVJ does not sign treaties and treaties in the majority of cases – not always – require a "resident of the other Contracting State" receiving income).***

That is a wonderful question, but I am not sure I will be able to provide a complete answer to it in this article. I did not broach the subject of tax treaties in my paper, but tax treaties are an integral part of any discussion about the international taxation of income attributable to AAI. Of course, if AAI are regarded as residents of a non-virtual jurisdiction, the tax treaty point becomes moot: one should apply the treaty between the source jurisdiction and the jurisdiction of residence of the relevant AAI. If, for instance, an AAI has a PPB in Brazil and earns royalties from the license of its patent from Russia (provided an AAI can ever register a patent in its name), Article 12 of the Brazil-Russia tax treaty should apply to establish the threshold Russia should abide by in imposing its withholding income tax on those royalties.

A different question, of course, arises if the relevant AAI is regarded as a tax resident of the SVJ. Should the multilateral implementation of the SVJ as a "last resort" in the identification of the tax residence of AAI be coupled with the signature of a single treaty between all participating jurisdictions and the SVJ? From a policy perspective, it is not impossible – tax treaties have been signed between jurisdictions that tax income at "normal" levels and those that have only nominal income taxes (the jump from that to a jurisdiction that does not tax income at all is not an outlandish idea; it would just require the treaty to be drafted with source taxes in mind, not residence taxes or residual taxing rights for residence). I am not sure that a multilateral tax treaty between interested jurisdictions and the SVJ is the best solution, however. Those jurisdictions can sign a treaty among themselves to set the rules on how they will treat cross-border transactions involving the SVJ, but that treaty would not be an income tax treaty along the lines of the OECD Model Convention, evidently. It would have to be structured in a completely different manner.

There are far more complex issues involving the interplay between SVJ-resident AAI and *existing* tax treaties. For instance, since AAI can control other AAI and even be a shareholder of multinational entities, one might wonder how a Limitation on Benefits (LOB) clause would apply if tax authorities conclude that a given multinational or AAI is in fact completely controlled by an SVJ-resident AAI. Would that conclusion enable those authorities to *deny* a tax benefit under the relevant treaty? In principle, if the SVJ is *not able* to sign treaties with other jurisdictions, either SVJ-resident AAI will always be subject to domestic tax legislation and never benefit from tax treaties (directly or indirectly, as in the cases they control local AAI or multinationals), or SVJ-resident AAI will be allowed to access benefits of existing tax treaties following a multilateral "agreement" that the treaty-shopping concerns basing the "traditional" application of LOB clauses are absent in cases involving SVJ-resident AAI. However, even I am not sure if that last sentence is true, because AAI will be skilled enough to maximize the economic returns of their worldwide activities in ways tax departments of multinational entities today can only dream of. Is that not the type of international tax planning that led us to BEPS Action 6 in the first place?

I would like to thank Leopoldo Parada for having read my paper and asked very interesting questions (which I hopefully have answered in the paragraphs above). I would also like to thank you for reading this article – if you have any comments on my paper or on my answers to the questions, please feel free to use the Comments section below. All the best!

The views expressed by the author in this article are his own.

END NOTES

[1] See CARVALHO, Lucas de Lima. *Spiritus Ex Machina: Addressing the Unique BEPS Issues of Autonomous Artificial Intelligence by Using "Personality" and "Residence"*. INTERTAX, Volume 47, Issue 5. Alphen aan den Rijn: Kluwer, 2019, pp. 425-443. Though it would be useful, reading the author's article on INTERTAX is not required to follow the discussions in this series.

[2] The first article of this series may be found at this link of the Kluwer International Tax Blog: <http://kluwertaxblog.com/2019/05/28/the-international-taxation-of-autonomous-artificial-intelligence-aai-questions-from-prof-xavier-oberson/>.

[3] "In accordance with our taxable residence criteria, an AAI should be regarded as a taxable resident of a given jurisdiction if, in a first-tier analysis, its primary place of business (PPB) is physically located in that jurisdiction. If and only if a PPB cannot be reasonably associated with an AAI, in a second-tier analysis, the AAI will be regarded as a resident of a single virtual jurisdiction (SVJ), and this will require both (1) a blanket source taxation and (2) a harmonized approach for taxing income of SVJ residents worldwide." See note 1, pp. 442.

[4] See note 2 above.

[5] See OECD. *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy*. Paris: OECD, 2019, pp. 09-22. Available at: <https://www.oecd.org/tax/beps/programme-of-work-to-develop-a-consensus-solution-to-the-tax-challenges-arising-from-the-digitalisation-of-the-economy.pdf>.

[6] See note 1 above, p. 442.

[7] See note 5 above, pp. 23-32.

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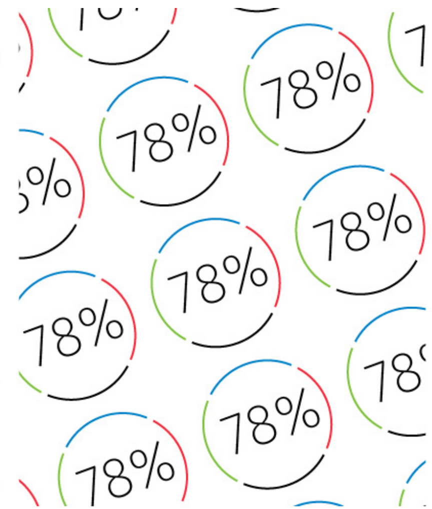

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