GLOBAL TAX HUBS

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Abstract: Global tax hubs are the black boxes of the international tax regime (ITR). The driving forces of their strategic interaction with other building blocks of the ITR remain undertheorized. This paper offers the first theory of tax hubs as a two-sided global marketplace. It argues that tax hubs are the matchmakers of the ITR. Indeed, international investors, tax hubs and endpoint jurisdictions play different yet interrelated roles within the same ecosystem, i.e., the two-sided platform. The theory is positive rather than normative. It aims to explain how the creeping marketization of the ITR, as part of international law, has been frequently instrumented worldwide over the last century. The paper provides a stress test to the theory's explanatory power and its limitations. The conceptual framework of this piece rests on antitrust law and economic concepts.

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I. INTRODUCTION

The international tax regime (ITR) has two strikingly different faces. One face denotes law in the books; the other face, law in action.[1]

From the law in the book's perspective, the ITR encompasses two central missions that have emerged at two different tragic times for humanity. First, the ITR aims to solve the problem of international double taxation. This issue fundamentally arose after the First World War when countries taxed international investors multiple times in an uncoordinated attempt to rebuild their public finances. A combined tax rate of 73.2 per cent faced by U.S. corporate investors doing business in the U.K. by 1919 is a case in point.[2] A multilateral solution to the problem of double taxation was first demanded by leading multinational enterprises (MNEs) to the League of Nations in 1920.[3]

Second, the ITR now also aims to solve the opposite problem: international nontaxation, which is triggered by shocks like the digitalization of the economy.[4] MNEs can legally arrange their business models to be subject to low effective income tax rates vis–a–vis that of a

[1] A seminal book on the ITR is Reuven S. Avi-Yonah, International Tax as International Law. An Analysis of the International Tax Regime, CAMBRIDGE: CAMBRIDGE TAX LAW SERIES (2007). Avi–Yonah offers a comprehensive analysis of the ITR and its relationship with international law. A seminal paper on the evolution of the ITR is Ruth Mason, *The Transformation of International Law*, 114(3) AM. J. INT'L. L., 353-402 (2020), which argues that the 2008 recession was a driving force behind the first fundamental reform of the ITR in a century. The distinction between law in the books and law in action rests on legal realism. *See*, e.g., Oliver Wendel Holmes, *The Path of the Law*, 10 HARV. L. REV. 457 (1897).

[2] *See* John Avery Jones, *Sir Josiah Stamp and Double Income Tax*, in STUDIES IN THE HISTORY OF TAX LAW vol. VI, n.6, (John Tiley ed., 2013). *See also* Sunita Jogarajan, Double Taxation and the League of Nations, CAMBRIDGE: CAMBRIDGE TAX LAW SERIES, at 97, footnote 24 (2018) [hereinafter Jogarajan, DOUBLE TAXATION AND THE LEAGUE OF NATIONS].

[3] In 1920, the International Chamber of Commerce (ICC) meeting in Paris adopted a resolution urging: "[…] prompt agreement between the Governments of the Allied countries in order to prevent individuals or companies from being compelled to pay a tax on the same income in more than one country, taking into consideration that the country to which such individual or company belongs has [a] right to claim the difference between the tax paid and the home tax […]." S*ee* Jogarajan, DOUBLE TAXATION AND THE LEAGUE OF NATIONS, *supra* note 2, at 86. The 1920 ICC demand suggested the LN to use the US unilateral regulation on this topic as a model: the foreign tax credit. See Michael J. Graetz., and Michael M. O'Hear. "The 'Original Intent' of U. S. International Taxation." *Duke Law Journal*, vol. 46, no. 5, 1997, pp. 1021–109. *JSTOR*, https://doi.org/10.2307/1372916 (arguing that "[in] the Revenue Act of 1918, the United States enacted, for the first time anywhere in the world, a credit against U.S. income for taxes paid by a U.S. citizen or resident to any foreign government on income earned outside the United States").

[4] *See* Edward D. Kleinbard, *Stateless Income*, 11(9) FLOR. TAX R., 699-773 (2011) (discussing the marketization of the ITR by focusing on stateless income as an example) [Hereinafter, Kleinbard, *Stateless Income*].

representative individual.[5] For instance, in 2014, for every US$1,000,000 of profits that Apple earned from its operations in Europe, it paid US$50 in taxes: a rate of 0.005 per cent.[6] A solution to the second problem of double nontaxation was first demanded by the median voter based in jurisdictions like G20 countries in the context of the global financial crisis in 2008 and the coronavirus pandemic in 2020.[7]

The ITR core architecture designed for solving both problems is now crystalized in the OECD Model Tax Convention on Income and on Capital (the OECD Model) and in compatible soft laws like the United Nations Model (the UN Model).[8] Both models are the template for over 3,000 bilateral tax treaties in force on all continents.[9]

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[5] *Id*.

[6] *See* Edward Kleinbard, Apple's Ireland Tax Avoidance Should Spur Major Reforms, THE HILL, September 3, 2014, https://thehill.com/blogs/pundits-blog/finance/294453-apples-ireland-tax-avoidance-should-spur-major-reforms/ ; *see also*: Apple Sales International and Apple Operations Europe v. European Commission, joined cases T-778/16 and T-892/16, General Court of the European Union (2020), hereinafter Apple Ireland State Aid case, https://www.europeansources.info/record/cjeu-joined-cases-t-778-16-t-892-16-commission-v-ireland-and-apple-operations-europe/ Decision (EU) 2017/1283 (Aug. 30, 2016). A similar dynamic can be seen in industries like pharma as it shares a commonality in the degree to which knowledge and the protection of knowledge is the source of value. *See* INTERIM REPORT: BIG PHARMA TAX AVOIDANCE. SENATE FINANCE COMMITTEE INVESTIGATION REVEALS EXTEND TO WHICH PHARMA GIANT ABBVIE EXPLOITS OFFSHORE SUBSIDIARIES TO AVOID PAYIG TAXES ON U.S. DRUG SALES, Senate Finance Committee Chair Senator Ron Wyden, D-Oregon, July 2022, https://www.finance.senate.gov/imo/media/doc/Pharma%20Tax%20Report.pdf

[7] The United States acknowledged that a driving force of the OECD/G20 Base Erosion and Profit Shifting (BEPS) reform project of the ITR was the result of popular concern (sic) in G20 countries and beyond: "Benefit of comprehensive scoping [of the 2021 reform proposal of the ITR]. Scoping in the largest MNE groups is consistent with *popular concerns* in all our countries about mega-corporations." Emphasis added. *See* STEERING GROUP OF THE INCLUSIVE FRAMEWORK MEETING. Presentation by the United States, April 8, 2021, page 13 [hereinafter, the U.S. 2021 REPORT]. It is available at https://mnetax.com/wp-content/uploads/2021/04/US-slides-for-Inclusive-Framework-meeting-of-4-8-21-2.pdf *See also* OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT, STATEMENT OF A TWO PILLARS SOLUTIONS TO ADDRESS THE TAX CHALLENGES ARISING FROM THE DIGITALISATION OF THE ECONOMY [hereinafter, THE TWO PILLAR SOLUTIONS], October 8, 2021, https://www.oecd.org/tax/beps/brochure-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.pdf

[8] OECD, MODEL TAX CONVENTION ON INCOME AND ON CAPITAL Condensed Version 2017, OECD Publishing, Paris [hereinafter, the OECD MODEL], at https://doi.org/10.1787/mtc_cond-2017-en. *See also* United Nations Model Tax Convention between Developed and Developing Countries, Version 2021, https://www.un.org/development/desa/financing/what-we-do/ECOSOC/tax-committee/thematic-areas/UN-model-convention

[9] Michael Lang, Pasquale Pistone, Joseph Schuch, & Claus Staringer (eds.). (2012). *The Impact of the OECD and UN Model Conventions on Bilateral Tax Treaties (*CAMBRIDGE TAX LAW SERIES). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139095686; Nikki J. Teo, (2023) *The United Nations in Global Tax Coordination: Hidden History and Politics* (CAMBRIDGE TAX LAW SERIES). Cambridge: Cambridge University Press [hereinafter Teo, THE UNITED NATIONS IN GLOBAL TAX COORDINATION].

From the law in action's perspective, the ITR has been enduring a creeping marketization over the last century.[10] Indeed, the ITR's net effect has been to facilitate the strategic interaction between international investors like MNEs and endpoint jurisdictions like the G20 countries in order, for example, to minimize tax liability as a quid pro quo for inward capital such as foreign direct investment (FDI). Tax hubs have been playing a crucial role in a logic of intermediation between endpoint jurisdictions and international investors.

The endpoint jurisdiction concept denotes both the country of residence of the international investor and the country of source. Moreover, endpoint jurisdictions typically have high nominal tax rates on corporate profits.[11]

Tax hubs normally have low effective tax rates on corporate profit and charge something functionally equivalent to a fee for their matchmaking service. [12] There are various tests for identifying jurisdictions that play the role of tax hubs.

One of the tests rests on two elements. The first element is a total inward foreign direct investment (FDI) position above 100 per cent over gross domestic product (GDP). The ratio suggests that this group of jurisdictions is not in fact the final destination of the relevant FDI as they are playing the role of matchmakers between, say, MNEs and endpoint jurisdictions.[13]

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[10] A scholarly work by Tsilly Dagan has been the first to name this phenomenon as international tax marketization. *See* Tsilly Dagan, INTERNATIONAL TAX POLICY: BETWEEN COMPETITION AND COOPERATION, Cambridge University Press (2017) at 2.

[11] For example, the OECD's average corporate tax rate is 23.51 per cent. *See* Ruth Mason, *The Transformation of International Tax, supra* note 1.

[12] As discussed in Part III.C, a country can be both a tax hub and an endpoint jurisdiction. Its central role, however, is usually one of the two.

[13] The definition of *tax hub* submitted here is inspired by the OECD definition of *investment hub*, but it is broader than the OECD definition. In effect, the OECD definition of investment hub requires a total inward FDI of 150 per cent over the GDP, rather than the 100 per cent used here to define *tax hub*. Lowering the threshold from 150 per cent of the GDP to 100 per cent almost doubles the OECD countries that qualify as investment hubs; i.e., the 150 per cent threshold is only met by The Netherlands, Luxembourg and Ireland, whereas when the threshold is reduced to 100 per cent, the definition also includes Belgium. *See* OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT, TAX CHALLENGES ARISING FROM DIGITALISATION, ECONOMIC IMPACT ASSESSMENT, 2020, 28, footnote 8 ("[…] investment hubs are defined as jurisdictions with a total inward FDI position above 150% of GDP. Many of them have relatively low statutory and/or effective tax rates on corporate profit […]"), https://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-economic-impact-assessment-0e3cc2d4-en.htm.

The second element to identify a tax hub is that it is usually a member of at least one international organization with influence on global standard-setting in international taxation, like the League of Nations, OECD, and the G20. This membership indicates both the tax hub's potential to influence the agenda-setting of this sort of international institution and the tax hub's continuous interaction with endpoint jurisdictions and international investors. [14]

Switzerland, the Netherlands, and Belgium have met both elements since the establishment of the League of Nations in 1919, whereas Ireland and Luxembourg joined the tax hub market after the inception of the OECD in 1961. Hong Kong, as part of the People's Republic of China, became a tax hub with the emergence of the G20 in 2009. On the other hand, tax havens typically do not belong as members to such international organizations; thus, tax havens' connectivity with endpoint jurisdictions and international investors is typically indirect through tax hubs.[15]

A. Tax Hubs in Action: Two Examples

Examples of international tax planning involving tax hubs have emerged on all continents since at least the 1920s.[16] The ANDOLAN CASE in India and the NORTHERN INDIANA CASE in

[14] See Part II.F (offering an example of the influence of Switzerland on the agenda-setting of a crucial meeting of the League of Nations that took place in Geneva on June 4, 2023). See also Part IV.A (offering another example of Luxembourg and Switzerland influencing the OECD agenda-setting in the context of the 1998 Harmful Tax Competition Report).

[15] See Thomas Tørsløv & Ludvig Wier & Gabriel Zucman, 2023. *The Missing Profits of Nations*, THE REVIEW OF ECONOMIC STUDIES, vol. 90(3), 1499-1534 at 1499 [hereinafter Zucman, et al., *The Missing Profit of Nation*s] (arguing that "quantitatively a key pattern that emerges from our analysis is large profit shifting out of EU high-tax countries, often by U.S. multinationals, first to European tax havens such as Luxembourg or the Netherlands, then eventually to non-EU offshore centres such as Bermuda)". *See infra* footnote 82 (discussing Apple Inc's utilization of Ireland as a tax hub and Bermuda as a tax haven in its tax planning involved in the Apple Ireland State Aid case). See *supr*a note 6. *See supra* note 13 (listing jurisdictions meeting the 100 percent ratio).

[16] REPORT ON DOUBLE TAXATION SUBMITTED TO THE FINANCIAL COMMITTEE, ECONOMIC AND FINANCIAL COMMISSION REPORT BY THE EXPERTS OF DOUBLE TAXATION, Document E.F.S.73. F.19 (April 5, 1923) [hereinafter, THE 1923 FOUR ECONOMISTS REPORT) at 45, https://adc.library.usyd.edu.au/view?docId=split/law/xml-main-texts/brulegi-source-bibl-1.xml;chunk.id=item-1;toc.depth=1;toc.id=item-1;database=;collection=;brand=default. See i*nfra* Part IV. A (listing examples of tax hubs' matching services worldwide).

the United States, explained below, are prime examples of the tax hubs' matchmaking role in the global south and global north, respectively.[17]

The ANDOLAN CASE is an instance of a tax treaty dispute involving MNEs, India as an endpoint jurisdiction and Mauritius as a tax hub. In this case, MNEs from G20 countries had been channeling their investments into India via Mauritius—rather than from, say, G20 countries into India directly.[18]

These investors had decided to use the Indo–Mauritius tax treaty because of its advantageous tax features. The scheme was structured through intermediate entities based in Mauritius to channel investment from, for example, The Netherlands to India so that capital gains were not taxed in any of the three countries (i.e., triple nontaxation). An intermediate entity is defined here as a firm based on a tax hub (e.g., Mauritius) between the ultimate parent corporation of an MNE (located in, say, The Netherlands as the country of residence of the international investor) and the target endpoint jurisdiction (e.g., India as the country of source).

The Supreme Court of India grounded its decision in favor of the taxpayer on strategic considerations as follows:

> Developing countries [like India] need foreign investments, and the treaty shopping opportunities can be an additional factor to attract them. The use of Cyprus as a treaty haven has helped capital inflows into Eastern Europe. Madeira (Portugal) is attractive for investments into the European Union. Singapore is developing itself as a base for investments in Southeast Asia and China. Mauritius today provides a suitable treaty conduit for South Asia and South Africa. In recent years, India has been the beneficiary of significant funds through the 'Mauritius conduit'. Although the Indian economic reforms since 1991 permitted such capital transfers, the amount would have been much lower without the India–Mauritius tax treaty.[19]

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[17] Union of India vs. Azadi Bachao Andolan (October 7, 2003) Sup. Ct. India 56 ITR 563, https://indiankanoon.org/doc/1960330/ [hereinafter, the ANDOLAN CASE]. Northern Indiana Public Service Co v. C.I.R., 115 F. 3d 506 (1997), https://scholar.google.com.ar/scholar?q=Northern+Indiana+Public+Service+Co+v.+C.I.R.,+115+F.+3d+506+(1997)&hl=en&as_sdt=2006&as_vis=1 (hereinafter, the NORTHERN INDIANA CASE).

[18] See, for example, Eduardo Baistrocchi, *The Use and Interpretation of Tax Treaties in the Emerging World: Theory and Implications*, 4 BRITISH TAX REVIEW 352-391 (2008), https://ssrn.com/abstract=1273089

[19] *Union of India vs. Azadi Bachao Andolan, supra* note 17 *(*at [135].

> Developing countries allow treaty shopping to encourage capital and technology inflows, which developed countries are keen to provide to them. The loss of [tax] revenue could be insignificant compared to the other nontax benefits to their economy. [Treaty shopping] is perhaps regarded in contemporary thinking as a necessary evil in a developing country.[20]

Hence, the ANDOLAN CASE involves triangular tax planning (The Netherlands–Mauritius–India) to achieve a triple international nontaxation opportunity in the capital gains arena. Strikingly, this planning was explicitly validated by the Supreme Court of India based on tactical considerations, i.e., cementing the role of Mauritius as a tax hub for maximizing inward FDI to India.[21]

The NORTHERN INDIANA CASE is functionally equivalent to the ANDOLAN CASE but in the global north. The taxpayer was a U.S. corporation (Northern Indiana) that established a finance subsidiary in The Netherlands Antilles. The U.S. Court of Appeal, Seventh Circuit (the Court), maintained that the purpose of the Antilles finance subsidiary was to:

> […] obtain capital at the lowest possible interest rates. Accessing the Eurobond market through a Netherlands Antilles subsidiary was not, at the time, an uncommon practice to accomplish this end. [22]

The Court explained the role of the Eurobond market as follows:

> A major capital market outside the United States is the Eurobond market. It is not an organized exchange, but rather a network of underwriters and financial institutions that market bonds issued by private corporations (including but not limited to finance subsidiaries of U.S. companies), foreign governments and government agencies, and other borrowers. [23]

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[20] *Id.* at [136–137].

[21] On a similar vein, the People's Republic of China (China) has also explicitly acknowledged the marketization of its international tax system. Indeed, China has stated the following on this point: "[…] Most [tax] audits and [Mutual Agreement Procedures] MAP cases are the result of *compromises* between tax administrations and taxpayers or competent authorities of two/more countries." *See* UNITED NATIONS PRACTICAL MANUAL ON TRANSFER PRICING, 2021, 572, emphasis added, https://www.un.org/development/desa/financing/sites/www.un.org.development.desa.financing/files/2021-04/TP_2021_final_web%20%281%29.pdf.

[22] *See* Northern Indiana, *supra* note 17, section 8-9, second paragraph.

[23] *See* Northern Indiana, *supra* note 17, footnote 1.

