Digital Value Creation and the Tax Nexus Frontier

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Note to readers

This essay explores the international community's effort to redraw the tax nexus frontier in response to the rise of the digital economy. What follows here is a preliminary draft of the issues—but not yet any concrete proposal or conclusion—prepared for discussion purposes at the Osgoode Hall law conference, *Re-Imagining Tax for the 21st Century: Inspired by the Scholarship of Tim Edgar*, February 8 & 9, 2019.

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INTRODUCTION

Using digital platforms located safely beyond the tax jurisdiction, multinational firms are increasingly capable of selling things to local consumers while collecting their data and using it to make profits that are either taxed somewhere else or not at all. What is the state to do about it? Data harvesting might plausibly be viewed as a form of value creation at the corporate level, thus establishing nexus for market countries to tax. On the other hand, this view seems to demonstrate an excessive amount of flexibility in the value creation concept, which is fast becoming the core organizing principle of the international tax regime. Having built a vast cooperative consensus around the principle at a time of great uncertainty regarding the changing nature and sources of economic value, the EU, OECD and G20 members find themselves confronting an ambiguity of their own making. Their resolution of the nexus issue is systematically important because it sets the stage for the next generation of tax policy cooperation and competition.

This article therefore examines the growing attention to user input amidst the increasingly popular mantra of value creation to determine whether these ideas are demarcating a new tax nexus frontier and if so, what this might signify in terms of creating winners and losers in international tax policy terms. Part I briefly sets out some of the main sources of digital value creation and some of the main uncertainties for identifying value in contemporary economies. Part II explores how some kinds of user information might be used to justify tax nexus on the grounds that they create value. Part III (to come) will attempt to assess the prospects for redrawing the nexus frontier around the digital economy. The conclusion is as yet a work in concept.

I. USER-BASED VALUE IN THE DIGITAL ECONOMY

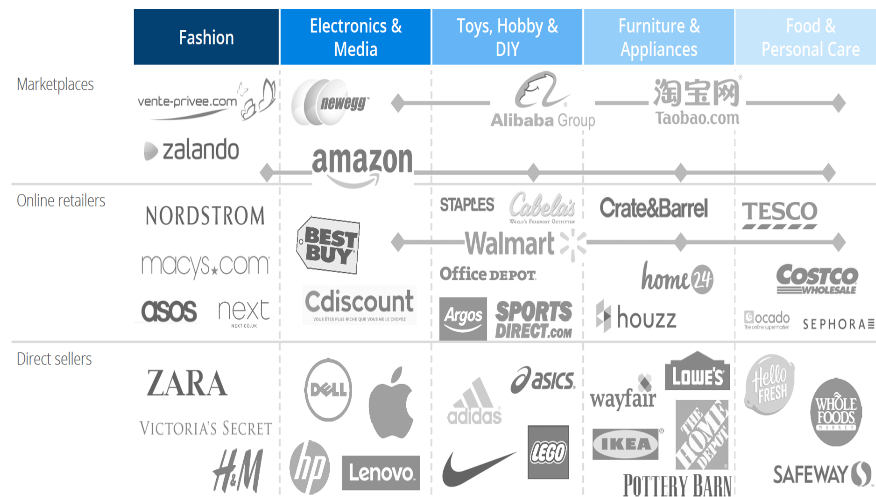
There is probably little to be said about the digital economy that hasn't already been covered at length by experts, theorists, and other interested parties, but it is useful to review the main features of the digital economy as they relate to user-generated value in order to assess their role in revisiting the idea of nexus. This part does so by first, briefly examining what experts say about the main digital economy business models, and second, exploring some of the features of these models that potentially generate profit through the independent behavior or input of users.

A. DIGITAL ECONOMY BUSINESS MODELS

Perhaps the most widely understood aspect of the digital economy is online shopping, that is, the proliferation of internet platforms which have replaced traditional sales, including remote sales, of goods and services. In a Report on Taxation of the Digital Economy (EC 2014 Report), a European Commission Expert Group describes online sales of goods as the "e-Commerce business model from the 'physical' world," wherein customers in a given jurisdiction purchase physical products using an online platform.[1] The Report explains that the problem for taxation is that distribution and support may be in the customer's country, but production and sales often are not, thus thwarting taxation of the profits generated by having customers (and thus creating a distinct cost advantage for remote versus domestic sellers).

Online e-commerce involving goods may be sub-categorized into market places, retailers and direct sellers, most of which are recognizable names, as the figure below illustrates.[2] This is important because consumer market visibility is what makes these companies both economically successful and a prime target for scrutiny by taxpayers and lawmakers when taxation becomes a topic of public debate.