The Court decided the case for the taxpayer. It held that interest paid by the U.S. corporation to its Antilles finance subsidiary was exempt from the U.S. domestic withholding tax. This exemption was grounded on the tax treaty between the U.S. and the Netherlands, as extended to the Netherlands Antilles. Interestingly, the Court acknowledged the fact that the finance subsidiary was created to reduce taxes:

> […] so long as a foreign subsidiary conducts substantive activity—even minimal activity—the subsidiary will not be disregarded for federal tax purposes, notwithstanding the fact that the subsidiary was created with a view to reducing taxes. [24]

The NORTHERN INDIANA CASE is an example of the strategic role of tax hubs. Indeed, the Netherlands Antilles became a matchmaker between international investors (like London banks involved in the Eurobond market) and the relevant endpoint jurisdiction (the U.S.) where the borrowing company Northern Indiana was based. In sum, the purpose of the triangular tax planning structure involved here was to minimize the financing costs of a U.S. company via the Eurobond market while avoiding federal U.S. income taxes.[25]

B. Definitions of Key Concepts

It is time to define two key concepts to examine the strategic structure of the tax hub market: two-sided platform and oligopoly. The purpose of a two-sided platform is to minimize transaction costs between platform users who can benefit from coming together, permitting value-creating exchanges to take place that would not otherwise occur.[26] The core role of a two-sided platform is to enable parties to realize gains from interactions by reducing transaction costs. Two-sided platforms are frequent in old economy industries, like those based on

[24] *See* Northern Indiana, *supra* note 17, section 4-5, paragraph two.
[25] *Id.*
[26] David S. Evans, *Two-Sided Market Definition*, in American Bar Association (ABA) SECTION OF ANTITRUST LAW, MARKET DEFINITION IN ANTITRUST THEORY AND CASE STUDIES (ABA 2012).

advertising-supported media and new economy industries, such as those based on web portals like Uber.

The U.S. Supreme Court (the Supreme Court) has implicitly recognized the two-sided platform concept in, for example, advertising-supported media in 1953.[27] The Supreme Court recognized in *Times–Picayune* that, "every newspaper is a dual trader in separate though interdependent markets; it sells the paper's news and advertising contents to its readers; in effect, that readership is in turn sold to the buyers of advertising space".[28] The Supreme Court has recently extended the application of the two-sided platform concept to the credit card system.[29]

An oligopoly has been defined as "a small number of firms acting independently but aware of one other's existence". [30] Oligopoly is in-between the two opposing ends of a market structure, i.e., perfect competition and monopoly.

Oligopolies can be either collusive or noncollusive. Collusive oligopolies are also known as cartels because they aim to explicitly, rather than implicitly, coordinate their behavior to maximize their own interests.[31]

Collusive oligopolies are inherently unstable because their members normally have the incentive to defect. An example of a cartel is the Organization for the Petroleum Countries

[27] The U.S. Supreme Court leading case on two-sided platforms is Times–Picayune v. United States, 345 U.S. 594 (1953). David S. Evans & Richard Schmalensee, *Markets with Two-Sided Platforms* in ABA SECTION OF ANTITRUST LAW, ISSUES IN COMPETITION LAW AND POLICY, 1 ABA (2008).
[28] *Id.*, 160.
[29] *See* Ohio vs. American Express, 585 U.S. (2018). Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 THE YALE L. J. 1952 (2021).
[30] *See* Dennis W. Carlton & Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION, 4th edition, Pearson, chapter 6, 181 (2015).
[31] A cartel has been defined as a "[…] a formal agreement among firms in an oligopolistic industry. Cartel members may agree on such matters as prices, total industry output, market shares, allocation of customers, allocation of territories, bid-rigging, establishment of common sales agencies, and the division of profits or combination of these". *See* OECD GLOSSARY OF STATISTICAL TERMS, https://stats.oecd.org/glossary/detail.asp?ID=3157.

(OPEC). The OPEC aims to coordinate the policies regarding oil production involving its 13 member states. There are many instances of defection by members of the OPEC cartel.[32]

Oligopolies can be benign, malign, or somewhere in between. An example of a benign cartel is a system of standard-setting by a medical professional association. It aims to solve asymmetries of information and thus protect the consumers of the relevant market and trigger public benefits.[33]

There are four strands in the interdisciplinary literature on tax hubs and the ITR. They rest on economics, political science, law and history, respectively. The next section aims to outline each strand sequentially.

C. Literature Review: The Four Strands

The economics strand focuses on the size of the tax hub market, its strategic role and network effects in the ITR. Leading authors of the economics strand include Ronen Palan, Dhammika Dharmapala, Joel Slemrod, John D. Wilson, James Hines, Michael Keen, Kai Konrad, Daniel Haberly, Wójcik Dariusz, Juan Carlos Suárez Serrato, Arjan M. Lejour, Thomas Tørsløv, Ludvig Wier and Gabriel Zucman.[34]

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[32] Dan Bernhardt & Mahdi Rastad, *Country Cartels*, June 1, 2014. Available at https://ssrn.com/abstract=2508797.

[33] *See*, e.g,, Hovenkamp, THE ANTITRUST ENTERPRISE. PRINCIPLES AND EXECUTION, HUP (2005), at 23 [hereinafter, Hovenkamp, THE ANTITRUST ENTERPRISE].

[34] Seminal papers on the economics strand of the tax havens and tax hubs literature include the following: Ronen Palan, *Trying to Have Your Cake and Eating it: How and Why the State System Has Created Offshore*, INTERNATIONAL STUDIES QUARTERLY (1998) 42 (4): 625-643 (arguing that "far from escaping the state, offshore is intimately connected with the state system. […] having created offshore, sovereignty and self-determination are themselves constrained and (re-)enabled in turn." at 625); Dhammika Dharmapala, *What Problems and Opportunities Are Created by Tax Havens?* 24(4) OXF. REV. ECON. POL., 661-679 (2008) (arguing that "corporate tax revenues in major capital-exporting countries have exhibited robust growth, despite substantial FDI flows to tax haves'' at 661); Joel Slemrod, Joel and John D. Wilson, 2009, *Tax Competition with Parasitic Tax Havens*, JOURNAL OF PUBLIC ECONOMICS, Elsevier, vol. 93(11-12), 1261-1270, December (arguing that "[…] the full or partial elimination of tax havens would improve welfare in non-haven countries […]"); Dharmapala Dhammika and James Hines R., *Which Countries Become Tax Havens?* JOURNAL OF PUBLIC ECONOMICS 93 (9-10): 1058-1068, 1058 (2009) (stating that "[…] roughly 15% of countries are tax havens […]. For a typical country with a population under one million, the likelihood of a becoming a tax haven rises from 26% to 61% as governance quality improves from the level of Brazil to that of Portugal"); James R. Hines Jr., *Treasure Islands*, 24(4) J. ECON. PERSP., 103-25, 118 (2010) [hereinafter Hines, Treasure Islands]; Michael Keen & Kai Konrad, *The Theory*

For example, Thomas Tørsløv, Ludvig Wier and Gabriel Zucman have submitted findings on the size and strategic role of tax hub havens. Their findings, which deem tax hubs and tax havens as members of the same group of jurisdictions, can be summarized as follows:

> […] 36% of multinational profits—defined as profits made by multinationals outside of the country where their parent is located—were shifted to tax havens globally in 2015. […] U.S. multinationals shift comparatively more profits: in 2015, U.S. firms shifted more than half of their multinational profits, as opposed to about a quarter for other multinationals.
>
> The governments of high-tax European Union countries appear to be the prime losers of global profit shifting, with a reduction in domestic profit of about 20%, as opposed to 10% in the U.S. and 5% in developing countries […].
>
> In sum, quantitatively a key pattern that emerges from our analysis is large profit shifting out of EU high-tax countries, often by U.S. multinationals, first to European tax havens such as Luxembourg or the Netherlands, then eventually to non-EU offshore centres such as Bermuda.
>
> The governments of tax havens derive sizable benefits from this phenomenon: by taxing the large amount of profits they attract at low rates, they generate more tax revenue, as a fraction of their national income, than the countries that have higher rates. [35]

There are two opposing views on the network effects of tax hubs in the international trade and tax systems. Whereas James Hines highlights the positive network effects of tax hubs, Slemrod and Wilson deal with their negative ones. Hines argues that:

> […] it may well be that tax havens facilitate foreign investment [in countries of source] – and thereby indirectly also stimulate economic activity in capital-exporting countries [i.e.,

of International Tax Competition and Coordination, WORKING PAPER OF THE MAX PLANCK INSTITUTE FOR TAX LAW AND PUBLIC FINANCE No. 2012-06 (2014) [hereinafter Keen et al., *The Theory of International Tax Competition and Coordination*] (arguing that it is small countries which are the more likely to become tax havens. They are more likely to set low tax rates that encourage profit shifting and tax arbitrage. And by having low tax rates, they are likely to have the least to gain from information sharing), https://ssrn.com/abstract=2111895; Daniel Haberly and Wójcik Dariusz, *Tax Havens and the Production of Offshore FDI: An Empirical Analysis*, JOURNAL OF ECONOMIC GEOGRAPHY 15 (1):75-101, 75 (2015) (it maintains that "[…] at least 30% of global FDI stock is intermediated through tax havens" according to 2010 IMF data); Juan Carlos Suárez Serrato, *Unintended Consequences of Eliminating Tax Havens*, DUKE UNIVERSITY WORKING PAPER (2019) (maintaining that "by 2016, more than 35% of the foreign profits of U.S. MNCs were linked to hybrid tax planning structures […] which avoid corporate income taxes by targeting mismatched with Irish, Dutch, and Luxembourg tax laws") [hereinafter Suárez Serrato, *Unintended Consequences of Eliminating Tax Havens*]; Arjan M. Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance* (May 11, 2021) CENTER DISCUSSION PAPER No. 2021-014, SSRN: https://ssrn.com/abstract=3843734 (maintaining that conduit countries and tax havens have different economic and tax characteristics); Ludvig Wier and Gabriel Zucman, Gabriel, *Global Profit Shifting, 1975-2019* (November 2022) NBER WORKING PAPER No. w30673, https://ssrn.com/abstract=4282523; Thomas Tørsløv & Ludvig Wier & Gabriel Zucman, 2023. *The Missing Profits of Nations*, supra note 15.

[35] Zucman, et al., *The Missing Profit of Nations*, *supra* note 15 at 1500.

the country of residence of the international investor]."[36] It is possible, he concludes, that "[…] tax havens contribute to economic growth elsewhere.[37]

On the opposing end of the continuum, Joel B. Slemrod and John D. Wilson maintain:

> […] tax havens lead to the wasteful expenditure of resources, both by firms in their participation in havens and by government in the attempts to enforce their tax codes.[38]

The second strand of the literature on tax hubs encapsulates the political science perspective. Leading authors in this strand include Thomas Rixen, Richard Murphy, Christian Chavagneux and Andrea Binder.[39]

For example, Andrea Binder has addressed the issue of the network effects of tax hubs from a dynamic, rather than static, perspective. Her analysis covers offshore banking and offshore tax planning (hereinafter the offshore finance market) as well as the role of the states in creating the offshore finance market. She argues that:

> Despite the distinct histories of offshore tax planning and offshore tax banking, the latter has become the enabler of the former. Today, the main purpose of offshore finance is to create money, not simply to hide it. Offshore finance's potency in affecting state power lies in its ability to create and access global credit-money.
>
> […] how offshore finance affects state power, […] case studies provide insight into the quality of the effects. They confirm that offshore finance can strengthen or undermine state power. Empirically […] offshore finance does not enhance or limit all states' power in equal measures. The effect was also not constant over time. It varied across space and time.
>
> Weimar Germany was differently affected by offshore finance than the contemporary Berlin Republic. The same is true for Brazil and Mexico before and after the Latin American financial crises of the 1980s and 1990s. Britain, too experienced different effects of offshore finance on state power between its onset in the 1950s [with the emergence of the Euromarkets] and today.[40]

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[36] *See* J. Hines Jr., *Treasure Islands*, *supra* note 34, at 122.
[37] *Id.*
[38] J. Slemrod, Joel and J. Wilson, *Tax Competition with Parasitic Tax Havens*, *supra* note 34, at 5.
[39] Outstanding contributions to the tax havens and tax hubs literature from the political science perspective include the following: Thomas Rixen, THE POLITICAL ECONOMY OF INTERNATIONAL TAX GOVERNANCE, Palgrave Macmillan, 2008; Ronen Palan, Richard Murphy and Christian Chavagneux, TAX HAVENS; HOW GLOBALIZATION REALLY WORKS (Cornell University Press, 2010 at 237) (maintaining that […] tax havens are not marginal phenomena but a core component of the modern, globalized economy"); Andrea Binder, OFFSHORE FINANCE & STATE POWER, Oxford University Press, at 107 and 1082023 (arguing that "[…] the state itself participated in offshore money creation, reaping the benefit"); Pritish Behuria (2023), *The Political Economy of a Tax Haven: The Case of Mauritius*, REVIEW OF INTERNATIONAL POLITICAL ECONOMY, 30:2, 772-800,DOI: 10.1080/09692290.2022.2069144.
[40] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 178.

Binder also maintains that states, including endpoint jurisdictions and tax hubs, have agreed with the emergence of the offshore finance market. She states:

> Given that money creation is a shared power between the state and the banks, it follows that an encounter with the offshore world does not happen against the state's will. It happens with its support or at least in tacit agreement. [41]

The third strand of the literature on the tax hub market offers a legal analysis of its systemic role in the ITR using a range of case studies. These cases include stateless income, the growing tension between tax hubs and endpoint jurisdictions in the allocation of taxing rights in the context of the digital economy, and the tax policy implications of data leaks. Leading authors of the law strand on tax hubs include Mitchell Kane, Edward D. Kleinbard, Itai Grinberg, Arthur J. Cockfield, Omri Marian, Tsilly Dagan, Shu-Yi Oei, Diane Ring, Stephen Daly, Ruth Mason, Richard Collier and Andrew Matt.[42]

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[41] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 10. A similar point has been submitted by Ronen Palan, *Trying to Have Your Cake and Eating It: How and Why the State System Has Created Offshore*, *supra* note 34.

[42] Excellent contributions to the literature on tax havens and tax hubs by legal scholas include the following: Mitchell A. Kane, *Strategy and Cooperation in National Response to International Tax Arbitrage*, 53 EMORY L.J. 89 (2004) (arguing that "[…] international tax arbitrage transactions are of particular interest to governments because these transactions may permit governments to further national interests at the expense of rival nations in a manner that lacks transparency and is, thus, less likely to breed retaliation"); Kleinbard, *Stateless Income*, *supra* note 4; Itai Grinberg, *The Battle over Taxing Offshore Accounts*, 60 UCLA L. REV. 304 (2012) (it maintains that "[…] automatic tax information reporting may allow capital income taxation to play a role in building a liberal democracy that is accepted as legitimate by its people and to encourage taxpayers to engage with the polity and demand government accountability"); Arthur J. Cockfield, *Big Data and Tax Havens Secrecy*, 18 FLORIDA TAX REVIEW 8, 483-539 (2016) (focusing on "[…] what tax haven intermediaries actually do to facilitate offshore evasion. It is grounded on the world's largest financial data leaks obtained by the International Consortium for Investigative Journalist in 2013"; Omri Marian, *The State Administration of International Tax Avoidance*, 7 HARV. BUS. L. REVIEW (2017) (arguing that "[…] in November of 2014, hundreds of advance tax agreement (ATAs) issued by Luxembourg's Administration des Contributions Directes (Luxembourg's Inland Revenue, or LACD) to multinational corporate taxpayers (MNCs) were made public. 172 of the documents are hand-coded and analyzed. The analysis demonstrates that LACD cannot be reasonably viewed a passive player in tax avoidance schemes of multinational taxpayers. Rather, LACD is best described as a for-profit manufacturer of tax avoidance opportunities […]"?; Tsilly Dagan, INTERNATIONAL TAX POLICY: BETWEEN COMPETITION AND COOPERATION, *supra* note 10; Shu-Yi Oei and Diane Ring, *Leak-Driven Law*, 65 U.C.L.A. LAW REVIEW 532 (2018) (it analyzes both the beneficial effect of tax leaks and their risks); Stephen Daly and Ruth Mason, *State Aid: The General Court Decision in Apple*, 99 TAX NOTES INT'L. 1317 (September 21, 2020) at 1329, https://ssrn.com/abstract=3696270; Richard Collier and Andrew Matt, *Is the Shift to Taxation at the Point of Destination Inexorable?*, January 7, 2022 (it deals with the mobility issue and its implications: the incentive to MNEs to game the income allocation system and to states to engage in tax competition), SSRN: https://ssrn.com/abstract=4212425

For example, on the stateless income front, Ruth Mason and Stephen Daly maintain the following on the Apple Ireland state aid case in the European Union:[43]

> […] the main problem identified by the [E.U.] commission [in this case] was that Apple could earn huge profits without being subject to tax anywhere. This reflects systemic problems in the international tax system, exacerbated by globalization and technological developments.[44]

There is growing political tension between tax hubs and endpoint jurisdictions in the context of the digital economy. For example, Andrew Matt and Richard Collier state that:

> "[…] developed, traditionally capital-exporting, states [like France and the U.K.] find they have now become disadvantaged (by losing tax revenues) because of being in the position of source states in relation to highly digitalized business [that typically use tax hubs and tax havens to achieve profit shifting outcomes]."[45]

The law strand of the tax hub literature also deals with data leaks and their positive and negative implications in tax policy making. Shu-Yi Oei and Diane Ring argue the following:

> By providing tax authorities with information about tax evasion and abusive structuring, data leaks can serve an important function in cross-border tax law and policymaking and may well lead to positive enforcement outcomes. They can highlight disparities between different populations of taxpayers, force governments to confront rules and practices historically favorable to elites, help ferret out corruption and evasion by public officials and the wealthy, discourage tax evasion, and create political impetus for new laws and enforcement actions.
>
> But leaks also come with distinctive risks. They may allow leakers, hackers, media organizations, and other interests significant control over government enforcement agendas. And the high salience of leaked data may lead to less than rational responses by both governments and the public. […] The question is not simply how governments can use information from leaks to sanction bad behavior, make decisions, and design laws. Rather, the question is how the actions and responses of leakers, private citizens, governments, and the media work together to create and promote certain policy outcomes, and how those outcomes should be evaluated, supported, or resisted.[46]

Finally, the fourth strand of the literature is the historical one. It focuses on the driving forces that may explain the emergence and evolution of tax havens and tax hubs. Leading

[43] Apple Sales International and Apple Operations Europe v. European Commission, *supra* note 6.
[44] *See*, e.g., Daly & Mason, *State Aid: The General Court Decision in Apple*, *supra* note 42.
[45] Collier, Richard and Andrew, Matt, *Is the Shift to Taxation at the Point of Destination Inexorable?*, *supra* note 42.
[46] Oei and Ring, *Leak-Driven Law*, *supra* note 42 at 618.

authors include Vanesa Ogle, Sebastien Guex, Sunita Jogarajan, Kristine Sævold, Ksenia Polonskaya and Nikki J. Teo. [47]

For example, Guex maintains the following about Switzerland:

> "[The] Swiss banking circles actively stimulated and assisted the large-scale evasion of a progressive tax on inheritance introduced in 1901 in France, they aroused hostility and countermeasures on the French side. Because it symmetrically involved the intervention of the central state on the Swiss side, it was this conflict with one of the most powerful states on the planet that gave the final impetus to the implementation, within the Swiss ruling class, of a comprehensive strategy aimed at allowing Switzerland to occupy a permanent leading position in the international tax evasion market then in full expansion.[48]

Kristine Sævold, in turn, has shown that the downfall of the British Empire was the context for the emergence of a myriad of tax hubs and tax havens as a way to fund their independence from London.[49]

How does this paper relate to the four strands of the tax hubs literature? The four strands illuminate the tax hub problem from a range of static and dynamic interdisciplinary perspectives. Moreover, the literature now offers enough global findings and insights that could ground the first theory of tax hubs using antitrust law concepts as a unifying conceptual framework. It is now time to set the research questions.

D. Research Questions

[47] Excellent contributions of the historical strand of the tax hub and tax haven literature include the following: Michael Littlewood, TAXATION WITHOUT REPRESENTATION; THE HISTORY OF HONG KONG'S TROUBLINGLY SUCCESSFUL TAX SYSTEM, Hong Kong University Press, HKU (2010), https://muse.jhu.edu/book/1516S; Vanesa Ogle, *Archipelago Capitalism: Tax Havens, Offshore Money and the State, 1950s-1970s*, AMERICAN HISTORICAL REVIEW 122, n 5 (2017):1437; Jogaraian, DOUBLE TAXATION AND THE LEAGUE OF NATIONS, *supra* note 2; Sébastien Guex, *The Emergence of the Swiss Tax Haven 1816-1914*, BUSINESS HISTORY REVIEW 96 (2): 1-20, 2022; Kristine Sævold, TAX HAVENS OF THE BRITISH EMPIRE DEVELOPMENT, POLICY RESPONSES, AND DECOLONIZATION, 1961-1979, University of Bergen, 2022, Available at Tax Havens of the British Empire.pdf; Polonskaya, *The Strategies of the International Chamber of Commerce to Eliminate Double Taxation*, *supra* note 9; Teo, THE UNITED NATIONS IN GLOBAL TAX COORDINATION, s*upra* note 9.

[48] Guex, *The Emergence of the Swiss Tax Haven 1816-1914*, *supra* note 47 at 370.

[49] *See* Kristine Sævold, TAX HAVENS OF THE BRITISH EMPIRE DEVELOPMENT, POLICY RESPONSES, AND DECOLONIZATION, 1961-1979, *supra* note 47.

This paper aims to answer two questions: 1) Can the intermediation that happens through tax hubs be framed by analogy to the intermediation existing in two-sided platforms like Uber? 2) How far can that positive analogy be extended in the ITR, and what are its limitations from a normative dimension?

The mission of this paper is to offer a unifying positive model to explain the role of tax hubs in the ITR over the last century in the light of the four strands of the literature using antitrust concepts as a bridge. To do so, this piece submits the first theory of tax hubs as a global intermediation marketplace grounded on the two-sided platform concept.

E. Contributions

By developing this theory, the paper attempts to put forward three contributions. First, it applies the two-sided platform concept as a positive model to explain the logic of intermediation involving tax hubs in the ITR over the last century (1923-2023). Second, it aims to show the theory's explanatory power by outlining a stress test and answering why both a representative country of residence of international investors and a representative country of source typically have the incentive to sign tax treaties with tax hubs.[50] Third, it identifies the normative limitations of the theory and its potential impact on international tax policy.

This paper is organized into six parts. After the introduction, Part II outlines the conceptual framework used to examine the global marketplace structure of tax hubs. Part II also justifies the name *tax hub market* to denote this group of jurisdictions. Part III offers a theory of tax hubs in light of the two-sided platform model. The mission of Part IV, in turn, is to test the theory's explanatory power by means of a stress test. Part V focuses on the theory's implications and normative limitations. Part VI submits the conclusion.

[50] *See infra* Part 5.B (discussing why endpoint jurisdiction sign tax treaties with tax hubs).

In essence, this piece aims to examine the similarities and differences between tax hubs and other two-sided platforms like Uber. Once the positive evaluation of tax hubs as a two-sided global marketplace is submitted, Part V presents the normative analysis.

II. CONCEPTUAL FRAMEWORK

This Part of the paper serves two purposes. First, it distinguishes between two types of competition and then delves into competition in the context of a network market, specifically a two-sided platform. Second, it examines definitional issues and traces the history of the tax hub market while highlighting its ability to withstand shocks.

A. Competition Between Incompatible Standards

One central element of competition between incompatible standards is the lack of cooperation between competitors. An example of this sort of competition is the battle between Blockbuster Video (video rental stores offering movies on DVDs) and Netflix (online movie streaming). Netflix's online streaming standard eventually prevailed over the video rental stores. Blockbuster Video went bankrupt.[51]

Another telling example of competition between incompatible standards is the battle between the traditional taxi and ride-hailing online platform services (the Uber standard). Their non-cooperation in the design of a compatible standard implied a Darwinian competition between incompatible standards. This competition may eventually lead to the victory of ride-hailing online platforms and the defeat of the traditional taxi service. For example, certain

[51] *See* David S. Evans & Richard Schmalensee, *Matchmakers. The New Economics of Multisided Platforms*, HARV. BUS. REV. PRESS, 167-168 (2016) [hereinafter, MATCHMAKERS].

traditional taxi companies have responded to this competition by transplanting the Uber standard to their own market. Some taxi companies now offer consumers the ability to hail cabs via apps instead of calling into a dispatch, like Arro in New York City.[52]

B. Competition Within a Compatible Standard

Key players in the online ride-hailing platform services like Uber and Lyft have triggered the emergence of competition within a compatible standard in the global logistics industry. Agreeing on a compatible standard may eliminate competition between technologies, but it does not eliminate competition altogether. Instead, it channels competition into nonagreed dimensions, such as prices, service and product features.[53]

Competition within a compatible standard can be modelled as a "coopetition" game, i.e., a game in which elements of cooperation and competition are mixed simultaneously.[54] For example, both Uber and Lyft cooperated in the design of a compatible standard (e.g., the ride-hailing platform service) by, for instance, learning from each other. And they competed in the mobility market in areas including product features, prices and services. In short, given certain conditions, a "coopetition" game emerges.[55]

C. Competition Within a Compatible Standard: Network Markets

One important implication of competition within a compatible standard is the emergence of a network market, i.e., an ecosystem where network users interact at a relatively low

[52] Ryan Calo and Alex Rosenblat, *The Taking Economy: Uber, Information and Power*, 117 COLUMBIA LAW REVIEW, 1623, at 1626.
[53] *Id.*
[54] Adam M. Brandenburger & Barry J. Nalebuff, CO-OPETITION, Profile Books Ltd., New York (1996).
[55] *Id.*

transaction cost. For instance, since the ride-hailing platform apps standard was accepted in many cities on all continents by a critical mass of digital platforms involved in this market, passengers were able to interact at a lower transaction cost than would be the case if digital platforms were competing between incompatible standards.[56] Hence, a network is a market subject to economies of scale in consumption.[57]

Network markets normally have three main features: network effects, expectations and lock-in effects. Network effects denote that the larger the number of members of a given network, the better for each of them. An example of network effects can be seen in the ride-sharing industry. Indeed, the relative value of a ride-sharing app is related to the number of ride-sharing users participating in the network, like passengers and car drivers.

Expectation is also a pattern in all network markets. Indeed, one standard may prevail over another, not because it is better, but because an influential player sponsors it. For example, the immediate success of the iPad concept is attributed not to any technical superiority, but because Apple supported it.

Lastly, a lock-in effect is recurring in all network markets since better products that arrive later in time may be unable to displace an inferior one that arrived earlier. The QWERTY typewriter keyboard is an instance of the lock-in effect.[58]

D. An Example of a Network Market: Two-Sided Platforms

[56] H. R. Varian, *Competition and Market Power*, in THE ECONOMICS OF INFORMATION TECHNOLOGY: AN INTRODUCTION, Cambridge University Press, 38 (H. R. Varian, J. Farrell & Carl Shapiro eds., 2004).
[57] *See*, e.g., Richard Posner, ANTITRUST LAW, Chicago: University of Chicago Press, 2nd ed. (2001), 246. *See also* Hovenkamp, THE ANTITRUST ENTERPRISE, *supra* note 33 at 277.
[58] Stanley M. Besen and Joseph Farell, *Choosing How to Compete: Strategic and Tactics in Standarization*, 8 *JOURNAL OF ECONOMICS PERSPECTIVES 2, 117-131 (1994)*, at 119.

The French economist Jean Tirole and his co-authors were the first to systematically study the concept of two-sided platform. His research on the topic dates back to 2003.[59] It was one of the reasons the Swedish Academy of Science used to ground his Nobel Prize in Economics in 2014.[60]

In some platforms, users are homogeneous, i.e., they all perform similar functions. For instance, although participants in a telephone network originate and receive calls, these roles are transient. Almost all phone users play both roles at different times.[61] Platforms with homogenous users are called one-sided to distinguish them from two-sided platforms, which have two distinct user groups whose respective members consistently play the same role in transactions.[62] Hence, while the telephone network is a one-sided platform, the advertising-supported media, as seen in the Times-Picayune Supreme Court case, is a two-sided platform.[63]

In a two-sided platform, members of each group exhibit a preference regarding the other group, e.g., the number of users in the other group; these are called cross-side network effects. For instance, one could state that the larger the number of readers of a given newspaper, the better for the newspaper's advertisers.

Likewise, the members of each group may also have preferences on the number of users in their group; these preferences are called same-side network effects. To set an example, the larger the number of readers of a printed newspaper, the better for the readers because this may minimize the newspaper's unit price for economy-of-scale reasons.

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[59] The seminal papers on two-sided platforms are the following: Jean-Charles Rochet and Jean Tirole, *Platform Competition in Two-Sided Markets*, 1(4) J. EUR. ECON. ASSOC. 990-1029 (June 2003). *See also* Jean-Charles Rochet and Jean Tirole, *Two-Sided Markets: A Progress Report*, 35 RAND. J. ECON. 645 (2006) [hereinafter, A PROGRESS REPORT].

[60] Juan Tirole: Market Power and Regulation, Scientific Background on the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, 2014. Available at: https://www.nobelprize.org/uploads/2018/06/advanced-economicsciences2014.pdf

[61] Rochet & Tirole, A PROGRESS REPORT, *supra* note 59 at 646.

[62] *Id*, 664.

[63] *See supra* Part I.B.

Cross-side network effects can be positive but they can also be negative, as with YouTube viewers' reactions to advertising. Same-side network effects can also be either positive or negative. The benefits of swapping CDs with more peers and the desire to exclude direct rivals from an online business-to-business marketplace are examples of positive and negative same-side network effects, respectively.[64]

The inapplicability of the Coase theorem is necessary for two-sidedness.[65] The Coase theorem states that if property rights are clearly established and tradeable, and if there are no transaction costs like asymmetries of information, the outcome of the negotiation between two parties will be Pareto efficient, even in the presence of externalities.[66] So, one of the key conditions for the platform's two-sidedness is the unavailability of Coasian bargaining between the two sides of a platform. For example, it would be unfeasible for the newspaper's advertisers to match with readers of a given newspaper without the mediation of the newspaper.[67]

Two-sided platforms usually perform three key functions. They serve as matchmakers to facilitate exchanges by making it easier for members of each group to find one another. They build audiences because this makes it more likely for members of a group to find a suitable match. Finally, they provide shared resources and reduce the costs of providing services to both groups of users.[68]

Uber is an example of a two-sided platform as it is like advertising-supported media. Indeed, Uber is a dual trader in separate though interdependent markets. It provides a cost-saving platform (a mobile app) to match car drivers with extra carrying capacity (car drivers)

[64] Rochet & Tirole, *A Progress Report*, *supra* note 59 at 649.
[65] *Id.*, 645.
[66] R. H. Coase, *The Problem of Social Cost*, 3 J. LAW ECON. 144 (October 1960).
[67] Dirk Auer, & Nicolas Petit, *Two-Sided Markets and the Challenge of Turning Economic Theory into Antitrust Policy*, 60(4) ANTITRUST BULLETIN (2015). Available at https://ssrn.com/abstract=2552337.
[68] *Id.*.

with customers who need to go to places not well served by traditional transportation systems (passengers).[69] This community of car drivers is, in turn, sold by Uber to passengers.[70]

Like any other two-sided platform, Uber enlarges its network by, for example, subsidizing one side of the platform and charging the other side the full price.[71] Car drivers pay nothing to register and switch on their availability on the Uber Mobile App. In return, car drivers are rewarded by dynamically priced fees paid by passengers based on supply and demand conditions. Uber receives a commission from each booking.

Thus, Uber aims to minimize transaction costs between car drivers and passengers in the online transportation market.[72] Uber's web search engine delivers a big enough community of car drivers for passengers to use the Uber platform, thus solving the "chicken-and-egg" problem of getting both sides of the platform on board, in adequate numbers, to create value.[73]

Uber is a member of the noncollusive oligopoly of ridesharing online platforms. Indeed, Uber and its main competitors like Lyft, Didi and Curb have the incentive to implicitly (rather than explicitly) cooperate to maximize their payoffs as a group in this global market.[74] Coordinating strategic litigation aimed at setting legal precedents against local regulations protecting the traditional taxi market is an example of cooperation in the noncollusive oligopoly of ridesharing online platforms.[75]

In sum, two-sided platforms are dual traders in separate though interdependent markets, as defined by the U.S. Supreme Court.[76] Advertising-supported media and Uber are both

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[69] *See* Evans & Schmalensee, MATCHMAKERS, *supra* note 51, chapter 3.
[70] Thomas R. Eisenmann, Geoffrey Parker & Marshall Van Alstyne, *Strategies for Two-Sided Markets*, 84(10) HARV. BUS. REV. 92 (2006).
[71] Rachet & Tirole, A PROGRESS REPORT, *supra* note 59.
[72] Evans & Schmalensee, MATCHMAKERS, *supra* note 54 at 8, 40 and 105. In a similar vein, *see* David A Vise, THE GOOGLE STORY, Pan Books, 33 (2008).
[73] Rochet & Tirole, *Platform Competition in Two-Sided Markets*, *supra* note 59 at 990. *See also* Evans & Schmalensee, MATCHMAKERS, *supra* note at 51.
[74] Uber's main competitors are listed at https://seoaves.com/uber-competitors/.
[75] See, e.g., Uber BV and others (Appellants) v. Aslam and others (Respondents) - The Supreme Court (2021) (holding that drivers working for Uber are not independent contractors but "workers" for the purposes of the U.K. Employment legislation).
[76] Times–Picayune, *supra* note 27.

representative examples of two-sided platforms because they aim to both minimize transaction costs (such as search and interaction costs) between two distinct groups of users and make a profit. Finally, as is normally the case in all network markets, core patterns of two-sided platforms include network, expectation and lock-in effects.

The following sections will delve into the conceptual and historical aspects of tax hubs. Specifically, they will explore the distinction between tax hubs, tax havens, investment hubs, and offshore finance, and examine the durability of the tax hub market throughout the past century. The aim is to lay the groundwork for explaining how tax hubs act as matchmakers for the ITR, like the way Uber provides its services in its market.

E. Naming It: Tax Havens, Investment Hubs, Tax Hubs or Offshore Finance?

Four alternative names have been used to denote the intermediation role played by this group of jurisdictions in the ITR: tax haven, investment hub, tax hub and offshore finance.

There is a strategic difference between tax havens and tax hubs.[77] Indeed, four elements capture the scope of the tax havens concept: 1) low or no taxation that is not correlated with high revenue, relative to needs, from other sources;[78] 2) the attraction of profit shifting more than economic activity. For example, total inward foreign direct investment (FDI) position above 100 per cent over gross domestic product (GDP);[79] 3) imperfect sharing information;[80] 4) no membership with at least one international organization with influence on global standard-setting in international taxation, like the League of Nations, OECD, and the G20.

[77] *See*, e.g., A. Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance supra* note 34.
[78] Michael Keen & Kai Konrad, THE THEORY OF INTERNATIONAL TAX COMPETITION AND COORDINATION, *supra* note 34 at 50.
[79] *Id.* See *supra* Part I (discussing the meaning of the tax hub concept).
[80] *Id.*

This four-prong test is helpful to distinguish tax havens like the British Virgin Islands (BVI) from tax hubs like the Netherlands. One difference between these two jurisdictions is that while BVI is not a member of the OECD, the Netherlands is a member of this international institution, which may signal the Netherlands' potential influence on the OECD's agenda-setting, and its reputation as a tax hub.[81]

This strategic difference between tax havens and tax hubs has a range of implications. For example, tax hubs usually play a *front-office* role with endpoint jurisdictions, while tax havens play a *back-office* position, i.e., no direct interaction with endpoint jurisdictions. This different allocation of roles between tax havens and tax hubs can be seen in tax planning like the one involved in the Apple Ireland State Aid case. Indeed, while Ireland served as a tax hub directly connected with endpoint jurisdictions such as the U.S. and continental Europe, Bermuda, as a tax haven, was only directly connected to Ireland.[82] So, tax hubs and tax havens are different but interconnected markets and, as such, are subject to reciprocal network externalities.

In sum, endpoint jurisdictions like G20 countries normally deal with tax hubs and tax havens differently regarding their international tax policy, while G20 countries usually have tax treaties with tax hubs but not with tax havens. This endpoint jurisdictions' tax policy might be grounded on reputational considerations.

[81] *See supra* Part I and note 15 (discussing the different roles played by tax hubs and tax havens in international tax planning according to the academic literature). See also A. Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance supra* note 34.

[82] In 2014, Apple had two subsidiaries in the Republic of Ireland. One of them was Apple Operations Ireland (AOl), which was a holding company incorporated in Ireland. AOl acted as an internal financing company for Apple. OAI claimed not to be considered as an Irish tax resident but to be deemed as tax resident in Bermuda on the grounds that Bermuda was where its management was based. This type of company is frequently known as a *Bermuda Black Hole* when used in corporate tax structuring. *See* Edward D. Kleinbard, *Stateless Income*, FLORIDA TAX REVIEW, *supra* note 5 at 709. *See also* Apple Sales International and Apple Operations Europe v. European Commission, *supra* note 6.

The investment hub label, in turn, is problematic. It does not denote that the primary role of these jurisdictions is to minimize one specific type of transaction cost: the effective tax rate on cross-border capital.[83]

Finally, the tax hub option is the best available name to refer to this intermediation market. It has no negative connotation; hence, it covers both positive and negative network effects. Moreover, the tax hub concept denotes that a leading service offering to their users is to minimize cross-border taxation of mobile firms.

What is the history of tax hubs? Should they be considered part of the offshore finance market? Global tax hubs have their origins in financial hubs that appeared over two hundred years ago in places like Calcutta (now Kolkata) in India and Penang in what is today Malaysia. Switzerland also emerged as a financial hub and tax haven in 1816 and later became a tax hub, given its tax treaty network with large endpoint jurisdictions.[84]

As time went by, Hong Kong emerged as the leading financial hub in Asia, offering matchmaking services between providers of capital like Western bankers and Chinese businesspeople after China began to open its economy under Deng Xiaoping in 1978.[85]

Some financial hubs, like Switzerland and Hong Kong, eventually expanded to become tax hubs.[86] Other jurisdictions like Mauritius have become tax hubs rather than financial hubs. A third group of locations, like Los Angeles, are financial hubs that are *not* tax hubs.[87]

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[83] Figure 5 *infra* offers seven examples of tax hubs' matching services to minimize the relevant effective tax rate on all continents.