Figure 1: Key Players in eCommerce[3]



Source: Statista eCommerce Report 2019 (December 2018)

[1] European Commission, Commission Expert Group on Taxation of the Digital Economy: Report (28 May 2014), (hereinafter EC 2014 Report). *See also* OECD Public Discussion Draft "BEPS Action 1: Address the Tax Challenges of the Digital Economy," 24 March 2014.

[2] See Statista Digital Market Outlook 2018.

[3] See Statista eCommerce Report 2019 (December 2018) at p. 8.

But the same basic characteristics also describe the sale of intangibles and services of all kinds. Selling or distributing digital media (video, music, games and books), as well as other intangibles including digital storage (such as Dropbox), financial services (Paypal), ride-sharing (Uber), and accommodation sharing (AirBnB), are mainly covered in the EC's second category of digital business models.[4] By way of explanation, the EC Report provides as the most familiar example "downloading … or online streaming services in return for a fee."[5] In the EC Report's categorization, the primary profit model of these businesses is to provide a service in exchange for a fee.

However, even when the business is primarily distributing digital content, advertising is often a main source of revenue. This is true both in pure advertising models such as YouTube, but also in "freemium" models, in which a basic service or platform is free, while features and upgrades are offered for a fee.[6] Moreover it is worth noting that the main category of digital media is neither video nor music but video games, the most successful of which combine streaming services with social networks.[7] The video game market is dominated by freemium-based social network platforms like Tencent and Steam, which combine gaming with communication services (instant messaging and the like) to generate revenues through a combination of fees, subscriptions services, and advertising, and depend heavily on networks for their market share. This is the model of most social networks, including Facebook, Instagram, and the like. For example, Instagram, which is owned by Facebook, announced that it had reached two million active advertisers in 2017; the company claims to have 500 million active users, thus one advertiser for every 25 users.[8]

It should therefore be no surprise that selling goods and services is the dominant revenue source for only three of the five global digital economy leaders; advertising is what drives the other two into this position. See Fig. 2.

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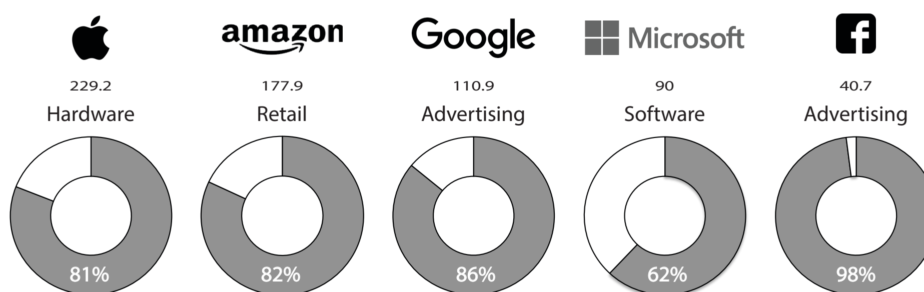
[4] EC 2014 Report at 21-22.
[5] Id.
[6] See, e.g., Vineet Kumar, *Making "Freemium" Work*, Harv. Bus. Rev. (May 2014).
[7] Statista, Digital Media: worldwide (November 2018) (digital video games generated over US$70 billion in revenue in 2018, while digital video streaming generated US$28 billion, ebooks USD$19 billion and music USD$12 billion.). Social networks are discussed in the EC Report's third category, multidimensional digital business models.
[8] Instagram, 2M Monthly Advertisers on Instagram, 25 Sept 2017, https://business.instagram.com/blog/welcoming-two-million-advertisers.

Fig. 2: Main Revenue Sources of Digital Economy Leaders



Top Five Digital Economy Companies, Total Revenues in Billions USD;
Dominant Source of Revenue, Percentage of Total

Source: Statista, Digital Economy Compass (2018).

Of course, any analysis of the digital economy is incomplete if it focuses solely on B2C transactions involving consumption of goods and services whether they are digital or delivered digitally. Virtually every sector and industry is digital in some way. But focusing on consumer-based business models is helpful in that this provides familiar examples that allow for comparison to tax design choices made in and for pre-digital economies.

The tax assessment and collection problems associated with remote sales of any kind are fairly obvious, with the main issue being that the profit is earned by a non-resident so only source-based taxes are available, but traditional source-based taxes don't seem to account for the kinds of profits being generated by these businesses. Some of these problems long pre-date the internet age, such that the proliferation of e-commerce has merely intensified well-known pre-existing collection and enforcement challenges.[9]

This is especially noticeable in the case of consumption taxes, as exemplified by the recently decided U.S. state sales tax case of *South Dakota v Wayfair* which overturned the necessity of physical presence for certain U.S. state sales tax purposes.[10] In consumption

[9] Mail order catalogues are the obvious comparator, and these date as far back as 1498, when Aldus Manutius introduced the first catalog of books in Venice. See, e.g, Joost Buijs, *A Visual History of the Catalog* (4 July 2017), https://www.publitas.com/blog/a-visual-history-of-the-catalog/. The question of whether the income of remote catalog sellers could be taxed probably did not arise until much later, perhaps after the advent of seed catalogs, or when Benjamin Franklin offered a catalogue of books to be sold, including to "Those Persons that live remote," by posting payment to the post office in Philadelphia. Id., citing the seed catalogs of William Lucas (England) and William Prince (New York), and Benjamin Franklin, A Catalogue of Choice and Valuable Books, Consisting of Near 600 Volumes, in most Faculties and Sciences (1744).
[10] South Dakota v. Wayfair, 585 U.S. ___(2018).

based tax scenarios, however, the issue created by e-commerce is not a lack of jurisdiction to tax but a lack of jurisdiction over the most convenient way to enforce the tax, namely, by imposing a collection obligation on vendors.[11] Whether collected or not, the tax is intended to be imposed on consumption, not income. In contrast, the task for the current discussion is to identify the potential sources of user-generated value in digital economy businesses and transactions for purposes of determining whether these inputs might allow jurisdictions to impose income taxation on the businesses themselves, independent of their role as third party consumption tax collectors.

B. USER-GENERATED VALUE

The most obvious source of user-generated value is in the "barter" of the user's information that accompanies online platform use and sales of goods and services.[12] That is, when an individual becomes a user of a platform or a purchaser of a good or service, this interaction provides a set of data points that are collected by the e-commerce vendor and used to (1) advertise to the particular user in hopes of generating additional sales from them; (2) attract new users and advertise to them; and (3) package multiple users' information for sale to third parties, including business partners and unrelated advertisers. Less obvious but still value-creating are network effects and content posting by influential users, who attract other users (the influenced) independent of the platform or company's efforts.

How much value is generated by these sources of user value is difficult to judge, even if it is clear that modern businesses are built on them.[13] In terms of barter, absent aggregation and analytical

[11] Thus in the context of indirect taxes such as VAT and, in the United States, state-level sales taxes, the sales in question are indisputably subject to the tax within the jurisdiction, but such taxes are imposed by requiring vendors to be tax collectors rather than by directly taxing consumers. In the U.S., since existing jurisprudence have long prohibited states from imposing tax collection requirements on remote sellers (i.e., those without a physical presence), most states had user taxes that turn the taxpaying obligation over to the consumer. However, without sufficient information from the vendors, the compliance rate among consumers is estimated to be 1 or 2%.

[12] See, e.g., OECD, Tax Challenges Arising from Digitalisation, Interim Report at 55 ("digitalisation has reshaped the role of users, allowing the possibility for them to become increasingly involved in the value creation process").

[13] This is in no way a revelation. *See e.g.*, Erik Brynjolfsson and Adam Saunders, *What the GDP Gets Wrong and Why Managers Should Care*, MIT Sloan Management Review 51:1 (Fall 2009) (noting that "the irony of the information

tools, a single user's information, network, or content might be worth very little. Yet aggregation and analytical tools are obviously also worth very little without the data with which to feed them. The problem is difficult, and data harvesting is by no means the only source of user-generated value, but the idea is something that tax policymakers can grasp and therefore feed into the existing rule set.

In recent work, economists Becker & Englisch argue for some restraint in this quest, since in their view most data harvesting is passive on the part of the user, with the business, not the user, producing, storing, and analyzing what they characterize as otherwise "useless" raw data.[14] Even if the user's data or input was considered independent of whatever the company does with it, Becker & Englisch argue that significant change is not warranted because the information is very hard to value in terms of uncompensated labour[15] and in any case is often compensated with free or discounted services or with the emotional returns of popularity and influence.[16]

Even so, the sheer growth of digital retail platforms over the past twenty years suggests that the aggregate value of user data must be significant. In 2018, some 1.77 billion people around the world purchased over US$1.5 trillion in consumer goods via e-commerce platforms.[17] Amazon went from having 1.5 million active users in 1997 to having 310 million by 2016.[18] And Amazon is dwarfed by Alibaba, with 601 million active users.[19]

It is fairly clear why user data might be as or more important than a given sale in an e-commerce relationship. Some local users of online platforms are not just consumers (thus indistinguishable from the catalog shopper of old) but significant value-creating

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age is that less is known today about the sources of value in the economy than was known 25 years ago").