[84] Guex, *The Emergence of the Swiss Tax Haven*, *supra* note 47. Switzerland has tax treaties with over 100 jurisdictions on all continents, https://www.sif.admin.ch/sif/en/home/bilateral-relations/tax-agreements/double-taxation-agreements.html

[85] Y.C. Jao, *The Rise of Hong Kong as a Financial Center*, 19 ASIAN SURVEY 7, 674-694 (1979).

[86] Leo F. Goodstadt, UNEASY PARTNERS: THE CONFLICT BETWEEN PUBLIC INTEREST AND PRIVATE PROFIT IN HONG KONG, Hong Kong University Press (2005); Leo F. Goodstadt, PROFITS, POLITICS AND PANICS: HONG KONG'S BANKS AND THE MAKING OF A MIRACLE ECONOMY, 1935-1985, Hong Kong University Press (2007); Michael Littlewood, TAXATION WITHOUT REPRESENTATION, *supra* note 47. *See also* J. Hines, *Treasure Islands*, *supra* note 33.

[87] *What Makes a Global Financial Centre*, THE ECONOMIST, (July 14, 2022) (offering a 2022 index of global financial hubs. The 2022 top ten jurisdictions are the following: New York, London, Hong Kong, Shanghai, Los Angeles, Singapore, San Francisco, Beijing, Tokyo and Shenzhen), https://www.economist.com/the-economist-explains/2022/07/14/what-makes-a-global-financial-centre.

More generally, when tax hubs are also financial hubs (offshore finance markets), these jurisdictions may offer three core services to their two different types of users: endpoint jurisdictions and international investors. On the one hand, the offshore finance market may provide endpoint jurisdictions with preferential liquidity[88] and the politics of the invisible. [89] On the other hand, the offshore finance market may provide international investors with the opportunity to minimize taxes.[90] Andrea Binder predicates the following on the politics of the invisible:

> The possibility of the politics of the invisible means that the state uses the obscure nature of offshore financial services to pursue contradictory economic policies simultaneously without being called out on it. It is the state trump's card in the offshore game".[91] Tax discrimination between mobile and non-mobile capital is a case in point.[92]

As previously discussed, this paper offers a positive theory for comprehending the function of tax hubs in the ITR in the broader context of the offshore finance market. As a result, the model assumes that the offshore finance market comprises jurisdictions that provide both tax *and* financial hub services, as this bundle is a common trend worldwide.[93] The services offered by the offshore finance market can be for the public good,[94] such as providing preferential liquidity to endpoint jurisdictions, which, for example, allowed Germany to fund its

[88] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 77 and 114 (arguing that, "[…] offshore finance] provided [Germany] with access to the preferential liquidity when there were insufficient domestic means to cover the costs of reunification").
[89] *Id.* at note 39. Binder offers examples of the politics of the invisible in Germany and the United Kingdom. On the Germany front she states: "Germany could be a high tax country at home and allow an exclusive set of actors to reduce its tax burden offshore. It allowed financiers to create money offshore, contributing to the provision of preferential liquidity, especially in London and Luxembourg. In this way, the financiers could reap the benefits–profitable banking–whilst keeping the risk and costs outside the domestic [German] banking system" (*Id.* at 106/107; "In summary, offshore money creation, money laundering, and tax planning became established practices in the Bonn and Berlin republics" (*Id.* at 113). On the United Kingdom front, Binder maintains that "[the U.K.'s contemporary exposure to offshore finance remains […] largely invisible. There are no national statistics tracing either offshore money creation or offshore tax planning" (*Id*. at 58-59).
[90] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 106 and 108.
[91] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 114.
[92] *See infra* Part V.B. (discussing tax discrimination and tax hubs).
[93] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 180.
[94] Juan Tirole, ECONOMICS FOR THE PUBLIC GOOD, Princeton University Press, 2017 (defining public good as "[…] our collective aspiration for society [under the veil of ignorance, as coined by John Rawls]").

reunification.[95] Additionally, the offshore finance market also caters to the needs of elites who may require the politics of the invisible, such as tax planning only available for mobile investors and the correlative implicit tax discrimination supported by endpoint jurisdictions.[96] Hence, offshore finance may have transformed the constitution of state power.[97]

F. The Resilience of the Tax Hubs Market Since 1923

The League of Nations first acknowledged the existence of tax hubs in the early 1920s.[98] Indeed, the 1923 Four Economists' Report proposed the original architecture of the ITR with the aim of solving the international double taxation problem;[99] the Four Economists' Report included the first available identification of tax hubs:[100]

> […] a legal entity in the form of a company is interposed between the resident in country A [the country of residence] and the farm in country B [the country of source]. The rent or produce of the farm is only one of the items of income of this [intermediate] legal entity. This [intermediate] company [located in a tax hub] receives a real or constructive rent [from country of source B], it mixes this rent with losses from other sources, and as a result, it pays a very small sum in the shape of dividends to the resident in country

[95] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 77 (arguing that "offshore finance provided the state with access to preferential liquidity when there were insufficient means to cover the cost of reunification").
[96] Hines, *Treasure Islands*, *supra* note 34, 104-105 (arguing that "[…] tax haven policies may benefit other economies and even facilitate the effective operation of the tax systems of other countries. Tax havens may permit other countries to sustain high domestic tax rates that are effectively mitigated for mobile international investors whose transactions are routed through tax havens").
[97] Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 180 (arguing that "the empirical analysis reveals that offshore finance provides the state with an extraterritorial vehicle that enables a cover up of the deep political conflicts over how to finance the state or to what extent the revenue is used to mitigate class conflicts. Brazil and Mexico's benefits from offshore finance manifested in overcoming the economic elite's resistance to finance the state via taxation. Britain's and Germany's benefits from offshore finance took the form of overcoming conflicts over redistributional policies. That is, in the age of offshore finance, the constitution of state power is not relegated exclusively to the domestic realm. Instead, sates use the offshore world with its low-regulatory, low-tax regimes that make financial flows invisible, to advance the own political goals. Offshore finance transforms the constitution of state power").
[98] THE 1923 FOUR ECONOMISTS REPORT, *supra* note 16 at 45.
[99] The authors of THE 1923 FOUR ECONOMISTS REPORT were Professor Bruins of the Commercial University, Rotterdam, Professor Senator Luigi Einaudi of Turin University, Professor Edwin R.A. Seligman of Columbia University, New York, and Sir Josiah Stamp of London University.
[100] The FOUR ECONOMISTS REPORT was submitted to the League of Nations on April 5, 1923.

> A. Has that resident [in country A] received, or has he not, the rent of the farm [from the country of source B]? […].[101]

Switzerland was the first country to request the League of Nations on June 4, 1923, i.e., two months after the submission of the Four Economists' Report, not to focus on solving the problem of international tax evasion. This Swiss request can be inferred from the minutes of a crucial meeting at the League of Nations in Geneva on June 4, 2023.[102] As Sunita Jogarajan maintains:

> D'Aroma (Chairman, Italy) suggested [in 1923] that the 1925 Experts [should] consider tax evasion first, thus reinforcing the finding that the trigger for the [1925] conference was tax evasion and not double taxation. […]. Blau (Switzerland), however, insisted that the two issues should be dealt with separately. Switzerland could conclude [tax treaties] but could not conclude any treaties targeting tax evasion due to political circumstances [sic]. The Swiss government did not envision participating in any measures relating to administrative or judicial assistance.
>
> Clavier (Belgium) thought that the two issues [i.e., tax evasion and double taxation] were connected, but agreed to address them separately given Blau's comments. D'Aroma, while also agreeing that the two issues were connected, suggested that they be addressed separately, given the Swiss position. The Experts agreed with the latter and decided to consider double taxation first.[103]

This disagreement among the League of Nations presumably explains why the issues of tax evasion and double taxation were dealt with in different model tax conventions in 1928. The issues of tax evasion and avoidance (and connected topics like international double non-taxation and tax hubs) would remain dormant for several decades.

The first unilateral attempt to deal with international non-taxation and tax hubs emerged when the U.S. introduced controlled foreign corporation (CFC) legislation during the Kennedy Administration in 1962. CFC legislation aims to limit the deferral principle with respect to

[101] THE 1923 FOUR ECONOMISTS REPORT, *supra* note 16 at 45.
[102] Minutes of the First Meeting of the First Session of the Committee of Government Experts on Double Taxation and the Evasion of Taxation, Geneva, 11:00 am, June 4, 1923, https://adc.library.usyd.edu.au/view?docId=split/law/xml-main-texts/brulegi-source-bibl-2.xml;collection=;database=;query=;brand=default
[103] Jogarajan, *Double Taxation and the League of Nations*, *supra* notes 2, at 30 and 31.

foreign source income earned by U.S. resident corporations and individuals through CFC corporations based in certain jurisdictions like Switzerland.[104] CFC legislation was eventually transplanted to all G20 countries and beyond. CFC legislation has failed to solve the problem of international double non-taxation via tax hubs.[105]

The OECD, in turn, first attempted (and failed) to address the tax hub problem in 1998 in the context of the multilateral project entitled Harmful Tax Competition Report.[106] This failure was triggered by the lack of support from endpoint jurisdictions like the United States and tax hubs like Luxembourg and Switzerland.[107]

The United Nations first identified the tax hub problem in 2015, calling this group of countries "investment hubs". Furthermore, the UN reported that some 30 per cent of cross-border corporate investment stocks had been routed through tax hubs before reaching their destination as productive assets.[108]

The OECD openly refers to investment hubs since 2020.[109] Moreover, the OECD has noted that the tax hub market is growing despite major reforms implemented since the OECD/G20 Base Erosion and Profit Shifting (BEPS) Reports published in 2015 (BEPS One).[110] Indeed, the OECD 2020-2021 data shows material differences in the distribution across jurisdiction

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[104] J. Clifton Fleming, Acknowledging (Celebrating Regretting?) Sixty Years of Subpart F, INTERTAX, vol. 51, Issues 6 & 7 (arguing that "[…] CFC legislation in the U.S. and other developed countries has largely failed as a measure to curtail deferral and its twin evils of location distortion and profit shifting"). James R. Hines and Eric Rice, *Fiscal Paradise: Foreign Tax Havens and American Business*, THE QUARTERLY JOURNAL OF ECONOMICS, February 1994) 149-182, at 154 (arguing that "[…]U.S. MNEs dramatically increased their use of tax haves in the early 1980s").

[105] *Id.*.

[106] OECD (1998), *Harmful Tax Competition: An Emerging Global Issue*, OECD PUBLISHING, Paris,https://doi.org/10.1787/9789264162945-en.

[107] Jogarajan & Stewart, *Harmful Tax Competition: Defeat or Victory*, 22 AUSTRALIAN TAX FORUM 1, vol. 22, 3-17, 2007.

[108] WORLD INVESTMENT REPORT 2015, United Nations, 188, https://unctad.org/system/files/official-document/wir2015_en.pdf.

[109] *Id.*.

[110] OECD BEPS 2015 ACTION PLANS, at https://www.oecd.org/tax/beps/beps-actions/. See OECD CORPORATE TAX STATISTICS, 2nd and 3rd editions related to 2020 and 2021, respectively. These two reports are available at https://www.oecd.org/tax/tax-policy/corporate-tax-statistics-second-edition.pdf and https://www.oecd-ilibrary.org/docserver/237fb604-en.pdf?expires=1691442871&id=id&accname=guest&checksum=B1A24EDC8251214C69501EAD9F8ACAC6 *See also* Arjan Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance* (May 11, 2021), *supra* note 34 at 27 (arguing that the role of conduit countries and tax havens has been increasing).

groups of employees, tangible assets and profits. For instance, MNEs report on average a relatively high share of profits in tax hubs (25 per cent in 2020 and 26 per cent in 2021) compared to their share of employees (4 per cent in 2020, 3% in 2021) and tangible assets (11 per cent in 2020 and 14 per cent in 2021).[111] The OECD has now conceptualized the tax hub problem as a misalignment between where profits are reported (tax hubs and tax havens) and where economic activities occur (endpoint jurisdictions).[112]

In sum, the tax hub market survived all unilateral and multilateral attempts to limit its scope over the last century, from 1923 to 2023. It remains to be seen if the current multilateral approach named Global Anti-Base Erosion Proposal (GloBE)—Pillar Two or the minimum corporate tax rate will be effective to do so.[113]

III. A THEORY OF GLOBAL TAX HUBS

It is time to ground the theory according to which the global tax hubs market is a noncollusive oligopoly of low-tax jurisdictions that, as two-sided platforms, provide an intermediation service to two distinct types of users, specifically international investors and endpoint jurisdictions.[114]

The matching service aims to connect both types of users in such a way as to minimize transaction costs. The service includes minimizing the international investor's effective tax rate and maximizing the endpoint jurisdiction's inward capital like foreign direct investment.

[111] OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT, TAX CHALLENGES ARISING FROM THE DIGITALISATION, ECONOMIC IMPACT ASSESSMENT 2020, https://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-economic-impact-assessment-0e3cc2d4-en.htm.
[112] The OECD maintains that the 2021 data are indicative of a misalignment between the location where profits are reported and the location where economic activities occur. *See supra* note 110.
[113] *See infra* Part IV.B (discussing if the tax hub market can survie pillar two). *See* Global Anti-Base Erosion Proposal (GloBE) – Pillar Two, https://www.oecd.org/tax/beps/public-consultation-document-global-anti-base-erosion-proposal-pillar-two.pdf.pdf
[114] As stated above, the endpoint jurisdiction concept includes both the country of residence and the country of source.

"Coopetition" may emerge in this oligopoly.[115] The tax hub matching service is normally offered for something equivalent to a fee.[116]

Two assumptions are made here:

(1) Jurisdictions (including global tax hubs) are regularly engaged in international tax competition within a compatible standard (rather than between incompatible standards).[117] The current compatible standard is the OECD Model and similar soft laws, which channels international tax competition into areas that are not regulated by the OECD Model; the definition of corporate residence is a case in point.

(2) The global tax hub market is a noncollusive oligopoly because their few members coordinate their interests in an implicit, rather than explicit, way.[118] Moreover, each tax hub member of this market is in a never-ending search for comparative advantages in terms of, for example, industry and regional scope. For example, a tax hub might be willing to transform itself as the leading gateway of U.S. digital MNEs into the European Union.[119]

The following paragraphs offer a comparison between Uber and a representative tax hub to illustrate the two-sided platform architecture of both network markets**.**[120]

A. Mission, Users, Fees and Feedback

[115] *See supra* Part II.B (defining competition within a compatible standard).
[116] *See* Wolfgang Schön, *Playing Different Games? Regulatory Competition in Tax and Company Law Compared*, 45(2) COMMON MARKET LAW REV. 331-365 (2005), arguing that tax havens may successfully raise revenue even if the nominal tax rate on profits is zero through registration fees or levies and charges on the financial service industry that facilitates MNE operations in the tax hub. *See also* Omri Marian, *The State Administration of International Tax Avoidance*, *supra* note 42.
[117] *See supra* Part II.B (defining competition within a compatible standard).
[118] *See infra* Part IV.A (framing tax hubs as a noncollusive oligopoly of two-sided platforms).
[119] The Top 100 Digital MNEs, *World Investment Report 2017*, Chapter IV, UNCATD, 2017, https://unctad.org/system/files/official-document/wir2017_en.pdf.
[120] Anthony Ogus, *The Economic Basis of Legal Culture: Network and Monopolization*, 22 OJLS 419 (2002) (arguing that the law is an example of a network market). See also Katharina Pistor, THE CODE OF CAPITAL. HOW THE LAW CREATES WALTH AND INEQUALITY, Princeton University Press 2019, at 132 (maintaining that global capitalism is built around two domestic legal systems, the laws of England and those of New York State, complemented by a network of international treaties).

The reason for choosing Uber as a comparator to tax hubs is threefold. First, Uber and a representative tax hub are involved in a basic intermediation model that works in pre-tax terms as follows. It is economically beneficial to rely on an intermediary (and incur the cost of doing so) if the cost is lower than the benefit from pairing potential contracting parties that would not otherwise find each other. That is the story of all intermediations. Using the zero-transaction cost case model as a good, frictionless baseline is helpful to illustrate the strategic structure of the tax hub market from a positive, rather than normative, dimension.

Second, Uber and a representative tax hub typically disrupt their markets. For example, Uber has disrupted the traditional taxi market in all major cities on all continents since it was founded in 2009.[121] Similarly, the tax hub market has increasingly disrupted the international tax base allocation of endpoint jurisdictions by means of base erosion and profit shifting since at least the late 1950s. This timing is correlated with the emergence of offshore finance in which the Eurobond market, as seen in the Northern Indiana case, is an example.[122] Moreover, the growing number of U.S. multinational firms with Swiss subsidiaries since the 1950s is a case in point.[123]

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[121] Hampshire, Robert and Simek, Chris and Fabusuyi, Tayo and Di, Xuan and Chen, Xi, *Measuring the Impact of an Unanticipated Disruption of Uber/Lyft in Austin, TX* (May 31, 2017), SSRN: https://ssrn.com/abstract=2977969

[122] Binder, *Offshore Finance & State Power*, *supra* note 39 at 25. See *supra* Part I. A (discussing the Northern Indiana case).

[123] *See* Steven Dean, *Surrey's Silence: Subpart F and the Swiss Subsidiary Tax that Never Was* (March 27, 2023). Law and Contemporary Problems, BROOKLYN LAW SCHOOL, LEGAL STUDIES PAPER No. 728, https://ssrn.com/abstract=4401208 (arguing that the rise of Swiss subsidiaries of leading U.S. multinational since the late 1950s as the driving force of the emergence of Subpart F as anti abuse legislation in the U.S. in 1963). See also US: USCFC, 17 Oct. 1979, E.I. DuPont de Nemours & Co. v. United States, 608 F.2d 445, 447 (Ct. Cl. 1979), Case Law IBFD (The Dupont case offers an example of base erosion and profit shifting by a US MNE by using a Swiss subsidiary.The facts in DuPont were favorable to the IRS, the US tax authority, since the taxpayer admitted that it had set transfer prices with its low-tax (Swiss) marketing subsidiary, DISA, with no reference to anything but maximizing DISA's profitability. An internal DuPont memo discovered by the service read as follows: "It would seem to be desirable to bill the tax haven subsidiary at less than an 'arm's length' price because: (1) the pricing might not be challenged by the revenue agent; (2) if the pricing is challenged, we might sustain such transfer prices; (3) if we cannot sustain the prices used, a transfer price will be negotiated which should not

Third, Uber and a representative tax hub have a functionally similar mission: to minimize transaction costs in their respective intermediation markets—rideshare services on the one hand and cross-border investments on the other—*and* make a profit. Both intermediation networks have two distinct groups of users, namely car drivers and passengers, who interact in the Uber mobility segment, whereas international taxpayers (such as MNEs) and endpoint jurisdictions do so in the ITR. Moreover, the systemic feedback of the users of both Uber and the tax hub is relevant for both platforms to remain competitive in their respective markets.[124]

Similarly to Uber, tax hubs usually expect to profit by getting something functionally equivalent to a fee from their intermediation services. For example, a representative tax hub receives a *de facto* commission from each matching. The MNE's hiring of local legal and accounting services (with their corresponding income and/or payroll tax revenues) in the relevant tax hub is a telling example.[125]

Tax hubs may enlarge their network by subsidizing one side of the platform and charging the other side a price. For example, endpoint jurisdictions pay nothing when concluding tax treaties with global tax hubs.[126] In so doing, endpoint jurisdictions are expected to be rewarded with, for example, FDI channeled by MNEs via the relevant tax hub and preferential liquidity.[127]

The relative relevance of a given tax hub in its oligopoly is a function of a number of elements aiming to reduce transaction costs such as taxes. The size and extent of benefits of

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be more than an 'arm's length' price and might well be less; thus we would be no worse off than we would have been had we billed at the higher price".

[124] *See* Figures 1 and 2 below.

[125] *See* Wolfgang Schön, *Playing Different Games? supra* note 116. *See also* Omri Marian, *The State Administration of International Tax Avoidance*, *supra* note 42 (studying the fee charged by Luxemburg for its service in the international tax avoidance market).

[126] Endpoint jurisdictions eventually pay a price by forgoing tax revenues on FDI channelled via the material tax hub. The Andolan case in India is a telling example. *See infra Part III.E (*discussing the entry and usage fees and the inapplicability of the Coase theorem to the tax hub market).

[127] Binder, OFFSHORE FINANCE AND STATE POWER, *supra* note 39 at 77 (arguing that offshore finance provided Germany with access to preferential liquidity when there were insufficient domestic means to cover the cost of the German reunification).

the tax hub network includes international regulations like tax treaties with endpoint jurisdictions. The connectivity between Ireland and endpoint jurisdictions in the European Union and the U.S. is assumed to be a case in point, as shown in the Apple Ireland state aid case.[128] For example, Apple Inc., a U.S. MNE, was able to be subject to an effective tax rate below 1 per cent in 2014 on its transactions with E.U. customers channeled via Ireland.[129]

Figure 1 below illustrates the two-sided platform structure of Uber. Figure 2, in turn, crystallizes the two-sided platform structure of a representative tax hub. The numbers visible within Figures 1 and 2 denote the sections of this paper explaining the role of each component of both figures. For example, III.B in both figures denotes that the cross-side network effect is explained supra in Part III.B.

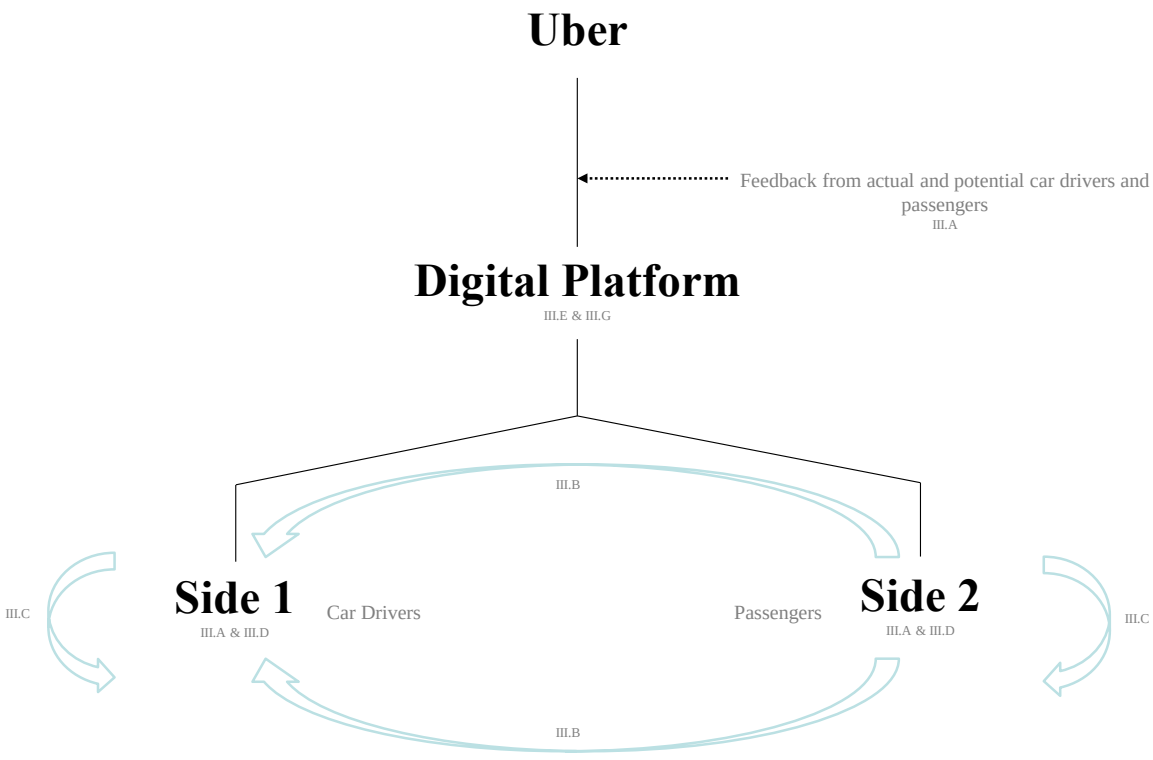

Figure 1: Uber as a two-sided platform

[128] *See* the APPLE IRELAND CASE, *supra* note 6.
[129] *See* Kleinbard, *Apple's Ireland Tax Avoidance*, *supra* note 6. *See also* Antony Ting, *iTax - Apple's International Tax Structure and the Double Non-Taxation Issue*, 2014(1) BRIT. TAX REV. 40 (2014) (arguing that "[…] from 2009 to 2012, Apple successfully sheltered US$ 44 billion from taxation anywhere in the world").

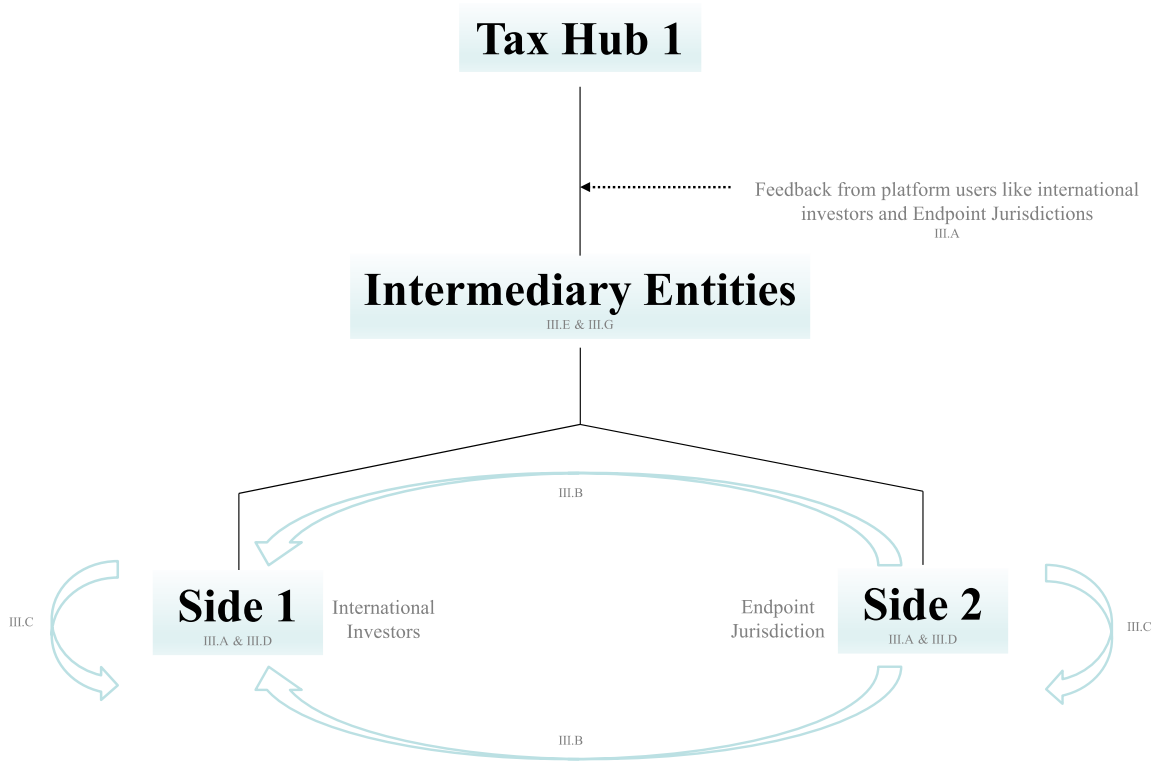

Figure 2: Tax hubs as two-sided platforms

The reason for using Uber as a point of comparison for tax hubs is to have a deeper understanding of the role and function of tax hubs in light of the two-sided platform model, which is deemed the most helpful. This comparative analysis does not ignore the differences between Uber and tax hubs explored *infra* in Part V.B. However, these differences do not affect the important insights that can be drawn from that comparison through antitrust analysis.

Figures 3 and 4 below model the ANDOLAN and NORTHERN INDIANA tax hub examples emerging in the global south and global north, respectively, using the two-sided platform concept as a theoretical framework. Part I.A *supra* outlines the facts of both disputes and offers an analysis of the role of the tax hubs involved there.

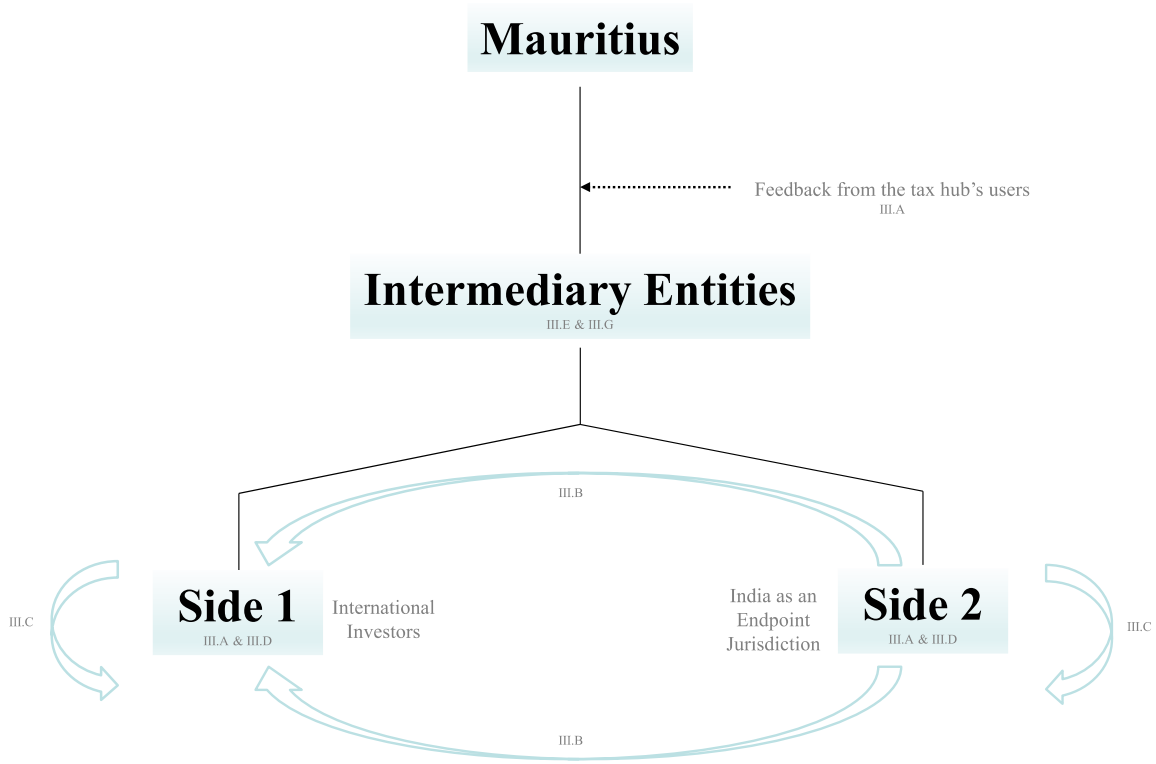

Figure 3: Andolan case (India)

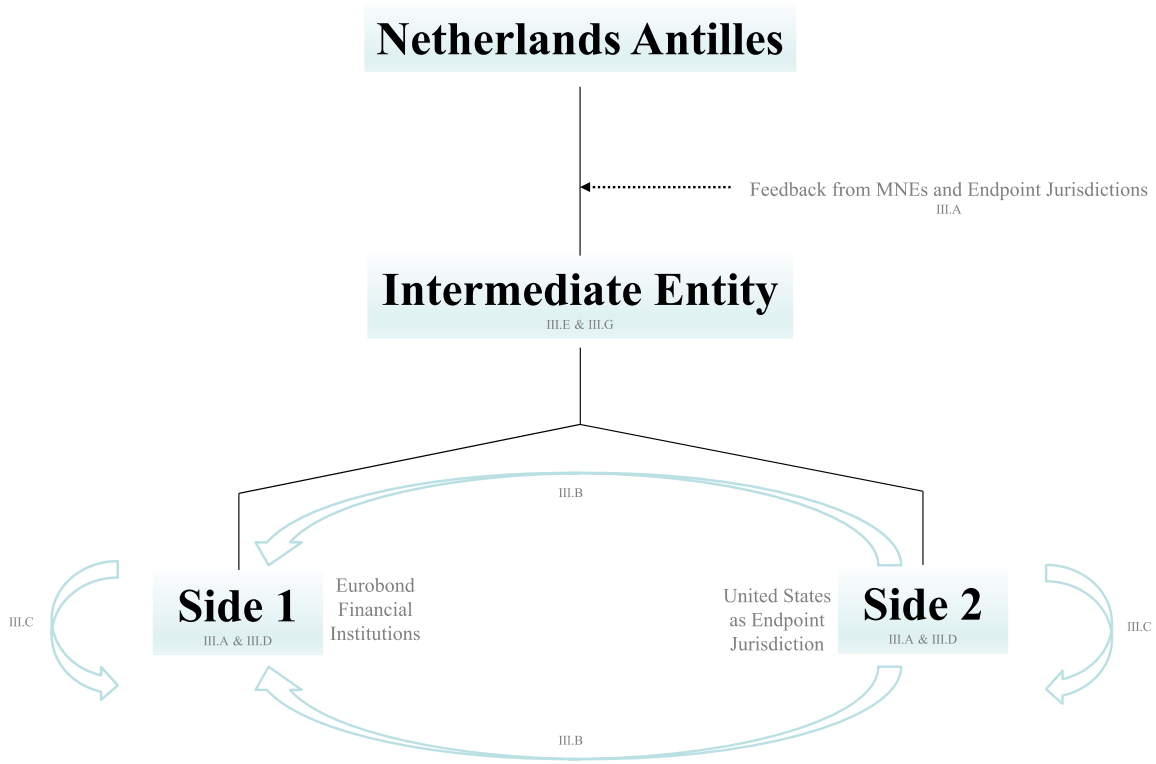

Figure 4: Northern Indiana case (US)

B. Network Effects

This section focuses on both the cross-side and same-side network effects of Uber and tax hubs as two-sided platforms. This analysis is elaborated sequentially.

Let us start with the cross-side network effects. Both Uber and representative tax hub platforms include positive cross-side network effects. Indeed, the more passengers are on board the Uber platform, the better for car drivers (and vice versa). A similar pattern can be seen between tax hubs, international investors and endpoint jurisdictions. For example, the better the connectivity of a given tax hub with one or more endpoint jurisdictions, the more incentives

MNEs will have to channel their FDI via that tax hub. This explains why prominent members of the tax hub market (such as Switzerland) normally have a wide network of treaties with large endpoint jurisdictions (like the People's Republic of China and the U.S.).[130] Another example of a cross-side network effect can be seen when the highest court of an endpoint jurisdiction explicitly accepts a specific tax hub as the established low-tax gateway. The Indian Supreme Court's decision in the ANDOLAN CASE accepting tax treaty shopping via Mauritius as acceptable tax avoidance in 2004 is a case in point. By then, almost 50 per cent of FDI to India was channeled via Mauritius.[131]

Both Uber and a representative tax hub may also have negative cross-side network effects. For example, the growing passenger preference to use Uber or similar platforms for their mobility needs may squeeze out traditional taxi drivers in the ride-hiring market.[132] Similarly, an international investor may reject using a tax hub if the tax hub's declining reputation in endpoint jurisdictions might increase the reputation cost of the investor from using that specific hub. Panama, after the publication of the Panama Papers leak in 2016, is a case in point.[133]

It is now time to focus on the same-side network effects. Both Uber and a representative tax hub include same-side network effects. For example, the more car drivers successfully use Uber as a ridesharing vehicle, the more car drivers will probably join the Uber platform.[134]

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[130] See OECD (2019), *Making Dispute Resolution More Effective – MAP Peer Review Report, Switzerland (Stage 2): Inclusive Framework on BEPS: Action 14*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, https://doi.org/10.1787/77ab98a6-en (Appendix A shows that the Swiss tax treaty network consists of over 100 bilateral conventions, including conventions with all G20 countries). See also Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance*, *supra* note 34.

[131] *See*, e.g., Alfons Weichenrieder and Fangying Xu, *Are Tax Havens Good? Implications of the Crackdown on Secrecy*, SAFE Working Paper No. 111 (July 2015), https://ssrn.com/abstract=2634402

[132] Bamberger, Kenneth A. and Lobel, Orly, *Platform Market Power* 32 BERKELEY TECHNOLOGY LAW JOURNAL 1051 (2017), https://ssrn.com/abstract=3074717

[133] The Panama Papers are 11.5 million leaked files that were published as from April 3, 2016. *See* Bastian Obermayer and Frederik Obermaier, *The Panama Papers. Breaking the Story of How the Powerful Hide Their Money*, One World, 2017, https://books.google.com.ar/books/about/The_Panama_Papers.html?id=HDJZvgAACAAJ&redir_esc=y

[134] The ongoing feedback of car drivers and car passengers is assumed to help Uber further improve its platform as a matchmaking vehicle to remain competitive in its market.

Likewise, the more international investors like MNEs successfully use a specific tax hub as a gateway to endpoint jurisdictions, the more international investors of similar industries will follow that pattern, as not doing so would grant a competitive advantage to those firms using the tax hub. For example, it is assumed that after Apple and similar leading MNEs set up intermediary entities in Ireland as a gateway to the continental part of the European Union in the early 1980s, over 1,000 MNEs followed that route.[135]

Tax hubs may also include negative same-side network effects. For instance, if an increasing number of drug cartels start using a specific tax hub, other users who are not involved in that market may face reputational costs if they remain using that tax hub. The British Virgin Islands (BVI) tax hub is assumed to be dealing with negative same-side network effects.[136] The U.K. government, in turn, is concerned with this and similar issues of BVI in an attempt to work them out.[137]

C. Two Distinct User Demands

The two different groups of users of both Uber and a representative tax hub have distinct demands. On the Uber front, car drivers usually wish to maximize the sale of their mobility services, whereas passengers want to minimize their mobility costs.

On the tax hub platform front, the demand of endpoint jurisdictions is, for example, to maximize inward capital through implicit tax discrimination between mobile and immobile

[135] 1,000 Leading Global Companies in Ireland. Available at https://www.educationinireland.com/en/why-study-in-ireland-/ireland-s-strengths/leading-global-companies-in-ireland.html. *See also* Joseph Farrell and Matthew Rabin. 1996. *Cheap Talk*. JOURNAL OF ECONOMIC PERSPECTIVES, 10 (3): 103-118.DOI: 10.1257/jep.10.3.103 (discussing how private information about, for example, which are the most effective tax hub in a given industry at a given time, is shared through markets and other similar mechanism).

[136] *See*, e.g., *British Virgin Islands premier accused of cocaine trafficking granted bail in Miami*, THE GUARDIAN, May 4, 2022, https://www.theguardian.com/world/2022/may/04/bvi-premier-accused-of-cocaine-trafficking-granted-bail-in-miami.

[137] *British Virgin Islands Commission of Inquiry Report* - GOV.UK (www.gov.uk), June 2022.

investors, while forgoing as little tax revenues as possible.[138] Mobile investors, in turn, seek to minimize their effective tax rates in such a way as to avoid the reputational cost of doing so.[139]

How does the two-sided platform concept deal with a jurisdiction with overlapping roles as endpoint jurisdiction and tax hubs? Indeed, a country can be both a tax hub and an endpoint jurisdiction. However, its central role is normally one of the two. For example, the U.S. played the role of the top seven intermediary jurisdiction in the global offshore wealth market in 2021, while at the same time it ranked number one as the top investment destination for global offshore wealth in that same year.[140] Hence, the U.S. should be considered an endpoint jurisdiction rather than a tax hub in the two-sided-platform conceptual framework submitted in this paper.

D. Core Vehicles for Minimizing Transaction Costs

Both Uber and a representative tax hub platform offer vehicles for minimizing transaction costs in a context of competition within compatible standards.[141] On the one hand, the Uber search engine is currently a global leading online platform in the ridesharing market. On the other hand, tax hub platforms normally compete within the compatible standard of the OECD Model, which includes related documents.[142] For example, the OECD Model is a global

[138] *See infra* Part V.E (discussing endpoint jurisdictions' implicit tax discrimination via tax hubs). *See also* Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 38 at 106 (arguing that "offshore finance is used to invisibly sweeten the deal for an exclusive set of economic actors via de politics of the invisible". Binder grounds this proposition using Brazil, Germany, Mexico and The United Kingdom as case studies).
[139] *See*, e.g., Allison Christians, *How Starbucks Lost its Social License — And Paid £20 Million to Get it Back*, TAX NOTES INTERNATIONAL, vol. 71, No. 7, August 12, 2013, https://ssrn.com/abstract=2308921
[140] *See*, e.g., Hemel, Daniel J., *The United States as the Ultimate Tax Haven: Testimony Before the House Ways and Means Subcommittee on Oversight* (December 8, 2021). U. of Chicago, PUBLIC LAW WORKING PAPER No. 793, https://ssrn.com/abstract=3980787
[141] Besen & Farell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 2 J. ECON. PERSPECTIVES 117 (1994), *supra* note 58.
[142] OECD (2022), *OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2022*, OECD PUBLISHING, Paris, https://doi.org/10.1787/0e655865-en.

benchmark that facilitates systemic cross-border comparison of tax hub platforms for MNEs depending on the targeted endpoint jurisdictions. Indeed, search costs of MNEs for investment locations and best available tax hubs are minimized by identifying several elements like the deviation from the OECD Model benchmark in the tax treaty network of the material set of countries that are potential targets.[143] For instance, it is possible to compare Ireland and Luxembourg as hubs from a tax perspective by analyzing the gap between the Irish and Luxembourg tax treaty networks and relevant domestic laws, on the one hand, and the OECD Model and related soft law benchmarks, on the other hand.

This comparative analysis is normally implemented by an intercontinental network of tax advisors with the support of new technologies like artificial intelligence. They are "transaction cost engineers", designing the mechanisms that most efficiently meet their clients' needs in the light of both tax treaty and domestic laws.[144] Tax advisors may serve as "sale agents" of tax hub services for reducing entry/exit tax costs to endpoint jurisdictions. In a way, a representative tax hub jurisdiction may create the "product" (by negotiating tax treaties and accommodating domestic tax law with the regulations of the targeted endpoint jurisdictions) and then tax advisors promote and "sell" (implement) the tax structure using the selected tax hub.

E. Entry and Usage Fees and the Inapplicability of the Coase Theorem

Both Uber and a representative tax hub include entry and usage fees that may change over time to maximize the number of the platform's users. On the Uber front, due to dynamic pricing models, prices for the same route may vary based on the supply and demand for rides

[143] *See* Figure 1 *supra*.
[144] *See, e.g.*, Ronald J. Gilson, *Lawyers as Transaction Costs Engineers* in THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW, Palgrave MacMillan (Peter Newman ed., 1998).

at the time it is requested. When rides are in high demand in a certain area of the material city, and there are not enough drivers, fees increase to get more drivers there. Uber's expectation with this pricing model is to maximize the number of car drivers and, consequently, the number of passengers on the Uber platform, given its cross-side network effect. [145]

On the tax hub front, endpoint jurisdictions face costs functionally equivalent to an entry fee, consisting, for example, of the costs emerging from negotiating and concluding tax treaties with the preferred tax hub.[146] The tax treaty concluded between India and Mauritius discussed in the ANDOLAN dispute is a case in point.[147] Similarly, international taxpayers also face costs functionally equivalent to an entry fee for joining the tax treaty network. This entry fee includes being a resident, as defined in Article 1 of the OECD Model, in at least one of the contracting states of the relevant tax treaty, and the tax hub advisors' fees.[148]

Interestingly, tax hubs can increase or decrease the entry fee international taxpayers must pay to use the relevant OECD-based tax treaty network. Ireland's 2015 decision to change its test of residence from the place of effective management to the place of incorporation is a case in point because the new test may increase the effective tax rate of MNEs using Ireland as a gateway to, say, the continental part of the European Union.[149] An example of a decrease in the entry cost is the implicit 2009 policy of Luxembourg to automatically approve advance pricing agreements (APAs) with MNEs.[150] That policy seemed to operate as a "Black Friday" sale of Luxembourg as a tax hub to international investors targeting the relevant endpoint jurisdictions.

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[145] *See* Evans & Richard Schmalensee, *Matchmakers. The New Economics of Multisided Platforms*, HARV. BUS. REV. PRESS, 167-168 (2016), *supra* note 51.
[146] Tsilly Dagan, *The Tax Treaties Myth*, 32 J. INTL. L. & POL. 53 (2000).
[147] *See supra* Part I.A (discussing the Andolan case in India).
[148] *See* Schön, *Playing Different Games?*, *supra* note 116 at 331.
[149] The Republic of Ireland has changed its test of corporate residence in 2015 after the emergence of the Apple Ireland state aid case. *See* *Company Residency Rules (revenue.ie)*. *See also* Tim Worstall, *Apple's EU Tax Bill Explains Ireland's 26% GDP Rise*, FORBES, September 8, 2016, Absolutely Fascinating – Apple's EU Tax Bill Explains Ireland's 26% GDP Rise (forbes.com)
[150] Marian, *The State Administration of International Tax Avoidance*, *supra* note 42.

International investors must also face costs functionally equivalent to a usage fee in order to make use of the relevant tax hub as a two-sided platform. This includes the payment of some taxes in the tax hub and the renegotiation by MNEs of confidential agreements like APAs with the tax hub regularly.[151]

Finally, the inapplicability of the Coase theorem is necessary for two-sidedness.[152] So, one of the key conditions for the platform's two-sidedness is the unavailability of Coasian bargaining between the two sides of a platform. For example, it would be unfeasible for newspaper advertisers to match with readers of a given newspaper without the mediation of the newspaper.[153]

In a similar vein, Coasian bargaining between both sides of the platform is unavailable in both Uber and a representative tax hub for at least two reasons. On the one hand, car drivers and passengers are not able to match without a platform like Uber with comparable efficiency and, on the other hand, it is assumed to be politically unfeasible for a representative endpoint jurisdiction to openly discriminate in its tax treatment between mobile and immobile investors via domestic law.[154] It is also assumed to be politically unfeasible for an endpoint jurisdiction to negotiate directly with MNEs the flow of inward FDI as a quid pro quo for tax liability.[155] Indeed, tax hubs may allow the government of a representative endpoint jurisdiction to discriminate implicitly between firms based on their international mobility at a low political cost in the short run (i.e., before this tax discrimination is visible to the local median voter).[156]

[151] *See supra* note 6 (the Aug. 30, 2016 E.U. Commission decision in the Apple Ireland State Aid case shows that there was a confidential tax agreement between Apple and Ireland signed in 1980 that was eventually renegotiated in 1997).
[152] *See supra* Part II.D (defining the Coase Theorem).
[153] *See supra* Part I.B (discussing the Times-Picayune case.
[154] *See infra* Part V.B (dealing with tax discrimination and tux hubs).
[155] *See* Slemrod et al. *Tax Competition with Parasitic Tax Havens*, *supra* note 33 at 5. (arguing that "[…] non-tax hub countries should welcome tax hubs as a way to overcome their inability to explicitly differentiate the effective tax rate on mobile and immobile capital").
[156] *See infra* Part V. B (discussing why endpoint jurisdictions have the incentive to sign tax treaties with tax hubs).

This opaque price discrimination between investors by endpoint jurisdictions has been called the politics of the invisible.[157]

The Starbucks case in the U.K. seems to be an example of the median voter rebellion after it came to light that Starbucks avoided paying any corporate income tax in the U.K. for 15 years by using at least three tax hubs in a complex structure.[158] And even then, public outrage in the U.K. was mainly targeted at Starbucks, not at the U.K. government. Hence, there seems to be an incentive on both the country of residence of a representative MNEs and the country of source to materialize this discrimination indirectly via the intermediation service offered by the tax hub market. This intermediation service may remain invisible for median voters during a substantial period, say three decades, as seen in the ANDOLAN CASE. And when exposed, its complexity may induce median voters to turn their anger towards corporate tax avoidance instead of governments' decision to discriminate in favor of MNEs via tax hubs.

The assumption of the inapplicability of the Coase theorem seems supported by the fact that, for example, 30 per cent of global FDI was channeled via tax hubs by 2015.[159] And the relevance of tax hubs in the ITR still remains material in 2021.[160] Moreover, the Supreme Court of India listed in the ANDOLAN CASE intercontinental examples that show the inapplicability of the Coase theorem in the tax hub market. The examples of tax hubs listed by the Supreme Court of India include Cyprus and Singapore as tax hubs to several endpoint jurisdictions located in Africa, Asia and Europe. [161]

IV. TESTING THE THEORY

[157] Binder, OFFSHORE FINANCE AND STATE POWER, *supra* note 39.
[158] Starbucks paid just £8.6m in U.K. taxes over a 14-year period, https://www.bbc.com/news/business-19967397. *See also*, Christians, *How Starbucks Lost its Social License*, *supra* note 139.
[159] *See* WORLD INVESTMENT REPORT 2015, *supra* note 108.
[160] OECD CORPORATE TAX STATISTICS, 2nd edition 2020 and 3rd edition 2021, *supra* note 110.
[161] ANDOLAN CASE, *supra* note 17 at 135.

The mission of Part IV is to test the explanatory power of the theory of global tax hubs put forward in Section IV. It kicks off by stating why the theory assumes the tax hub market is a non-collusive oligopoly. It also offers a taxonomy of the matchmaking services that this oligopoly offers on all continents. Section IV then deals with the evolving nature of platform competition in the tax hub market and the net effect of litigation between platform owners and their users. Part IV concludes by offering a stress test of the theory.

A. Tax Hubs as a Non-Collusive Oligopoly of Two-Sided Platforms

The global tax hub market is assumed to be a non-collusive oligopoly for at least the following three reasons. The first reason is that it is a market with few participants offering intermediation services in the material geographical market and specialization (as explained below) to similar users (i.e., international investors and endpoint jurisdictions, respectively).[162]

The second reason is that tax hubs do not explicitly coordinate their interests; the coordination between tax hubs is implicit. Hence, the tax hubs market is not a cartel because there is no institution functionally like the OPEC where jurisdictions with market power in the global oil industry *explicitly* coordinate their interests.[163]

Finally, the third reason is that tax hubs seem to be involved in a coopetition game, that is, they may be willing to implicitly cooperate with competing tax hubs in certain areas. Playing the role of amicus curiae supporting the position of competing tax hubs in tax litigation is a

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[162] For example, according to the OECD, the investment hub concept included 22 jurisdictions in 2020: Bahamas; Barbados; Bermuda; British Virgin Islands; Cayman Islands; Cyprus; Gibraltar; Guernsey; Hong Kong, China; Hungary; Ireland; Isle of Man; Jersey; Liberia; Luxembourg; Malta; Marshall Islands; Mauritius; Mozambique; Netherlands; Singapore and Switzerland, OECD CORPORATE TAX STATISTICS, 2nd edition 2020, s*upra* note 110 at 41, https://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-economic-impact-assessment-0e3cc2d4-en.htm.

[163] *See* Part I. B (defining non-collusive oligopoly, collusive oligopoly and cartel).

prime example.[164] For instance, Luxembourg had the role of *amicus curiae* in the Apple Ireland case by supporting the position of Ireland as a tax hub in this case.[165] In a similar vein, Ireland participated in the Fiat case involving Luxembourg; strikingly, the European Court of Justice eventually used a theory of the case submitted by Ireland in re Fiat to decide this case in favor of Luxembourg.[166] Another example of a coopetition game in the tax hub market is the decision by Luxembourg and Switzerland to abstain from supporting the 1998 OECD Harmful Tax Competition (HTC) report.[167] Their abstention contributed to the collapse of the HTC report in the early 2000s.[168]

The noncollusive oligopoly of tax hubs offers a range of intermediation services with different geographical markets and specializations. Figure 5 below shows seven types of intermediation services provided by the tax hub market worldwide using tax treaty litigation as a case study. Tax treaty litigation in Africa, the Americas, Asia, Asia–Pacific and Europe provide examples of matchmaking services.

Figure 5, column one, below visually represents the different types of tax hubs' matching services. Column two, in turn, lists case law offering seven examples of the intermediation services offered by each type of tax hub; column three outlines the facts of each example. Finally, column four lists the jurisdictions involved in each case.

Tax Hubs: Examples of Intermediation Services Worldwide	**Cases**	**Facts**	**Jurisdictions Involved**

[164] *See supra* note 6 on the Apple Ireland case. Luxembourg had the role of amicus curiae in this case supporting the position of Ireland.
[165] *Id.*
[166] Fiat Chrysler Finance Europe and Ireland v. Commission, joined cases C-885/19 P and C-898/19 P (Court of Justice of the European Union (2022)) Available at CURIA - List of results (europa.eu). *See also* Ruth Mason, *Ding-Dong! The EU Arm's-Length Standard Is Dead*, Tax Notes Federal, vol. 177, December 5, 2022.
[167] Jogarajan & Stewart, *Harmful Tax Competition: Defeat or Victory? supra* note 107.
[168] *Id.*

(1) Minimizing Interest-Withholding Taxation in North America	Northern Indiana Public Service Co. v. CIR, 115 F.3d 506 (1997) (United States). *See* supra Part 1.A	A U.S. corporation set up an intermediary entity in The Netherlands Antilles to borrow capital in the Eurobond market where interest rates were substantially lower than in the U.S. The interest paid by the U.S. entity to its intermediate firm was considered exempt from a 30 per cent U.S. domestic withholding tax on tax treaty grounds.	U.S., The Netherlands Antilles and Europe
(2) Minimizing Capital Gains Taxation in Asia	Union of India vs. Azadi Bachao Andolan (2003) SC 56 ITR 563 (India). *See* supra Part I. A.	The case involved inward FDI to India via Mauritius to achieve triple nontaxation of capital gains.	India and Mauritius
(3) Minimizing Tax Costs in the Indirect Transfer of Control in Africa	Commissioner General URA vs. Zain International BV (2014) (Uganda). It is available at https://ulii.org/ug/judgment/court-appeal-uganda/2014/420.	The case involved the taxation of indirect disposal of shares of a Uganda-based corporation in which the seller and buyer were entities resident in The Netherlands.	Uganda and The Netherlands
(4) Minimizing Tax Costs in the Indirect Transfer of Control in Asia–Pacific	Lamesa Holdings BV vs. Commissioner of Taxation, 1997 *(Australia)*	The case involved the indirect acquisition and disposal of interest in land in Australia by a U.S. partnership through a Dutch company. The dispute concerned whether the article on land disposals of the Australia–Netherlands tax treaty applied to indirect disposals, as the Dutch company indirectly owned the land through a chain of Australian shelf companies.	Australia, the U.S. and The Netherlands

(5) Stateless Income in Europe	Decision of 30.8.2016 on State Aid SA.38373 (2014/C) (ex 2014/NN (ex 2014/CP) implemented by Ireland to Apple (European Union Commission).	The case involves Apple Inc., a U.S. company, which had intermediary entities in several tax hubs including Ireland, The Netherlands and Bermuda. The dispute concerns the legality of this tax planning structure in the light of European law, particularly state aid law.	Bermuda, the U.S., Ireland and the European Union
(6) Minimizing Interest-Withholding Taxation in Asia	Put-13602/PP/M.I/13/2008 – PT. Transportasi Gas Indonesia *(Indonesia-Mauritius)* 2008	The case involved a Mauritius holding company receiving interest payments from Indonesia and claiming the reduced withholding rate of the Indonesia–Mauritius tax treaty. The dispute concerned whether the Mauritius holding company was the beneficial owner of the interest.	Indonesia and Mauritius
(7) Minimizing Royalty-Withholding Taxation in North America	Velcro Canada vs. The Queen, 2012 *(Canada)*	The case involved the assignment of a licensing agreement to a Dutch company to benefit from the reduced royalty withholding under the Canada–Netherlands tax treaty.	Canada, The Netherlands

Figure 5: Examples of Tax Hubs' Matching Services Worldwide

In sum, there are different types of tax hubs based, for example, on their geographical market and specialization. As discussed, the types of matchmaking services offered by tax hubs include: 1) minimization of capital gains taxation in the global south (e.g., the ANDOLAN CASE);

and 2) minimization of withholding taxation in the global north (e.g., NORTHERN INDIANA CASE).[169]

B. Platform Competition, Multihoming and Single-Homing

What happens if users participate in multiple two-sided platforms? There are markets in which users (on one or the two sides) connect to several platforms. For example, many sellers accept both American Express and Visa; furthermore, some consumers have both American Express and Visa cards. Competitive prices in one market then depend on the extent of multihoming on the other side of the market. For instance, when Visa reduces the fee paid by businesses, businesses become more tempted to turn down the more costly American Express (Amex) card if a large group of Amex customers also own a Visa card. In other words, multihoming on one side of the platform intensifies price competition on the other side as platforms use low prices to direct end users on the latter side toward an exclusive relationship.[170]

Interestingly, the logic of platform competition is similar in Uber and the tax hub market. On the Uber front, competition is normally at the platform level with multihoming; i.e., Uber competes with, for example, Lyft and Didi, in the online ridesharing market. Passengers and car drivers, in turn, might use any of these platforms in the same city.

Similarly, on the tax hub market front, competition among tax hubs is increasingly at the platform level with multihoming. A dynamic like multihoming can be seen in the tax hub market on both sides of the platform.[171]

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[170] Rochet and Tirole, *Platform Competition in Two-Sided Markets*), *supra* note 59.
[171] *See infra* Part V (identifying systemic implications of the theory of tax hubs).

On one side of the tax hub platform, there are endpoint jurisdictions like the Russian Federation connected to more than one tax hub. Indeed, the Russian Federation is an example given that both Cyprus and The Netherlands have been the leading tax hub gateways to Russia.[172]

On the other side of the tax hub platform, MNEs may use more than one tax hub to minimize their effective tax rates. The Apple Ireland case is an example of multihoming.[173] Indeed, Apple Inc., a U.S. company, had intermediary entities in several tax hubs, including Ireland and the Netherlands, in the same tax planning structure.[174] Multihoming suggests that tax hubs are in a coopetition game as they may cooperate with each other by offering their matching services as a network of joint ventures of tax hubs with different comparative advantages in terms of industries and endpoint jurisdictions.[175]

In sum, tax hubs and Uber are fundamentally two-sided platforms in their respective global markets. Moreover, both platforms are involved in competition at the platform level with multihoming.

C. Two-Sided Platforms, Litigation and Antiavoidance Legislation: A Redistributive Game

[172] Cyprus and The Netherlands were the usual gateways to the Russian Federation until at least 2014. *See* Eduardo Baistrocchi and Martin Hearson, *Tax Treaty Disputes: A Global Quantitative Analysis*, 2017. E. Baistrocchi, ed., A GLOBAL ANALYSIS OF TAX TREATY DISPUTES, Cambridge University Press, 2017. Available at SSRN: https://ssrn.com/abstract=3045917

[173] *See* Rochet & Tirole, *A PROGRESS REPORT*, *supra* note 59 (defining multihoming. For example, there is multihoming when cardholders use both Visa and Mastercard).

[174] *See* the Apple Ireland case, *supra* note 6.

[175] Brandenburger & Nalebuff, CO-OPETITION, *supra* note 53 (arguing that in a coopetition game, players may be willing to cooperate with competitors in certain areas given certain circumstances).

Tax treaty disputes have existed between endpoint jurisdictions and tax hubs since at least the early 1950s.[176] So, the question now is how these disputes can be explained in the light of the two-sided platform concept.

Tax disputes between endpoint jurisdictions and tax hubs are a redistributive game compatible with the two-sided platform model. Indeed, a similar dispute dynamic also occurred in the ride-sharing online platform industry when, for example, car drivers started to litigate against Uber to get benefits regarding employee status (holidays, pension contributions, etc.). In effect, car drivers (users on one side of the platform) at some point realized that the Uber platform was getting a more significant part of the profits of their activity than they were willing to accept. So, car drivers decided to sue the platform to gain additional benefits from it.[177]

This pattern of behavior in the Uber ecosystem is functionally equivalent to what happens in the ITR when endpoint jurisdictions like Brazil realized that international investors use tax hubs like Belgium and Luxembourg in such a way as to materially reduce (or eliminate) their effective tax rate in Brazil. The Vale dispute in Brazil is a case in point.[178]

The creation of stateless income by using tax hubs is an example of events that may trigger litigation in the ITR.[179] Hence, endpoint jurisdictions may have the incentive to litigate against tax hubs before local courts as an attempt to establish a new equilibrium where some taxes are paid in endpoint jurisdictions, although less than the standard rate of taxes paid by non-mobile taxpayers (the new equilibrium point).

However, litigation has not been an effective way for endpoint jurisdictions to set a new equilibrium point. Indeed, international investors have been able to prevail in over 50 per cent

[176] The oldest available tax treaty dispute involving tax hubs, international investor and endpoint jurisdictions deals with the interpretation and application of the 1948 U.S. and Netherlands tax treaty: N.V. Levensverzekering-Maatschappij Van De Nederlanden v. United States, U.S. District Court for the District of Connecticut (1954).
[177] *See*, e.g., Uber BV and others (Appellants) v. Aslam and others (Respondents), [2021] UKSC 5. The U.K. Supreme Court held that "[…] drivers were not independent contractors, but that they worked for Uber and were therefore entitled to certain employment rights […]". This judgement is available at UberBV and others (Appellants) v. Aslam and others (Respondents) (supremecourt.uk)
[178] See, e.g., the Vale SA (REsp 1.325.709 of April 2014) in Brazil.
[179] *See* Kleinbard, *Stateless Income*, *supra* note 4.

of all leading tax treaty disputes involving G20 countries and tax hubs in, for example, the 2000s.[180]

The 2021 OECD/G20 inclusive framework compromise (the IF compromise) is arguably an attempt initiated by endpoint jurisdictions with market power like the G7 to materialize this redistributive game compatible with the two-sided platform concept applied here.[181] Pillar One creates a new taxing right allocated to endpoint jurisdictions at the expense of the tax hubs market. The OECD predicts that Pillar One may imply an expansion of revenue collection by endpoint jurisdictions and a consequent contraction of revenue collection by tax hubs.[182]

There has been a new wave of antiavoidance regulations and case law in endpoint jurisdictions relevant to the ITR. For example, the European general antiavoidance regulation in the European Antitax Avoidance Directive (ATAD) and recent decisions by the European Court of Justice on treaty shopping, known as the Danish Beneficial ownership cases, are telling examples of this redistributive game between endpoint jurisdictions, tax hubs and international investors.[183] It remains to be seen if these regulations effectively materialize rent redistribution within the tax hub market and its users, as expected by endpoint jurisdictions.

In a similar vein, endpoint jurisdictions can either increase or decrease the exit fees as part of a redistributive game with tax hubs and international investors. For example, endpoint jurisdictions may exempt international investors from taxing capital gains arising from offshore indirect transfers.[184] The Supreme Court of India decision in Vodafone is an example of the

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[180] Eduardo Baistrocchi and Martin Hearson, *Tax Treaty Disputes: A Global Quantitative* Analysis in E. Baistrocchi, ed., A GLOBAL ANALYSIS OF TAX TREATY DISPUTES, Cambridge University Press, 2017, Available at SSRN: https://ssrn.com/abstract=3045917

[181] *See supra* Part II. F (discussing the centennial resilience of the tax hub market).

[182] OECD CORPORATE TAX STATISTICS, 2nd edition 2020 and 3rd edition 2021, *supra* note 110.

[183] Danon, Robert and Gutmann, Daniel and Lukkien, Margriet and Maisto, Guglielmo and Martin Jimenez, Adolfo and Malek, Benjamin, *The Prohibition of Abuse of Rights after the ECJ Danish Cases Analysis of the ECJ Judgments, Reading by National Courts, and Impact on Tax Treaty Practice* (April 5, 2021). INTERTAX, vol. 49, issue 6/7 at 482–516, https://ssrn.com/abstract=3977088

[184] THE PLATFORM FOR COLLABORATION ON TAX. DISCUSSION DRAFT: THE TAXATION OF OFFSHORE INDIRECT TRANSFER. A TOOLKIT, International Monetary Fund, OECD, United Nations, and World Bank Group, 2017, https://www.un.org/esa/ffd/wp-content/uploads/2017/08/Taxation-of-Offshore-Indirect-Transfers-A-Toolkit.pdf.

reduction of the exit fee from India in 2012. In this case, the Supreme Court of India held that the indirect transfer of control of a company resident in India by a seller and buyer based in tax hubs (The Netherlands and Hong Kong, respectively) was not subject to capital gains taxation in India.

In sum, tax litigation and antiavoidance regulations by endpoint jurisdictions are different forms of the same strategic game, i.e., an attempt to implement rent redistribution between the three players in the two-sided tax hub platform ecosystem.

D. Stress Test for the Theory

This section provides a stress test for the theory of global tax hub to determine its explanatory power in different contexts. Let us imagine two different scenarios at the opposing ends of a continuum.

On the one extreme, assume a world with all endpoint jurisdictions having universally strong anti-avoidance regulations, such as controlled foreign corporation (CFC) legislation.[185] Tax hubs would have no role in such a world because CFC legislation would destroy the two-sided platform intermediation business model of the tax hub global market. Indeed, all income allocated in tax hubs would be immediately taxed in the residence country of international investors (Context A). In a similar vein, the country of source would apply regulations such as the principal purpose test (PPT) to deal with tax treaty shopping;[186] the application of PPT would effectively forfeit all tax treaty benefits derived from the use of tax hubs to minimize

[185] *See* Dean, Steven, *Surrey's Silence: Subpart F and the Swiss Subsidiary Tax that Never Was*, *supra* note 123 (discussing the historical origin of CFC legislation, which is named Subpart F in the U.S.).
[186] The PPT regulation is encapsulated in the OECD Model, Article 29, paragraph 9, on entitlement to benefits. *See* OECD (2019), *Model Tax Convention on Income and on Capital 2017 (Full Version)*, *supra* note 8.

the entry/exit cost to the material country of source .[187] Under Context A, the theory submitted here would not be relevant because of the absence of the tax hub market in the ITR.

On the other extreme of the continuum, we can imagine a world with CFC, PPT and similar antiavoidance regulations sufficiently porous that international investors can play the game of stripping the tax base and parking funds in tax hubs (Context B). [188] In context B, the theory would have the widest possible explanatory power as it would provide the two-sided platform intermediation model to explain, with granular detail, the strategic role of tax hubs in the ITR.

Based on the data and scholarly contributions, it appears that the ITR has been more closely related to Context B than Context A throughout the past century. For example, as stated above, the allocation of multinational profits booked in tax havens and tax hubs remained constant at about 37 percent in a recent 44-year period (from 1975 to 2019). [189] Needless to say, this period covers the introduction of CFC legislation in most G20 countries since the 1960s.[190] It also includes the 2015 G20 and OECD Base Erosion and Profit Shifting Project (BEPS One), the most relevant reform to the ITR in almost a century to deal with the problem of MNEs' profit shifting to tax hubs; PPT was part of BEPS One to deter the use of tax hubs in tax treaty shopping cases like Andolan and Northern Indiana. The data suggests the vitality of the ability of MNEs to use tax hubs before and after BEPS One with the (implicit or explicit) consent of the relevant endpoint jurisdictions.[191]

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[187] *Id.*

[188] *See*, e.g., Mitchell A. Kane, *Strategy and Cooperation in National Response to International Tax Arbitrage*, *supra* note 41 (arguing that countries may have the incentive to promote tax arbitrage).

[189] *See* Wier and Zucman, Global *Profit Shifting, 1975-2019, supra* note 16.

[190] J. Clifton Fleming, Acknowledging (Celebrating Regretting?) Sixty Years of Subpart F, *supra* note 103 (maintaining that "[…] CFC legislation is porous–it invites lawful tax avoidance that allows MNEs to keep using tax hubs. It also argues that the 2017 U.S. tax reform does not destroy the tax hub market. U.S. law is still granting tax expenditure to U.S. MNEs using tax hubs").

[191] *See* Kleinbard, *Stateless Income*, *supra* note 4 (discussing the Google's Inc.'s Double Irish Dutch Sandwich tax structure involving tax hubs like Ireland and the Netherlands). *See* Wier and Zucman, Global *Profit Shifting, 1975-2019, supra* note 15. *See also* Palan, *Trying to Have Your Cake and Eating It, supra* note 34.

In sum, while the ITR remains closer to context B than to context A, the theory submitted here provides a new model to examine the strategic role played by global tax hubs.

E. Can the Tax Hub Market Survive Pillar Two? [192]

As discussed, Pillar Two is a G20 and OECD proposal that aims to set a minimum effective corporate income tax rate of 15 per cent.[193] This minimum tax rate is expected to govern all jurisdictions willing to join the 2021 compromise.[194] Over 130 countries have signed this compromise.[195]

The tax hub market may survive Pillar Two as it has survived all unilateral and multilateral attempts to limit the activities of this market over the last century.[196] This expected survival rests on several reasons.

Pillar Two is a cartel because it explicitly attempts to restrict competition for the mutual benefit of Pillar Two member jurisdictions.[197] Hence, as happens in all cartels, Pillar Two members have a strong incentive to defect from the Pillar Two agreement to maximize their individual, rather than collective, interests. Indeed, the Pillar Two cartel faces high collective

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[192] Global Anti-Base Erosion Proposal (GloBE) – Pillar Two (November 8, 2019), https://www.oecd.org/tax/beps/public-consultation-document-global-anti-base-erosion-proposal-pillar-two.pdf.pdf

[193] *See above* Part I.B (discussing the incentive to defect in the context of cartels). *See also* Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39 at 112 and 113 (arguing that "defensive of their own multinational corporations, the German government practices the old strategy of committing to strong rules, whilst neglecting their enforcement and emphasizing the privacy of the individual corporate taxpayer. Germany is, for instance, the only European state that will not publicize the results of the now legally required country-by-country reporting of corporate annual results. The institutional association of rule keeps a backdoor open").

[194] The 2021 compromise was signed on October 8, 2021. This compromise is named as follows: Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, https://www.oecd.org/tax/beps/statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.pdf

[195] As of December 16, 2022, 138 members of the OECD/G20 Inclusive Framework on BEPS have joined the *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*. The full list is available here: https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-members-joining-statement-on-two-pillar-solution-to-address-tax-challenges-arising-from-digitalisation-october-2021.pdf

[196] *See* Part II.F (discussing the centennial resilience of the tax hub market since 1923).

[197] *See supra* note 31 (defining the meaning of cartel).

action costs given the large number of its members (138 jurisdictions from all continents) and the lack of an external authority with a credible threat to penalize defectors.

The following are examples of the plausible defection of the Pillar Two mission by Pillar Two members. On the one hand, Pillar Two has several loopholes that could be used by tax hubs (and/or their users) to avoid being governed by the 15 per cent minimum effective corporate tax rate (ETR). A central loophole here is named substance-based income exclusion (SBIE), defined as 5 per cent of tangible assets and 5 per cent of payroll.[198] SBIE "[…] is a 'shelter' [of the minimum tax rate of 15 per cent] which covers any profits in a jurisdiction regardless of their connection to the substance itself."[199] Hence, SBIE induces tax hubs to have zero ETR on corporate income by attracting economic activity, thus undermining the mission of Pillar Two.[200] This incentive structure explains why SBIE has been called the "original sin" of Pillar Two.[201]

On the other hand, Pillar Two does not prohibit other incentive instruments that tax hubs might use to attract international investors and endpoint jurisdictions. So, the strategic policy change that Pillar Two may trigger could be from tax competition to subsidy competition to maximize the attraction of capital. Indeed, jurisdictions may be incentivized to compete by offering lump-sum subsidies rather than low corporate tax rates.[202] In this scenario, global tax

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[198] *See* Pillar Two, Frequently Asked Questions, available at: https://www.oecd.org/tax/beps/pillar-two-model-GloBE-rules-faqs.pdf

[199] Heydon Wardell-Burrus, *State Strategic Responses to the GloBE Rules* (December 1, 2022), https://ssrn.com/abstract=4291190 (arguing that Pillar Two is "incompletely theorized agreement", as defined by Cass Sunstein in his 1995 Harvard Law Review paper. This is so, Wardell-Burrus maintains, because Pillar Two is a political compromise among jurisdictions without clear principles and definitions).
See also Faulhaber, Lilian V., *Lost in Translation: Excess Returns and the Search for Substantial Activities* (August 18, 2021). FLORIDA TAX REVIEW (Spring 2022), https://ssrn.com/abstract=3907496 (arguing that "[…] the concept of economic substance in Pillar Two is unclear, thus granting MNEs wide room to enjoy an effective tax rate below the minimum 15 per cent […]").

[200] Reuven Avi-Yonah, *Why 15%? Justifying the Global Corporate Minimum Tax* (March 18, 2023), https://ssrn.com/abstract=4392468

[201] Joachim Englisch, *GloBE Rules and Tax Competition* (August 24, 2022). INTERTAX 12/2022, https://ssrn.com/abstract=4199543

[202] FINANCIAL TIMES, *A Global Subsidy War? Keeping Up with the Americans,* Guy Chazan in Berlin, Sam Fleming in Brussels and Kana Inagaki in Tokyo. Available at: https://on.ft.com/44nMlb8; Eckhard Janeba & Guttorm Schjelderup, *THE GLOBAL MINIMUM TAX RAISES MORE REVENUES THAN YOU THINK, OR MUCH LESS* (2022) CESifo Working Paper No. 9623, Available at https://ssrn.com/abstract=4059715.

hubs may still offer matchmaking services between international investors and endpoint jurisdictions if, for example, tax hubs could offer MNEs subsidies that reinforce the comparative advantages of targeted endpoint jurisdictions and their own set of subsidies. In sum, international investors like MNEs may still be incentivized to invest in endpoint jurisdictions via *tax hubs* that could be renamed *subsidy hubs* in the Pillar Two era.

V. SOME IMPLICATIONS OF THE THEORY

The theory of tax hubs submitted here triggers a range of new and old questions on the dynamics of this global intermediation market. These questions include the following three: 1) Is reducing transaction costs a problem? And if so, why? 2) Why do endpoint jurisdictions sign tax treaties with tax hubs? 3) May the theory impact international tax policy? A response to each of these questions follows.

A. Is Reducing Transaction Costs a Problem? And If So, Why?

As predicated above, this paper aims to shed light on intermediation through tax hubs in the ITR by analogy to intermediation in two-sided platform markets. It is now time to ask how far one can extend that analogy and its limitations.

A well-functioning tax system has three fundamental roles. These three roles are income redistribution to build up cohesive local communities, revenue collection to fund the provision of public goods like public education, and the regulation of behavior to protect, for example, the environment.[203]

[203] Reuven S. Avi-Yonah, *The Three Goals of Taxation* (September 2005). Available at https://ssrn.com/abstract=796776.

Reducing transaction costs through the offshore finance market, which is a fundamental role of tax and financial hubs, can be a good thing. Indeed, the offshore finance market may promote, for example, international trade,[204] as well as preferential liquidity for endpoint jurisdictions,[205] and it may also minimize governmental waste.[206] But if transaction costs include taxes, as it does, an unlimited reduction of taxes via tax hubs may trigger negative network effects, particularly in crises like the 2007-2009 Great Recession (the Great Recession).[207] The negative network effects include preventing endpoint jurisdictions from using their tax system for income redistribution and providing public goods to their non-mobile constituents.

Hence, the unlimited reduction of taxes may open the door to opportunistic behavior by tax hubs and or their users like free riding.[208] Luxembourg in the 2000s is a case in point because this tax hub was explicitly involved in the state administration of international tax avoidance at the expense, for example, of endpoint jurisdictions on many continents.[209]

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[204] J. Hines, *Treasure Islands*, *supra* note 34. *See also* Juan Carlos Suarez Serrato, *Unintended Consequences of Eliminating Tax Havens*, National Bureau of Economic Research, Working Paper N 24850, December 2019, available at https://www.nber.org/papers/w24850 (arguing that eliminating firms'' access to tax havens can have unintended consequences for their domestic economic activity. It studies U.S. policy that limited profit shifting by U.S. multinationals to Puerto Rico and shows it raised the tax cost of U.S. domestic investment).

[205] A. Binder, OFFSHORE FINANCE AND STAE POWER, *supra* note 39 at 106 and 370.

[206] Geoffrey Brennan and James Buchanan, THE POWER TO TAX: ANALYTICAL FOUNDATIONS OF A FISCAL CONSTITUTION, New York: Cambridge University Press, 1980 (arguing that "[] tax competition improves welfare, because the size of government would be excessive in the absence of this competition".). *See also* Tsilly Dagan, *Unbundled Tax Sovereignty: Refining the Challenges* (March 27, 2022). Available at SSRN: https://ssrn.com/abstract=4067679

[207] *See* Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39, Chapters 3 and 4 (discussing the dramatic impact of the UK offshore finance market in the UK during the 2007-2009 Great Recession; and the lenient impact of this crisis in Germany, respectively).

[208] Oliver E. Williamson, *Opportunism and its Critics*, Managerial and Decision Economics, vol. 14, 97-107 (1993). Williamson defines opportunism as follows: "[…] failure to tell the truth, the whole truth and nothing but the truth is implicated by opportunism. The possibilities that economic agents will lie, cheat and steal are admitted. The possibility that an economic agent will conform to the letter but violate the spirit of an agreement is admitted. The possibilities that economic agents will deliberately induce breach of contract and will engage in other forms of strategic behavior are admitted. More generally, the unapologetic reference to opportunism invites attention to and helps to unpack a much wider set of phenomena than normally arise when reference is made to adverse selection and moral hazard" (Williamson, op. cit., at 101). It also discuss the proper design of political institutions should address the problem of opportunistic behaviour. It quotes James Madison, in *The Federalist* (No. 55), to ground this proposition.

[209] Marian, *The State Administration of International Tax Avoidance*, *supra* note 42.

Moreover, the tax hub market may also trigger vertical equality problems. Indeed, public finance theories like the Tiebout model cannot be applied to the global tax hub market.[210] Not all taxpayers can vote with their feet by moving to alternative jurisdictions, including tax hubs, in the search for their desired set of public goods.[211] This constraint of nonmobile people in the tax hub market produces a vertical inequality problem with mobile people.

In sum, applying the two-sided platform concept as an intermediation model to understand the role of tax hubs as vehicles to minimize transaction costs has limitations from a normative dimension. Indeed, taxes that are the product of well-functioning tax systems are not a standard transaction cost. Tax systems are a fundamental way to fund public goods, address vertical equality problems and regulate human behavior. Antitrust law can offer a conceptual tool to identify (and deter) opportunistic behavior in the tax hub market that may work hand in hand with tax avoidance provisions. Hence, antitrust law, as applied to two-sided platforms, may contribute to respond to the central question that has loomed over policy debates since the OECD 1998 harmful tax competition project: How can we distinguish between tax competition that is harmful from which is not?[212]

B. Why Do Endpoint Jurisdictions Sign Tax Treaties with Tax Hubs?

The literature has demonstrated that the offshore finance market has emerged with the state's support or at least in tacit agreement in countries such as the UK, Germany, Brazil, and

[210] Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64(5) J. OF POLITICAL ECON. 416-424, at 420 (October 1956). Tiebout states that "the consumer-voter moves to the community that satisfies his preference patterns".
[211] Tsilly Dagan, *Unbundled Tax Sovereignty: Refining the Challenges*, *supra* note 206.
[212] Michael Keen & Kai Konrad, THE THEORY OF INTERNATIONAL TAX COMPETITION AND COORDINATION, *supra* note 34 at 60 (maintaining that "[…] progress to answer this question has been made, but not yet enough to confidentially determine whether, for instance, the presumption should be against or in favor of preferential regimes"). See *infra* Part V.C (discussing the potential impact of the theory of tax hubs on international tax policy).

Mexico. The literature has also demonstrated that the network effect of the offshore finance market can be either positive or negative depending on contextual elements. [213]

The two-sided theory submitted in this paper explains the driving forces of this tacit agreement dynamic. For example, the theory explains why endpoint jurisdictions (i.e., the country of residence of the international investor and the country of source) have the incentive to sign tax treaties with tax hubs. The following paragraphs outline the structure of incentives of both the country of residence and the country of source in the tax hub and treaty law area.

On the one hand, it is normally within the jurisdiction of the residence country of the international investor to have strong anti-avoidance regulations, such as controlled foreign company regulations (CFC), which would blunt the advantages of using tax hubs. Accordingly, the absence of those anti-avoidance rules (or their enforcement) effectively makes the residence country an "enabler" of the international investor in a way that is distinguishable from the enabling that occurs when a residence country enters into a tax treaty with a tax hub.

For purposes of the two-sided platform model, treating the residence country as aligned with and enabling the international investor is a fair inference when the residence country policy does not take away the tax hub benefit. One reason a residence country may offer to justify such enabling is that the tax-subsidized offshore investment will increase economic activity and jobs in the residence country because of the complementarity between increased sales and increased residence country production.[214] A natural experiment between the U.S. and Puerto Rico is a case in point of the positive network effect of the tax treaty between these two countries.[215] This justification for tax-subsidized offshore investment disappears when the

[213] See R. Palan, *Trying to Have Your Cake and Eating it: How and Why the State System Has Created Offshore*, supra note 34; A. Binder, OFFSHORE FINANCE & STATE POWER, *supra* note 39.
[214] *See* Hines, *Treasury Islands*, *supra* note 34 at 116 (arguing that "it is far from clear that greater levels of outbound foreign direct investment come at the cost of economic activity at home, since there are countervailing substitution and production effects").
[215] Suarez Serrato, *Unintended Consequences of Eliminating Tax Havens*, *supra* note 204.

offshore investment substitutes for residence country investment (i.e., complementarity is lacking).

Both complementarity and substitutability exist though empirical evidence is thin as to which dominates for a particular residence country compared with its tax hubs in the dynamic context of economic and political cycles. Where tax hubs are used by investors from a residence country though, it is fair to characterize the residence country as enabling the investor use of such tax hubs since the residence country chooses not to embrace an anti-avoidance policy that would counteract such use. [216]

On the other hand, the country of source typically has at least two ways of maximizing inward FDI: one would be to significantly reduce its effective corporate tax rate (say to 15 per cent) as predicated by Pillar Two or to allow mobile firms to reduce their tax bill by using tax hubs. The difference between these two options is material. Indeed, reducing the corporate tax rate to all firms is relatively more expensive for the country of source in terms of tax revenue loss, since it would also benefit immobile domestic firms that are not able to engage in international tax avoidance schemes via tax hubs.[217]

Hence, the country of source may also have an incentive here to implicitly price discriminate between firms depending on their mobility. Tax treaties may enable mobile firms to be subject to a lower effective tax rate than immobile firms when investing in an endpoint jurisdiction through a tax hub.[218] This tax discrimination between firms based on their mobility

[216] *See*, e.g., Mitchell A. Kane, *Strategy and Cooperation in National Response to International Tax Arbitrage*, *supra* note 42.

[217] John D. Wilson, *Theories of Tax Competition*, 52 NATIONAL TAX JOURNAL 2, 269-304, at 294 (June 1999) (arguing that "each country has access to an 'immobile tax base' and competes for a 'mobile tax base'"). *See also* Keen & Konrad, *The Theory of International Tax Competition and Coordination*, *supra* note 34.

[218] In a similar vein on tax discrimination via tax hubs, *see* J. Hines, *Treasure Island*, *supra* note 34 at 105 and 120 (arguing that tax havens and tax hubs "[…] change the nature of tax competition among other countries, very possibly permitting them to sustain high domestic tax rates that are effectively mitigated for mobile international investors whose transactions are routed through [tax hubs and of tax havens]".

can be relatively hidden from the median domestic voter for a long time.[219] So the risk of retaliation is normally low in the short run.[220]

In other words, the government of a representative country of source may have the incentive to use the ITR (including tax hubs), rather than its domestic tax system, to minimize the entry and exit tax cost of mobile firms, while keeping a relatively high tax rate for immobile firms as it may be demanded by the local domestic voter. Using tax hubs might be a way for endpoint jurisdiction governments to minimize the political cost of implementing this price discrimination (the implicit tax discrimination dynamic).[221]

This discrimination may place domestic immobile firms at a competitive disadvantage against international mobile firms, leading to more efficient immobile firms (in the absence of this tax discrimination) going out of business. This distortion of competition is a cost created by the asymmetric tax treatment between immobile and mobile firms.

Once again, the ANDOLAN CASE in India is a prime example of this implicit tax discrimination dynamic from the country of source dynamic. Indeed, the reduction of the tax entry and exit cost of inward international capital to India via Mauritius remained invisible to the local median voter and the OECD for many decades.

[219] The Andolan case in India is an example of this dynamic. Indeed, the India-Mauritius DTC remained in force for over three decades facilitating this tax discrimination between mobile and non-mobile capital. On the politics of the invisible, *see* A. Binder, OFFSHORE FINANCE AND STATE POWER, *supra* Part II. E.

[220] *See* Mitchell A. Kane, *Strategy and Cooperation in National Response to International Tax Arbitrage*, *supra* note 42.

[221] The economics literature has acknowledged this implicit tax discrimination via tax hubs. *See*, e.g., Keen & Konrad, THE THEORY OF INTERNATIONAL TAX COMPETITION AND COORDINATION, *supra* note 34 at 52 (arguing that, "if the government […] can perfectly and costlessly control the amount of profit shifting through the severity of its thin capitalisation rules, it has two independent fiscal instruments at its disposal which is very similar to having two independent corporate tax rates, one for immobile and one for mobile capital." A similar point on tax discrimination is made by Dharmapala, *What Problems and Opportunities Are Created by Tax Havens?* s*upra* note 34 at 672. Dharmapala (arguing that "tax planning by MNEs (e.g., sourcing income in the tax haven through interest stripping) lowers their effective tax rate and makes them more willing to invest in the non-haven [jurisdiction] for any given statutory tax rate."

The implicit tax discrimination may include cases of round-tripping. Round-tripping of Indian mobile firms entering India via Mauritius to minimize their effective tax rate on capital gains is a case in point.[222]

In sum, the governments of endpoint jurisdictions and international investors have the incentive to join, as two distinct types of users, the two-sided global tax hub marketplace. There seems to be a reinforcing feedback here that may explain the centennial resilience of the tax hub marketplace to internal and external shocks over the last century; needless to say, these shocks include total wars, global financial crises, and pandemics.

C. The Theory May Impact International Tax Policy

The theory may impact international tax policy: it opens a window to explore the feasibility of transplanting antitrust law elements to the ITR, which may complement anti-tax avoidance regulations. This transplant may be grounded on, at least, two reasons.

First, traditional anti-tax avoidance regulations did not successfully deal with free riding by tax hubs in cases such as Luxembourg in 2014.[223] This ineffectiveness of traditional

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[222] Jack M. Mintz & Alfons Weichenrieder, THE INDIRECT SIDE OF DIRECT INVESTMENT. MULTINATIONAL CORPORATE FINANCE AND TAXATION, MIT Press. Available at https://books.google.com.ar/books/about/The_The_Indirect_Side_of_Direct_Investme.html?id=I_iPP9a6XPAC&redir_esc=y. *See also* Jannick Damgaard, Thomas Elkjaer and Niels Johannesen, *What is Real and What Is Not in the Global FDI Network?* (January 20, 2020), https://ssrn.com/abstract=3522429, arguing that roundtripping is a frequent dynamic in international tax planning: "[…] a considerable share of FDI in an economy is assigned to ultimate investors in the same economy. Such round-tripping can be motivated by many reasons, including tax planning" (p. 17). "There is considerable variation in the significance of round-tripping. […] In transition economies like China and Russia, around 25% of Real FDI is ultimately owned by domestic investors whereas the share is below 10%. [..] in most developed economies" (p.22). Arguably, roundtripping should be allowed in this "tax discrimination dynamic". If endpoint jurisdictionsare trying to impose a lower effective tax rate on mobile businesses (vis-a-vis immobile ones), it should not be relevant whether the mobile business is domestic or foreign. Thus, the opportunity for tax planning using tax hubs should also be open for mobile domestic businesses. Allowing this planning to both domestic and foreign mobile businesses would arguably reduce the competition distortion mentioned above. Mobile businesses (e.g., software companies) tend to compete with each other in specific industries, while immobile businesses (brick and mortar businesses) also compete with each other in other sectors (like restaurants and hospitality). In sum, roundtripping via tax hubs should, in principle, be considered legal as a way of minimizing distortions.

[223] Marian, *The State Administration of International Tax Avoidance*, *supra* note 42.

antiavoidance tax regulations is supported by statistics showing the growing relevance of tax hubs over the last forty years.[224]

Second, tax hubs and Uber have a similar strategic structure because they both are two-sided platforms, as shown in this paper. Hence, both platforms could potentially be regulated by similar antitrust norms to deter opportunistic behavior in their respective markets. Case law by the European Court of Justice may be a valuable source of regulations to induce tax hubs and/or their users not to incur in, for example, free riding in the ITR ecosystem. The European Court of Justice's decision in *re Cartes Bancaires* is a case in point.[225] It applies antitrust law to a two-sided platform, a credit card payment system, to deter free-riding by platform users.[226]

In sum, anti-abuse tax regulations and antitrust law dealing with free-riding in two-sided platforms could work hand in hand in the ITR ecosystem. This two-tier anti-abuse framework may deter opportunistic behavior in this area of international law.

VI. CONCLUSION

This paper frames intermediation through tax hubs in the international tax regime by analogy to intermediation in two-sided platform markets like Uber.[227] It then asks how far one can extend that analogy and its limitations.[228]

The theory maintains that tax hubs are a global two-sided marketplace offering matchmaking services between international investors and endpoint jurisdictions, in pursuit of compensation functionally equivalent to a fee.[229] The Andolan case in India and Northern

[224] *See* Wier and Zucman, Global *Profit Shifting, 1975-2019*, *supra* note 15.
[225] *See*, e.g., The European Court of Justice Decision in Case C-67/13 P. Available at https://curia.europa.eu/juris/document/document_print.jsf?mode=lst&pageIndex=0&docid=157516&part=1&doclang=EN&text=&dir=&occ=first&cid=345991.
[226] *Id.*, paragraph 72.
[227] *See discussion supra* Part II. E and Part III.
[228] *See discussion supra* Part V.
[229] *See* discussion *supra* Part III.

Indiana case in the U.S. are examples of tax hubs' intermediation role in the global south and north, respectively.[230]

The theory is grounded on a unifying approach to the four strands of the literature on tax havens and tax hubs using antitrust law and economic concepts as the conceptual bridge.[231] The piece offers a stress test to the theory's explanatory power.[232]

The theory is positive rather than normative. It assumes that offshore finance in general and the tax hubs marketplace in particular happen with the support or at least tacit agreement of endpoint jurisdictions.[233] It also assumes that offshore finance (including tax hubs) may produce positive or negative network externalities depending on contextual elements.[234]

Using the two-sided platform model helps examine the strategic structure of the tax hub market and its interrelated roles with international investors and endpoint jurisdictions. For example, the theory responds to why the country of residence of international investors and the country of source typically have the incentive to sign tax treaties with tax hubs.[235]

The relative size of the tax hub marketplace is substantial. For instance, the United Nations reported that some 30 per cent of cross-border corporate investment stocks had been routed through tax havens and tax hubs before reaching their destination as productive assets.[236] Furthermore, the allocation of multinational profits booked in tax havens and tax hubs remained constant at about 37 per cent in a recent 44-year period (from 1975 to 2019). [237]

The two-sided tax hub marketplace has been resilient to external and internal shocks since the 1920s.[238] The OECD project on harmful tax competition in the late 1990s is a case in point

[230] *See discussion supra* Part I. A.
[231] *See discussion supra* Part I. C.
[232] *See discussion supra* Part IV. D.
[233] See *supra* note 41.
[234] *See discussion supra* Part II.E and supra note 88.
[235] *See discussion supra* Part V. B.
[236] WORLD INVESTMENT REPORT 2015, United Nations at 188. *See supra* note 107.
[237] *See* Wier and Zucman, Global *Profit Shifting, 1975-2019, supra* note 15. *See also* Arjan Lejour, *The Role of Conduit Countries and Tax Havens in Corporate Tax Avoidance, 2021, supra* note 34 at 27 (arguing that the role of conduit countries has been increasing).
[238] *See supra* Part II. F.

as it aimed to limit tax hub activities. However, the incentive for OECD members to defect implied the demise of the harmful tax competition project in the early 2000s.[239] Current reform proposals to limit the tax hub marketplace, like the global minimum corporate tax rate submitted by the G20/OECD in 2021, may face similar strategic challenges.[240]

The theory has limitations from a normative perspective. Indeed, taxes are not a standard transaction cost. Taxes are central tools that jurisdictions should be able to use to deal with some of the most fundamental challenges humanity faces: increasing inequality within their local communities.[241]

Finally, the theory has the potential to offer a new perspective on international tax policy.[242] For example, it might be the starting point to explore the feasibility of transplanting elements of antitrust law governing two-sided platforms to minimize problems like free riding by tax hubs and/or their users. Indeed, antitrust law may provide a fruitful conceptual framework to further understand the driving forces of the international tax regime and how to minimize opportunistic behavior.

[239] *See supra* Part II. E (discussing the concepts tax havens, investment hubs, tax hubs and offshore finance).
[240] *See s*upra Part IV. E (discussing Pillar Two and the tax hub market).
[241] *See* supra Part V (addressing the limitations of the theory).
[242] *See supra* Part V. C. (discussing potential implications of the theory in international tax policy).