[14] Johannes Becker & Joachim Englisch: *Taxing Where Value is Created: What's User Involvement Got to Do With It?* (2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3258387.

[15] Per Allison Christians and Laurens Van Apeldoorn, *Taxing Income Where Value is Created*, Fl. Tax Rev (2019).

[16] Becker & Englisch at [].

[17] See We Are Social Ltd., Global Digital Report 2018.

[18] Amazon had 310 million active users at the end of 2018. Statista, Number of active Amazon customer accounts worldwide from 1st quarter 2013 to 1st quarter 2016 (in millions), https://www.statista.com/statistics/476196/number-of-active-amazon-customer-accounts-quarter/.

[19] Alibaba had 601 million active users at the end of 2018. Statista, Number of annual active consumers across Alibaba's online shopping properties from 3rd quarter 2013 to 3rd quarter 2018 (in millions), at https://www.statista.com/statistics/226927/alibaba-cumulative-active-online-buyers-taobao-tmall/.

"prosumers"— producing value for a particular company without remuneration and independent of their purchase of any particular good or service. Prosumers might produce value by creating network effects, by providing personal information (knowingly or not), or by posting content that then draws other users to share their information or become customers. The potential of anyone to go from consumer to prosumer is one reason why companies—and not just governments—are busy "collect[ing] it all."[20]

Amazon proves illustrative in its privacy notice, in which it states that its collection policy is to "receive and store any information" a user enters on its website or "give[s] us in any other way," including the user's location and mobile device.[21] Amazon informs its users that the company may use this information to provide "location-based services, such as advertising, search results, and other personalized content."[22]

It is clear that collecting, aggregating, analyzing and deploying user information is a key function, if not the entire raison d'etre, of many e-commerce businesses. In particular, e-commerce trend analysis names fashion—a decidedly non-digital commodity[23]—as the largest and fastest growing business-to-consumer (B2C) e-commerce market segment, and lists "personalization and recommendation features" as among the main benefits for consumers in this market.[24] It is axiomatic that personalization requires customer data, while recommendation-giving requires comparing customer behaviors.

Further, some marketplaces, like Amazon, Alibaba, and others, have become primary product search engines which "create an ecosystem of agencies [focused] on marketplace [search engine optimization], product advertising and related services."[25] Thus in collecting, aggregating, analyzing and deploying user information,

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[20] Glenn Greenwald, The crux of the NSA story in one phrase: 'collect it all', The Guardian, 15 July 2013.
[21] Amazon, What Personal Information About Customers Does Amazon.com Gather?,
https://www.amazon.com/gp/help/customer/display.html?nodeId=468496
[22] Id.
[23] Barring wearable technology, which is a small but growing market segment. *See, e.g.*, Rachel Arthur, The Future Of Fashion: 10 Wearable Tech Brands You Need To Know, Forbes, 30 June 2016, at https://www.forbes.com/sites/rachelarthur/2016/06/30/the-future-of-fashion-10-wearable-tech-brands-you-need-to-know/#4bbb2ffc4220. Cisco Systems estimates that there were 593 million connected wearable devices (which includes smart watches and fitbits and the like) in use in 2018, up from 325 million in 2016. Cisco Systems, *Number of connected wearable devices worldwide*, 2016 to 2021 (in millions) (2019).
[24] Statista eCommerce Report 2019 (December 2018).
[25] Statista eCommerce Report 2019 (December 2018) at 9.

online marketplaces of physical products are simultaneously becoming the purveyors of digital or cloud-based services, including social networks.

These potential user-generated sources of value, and the countless others not covered here, raise questions that seem to perfectly exemplify the fundamental problem that has always plagued international taxation, namely, that international activities and transactions are by their very nature the product of synergy across borders. Disaggregating the product of these synergies in order to allocate the taxing right to one jurisdiction or another is obviously a quixotic task. Yet that has become an essential task for tax policymakers, starting from the threshold problem of nexus and carrying over into the allocation of profit for tax purposes, as the next section explores.

II. USER BASED VALUE VS TRADITIONAL NEXUS

The European Commission's Expert Report on the Digital Economy considered the broad tax implications of digital economy business models, rejected the idea that data collection alone should create tax nexus, and called for "restoration" of nexus provisions through existing rule sets, specifically concerning the definition of a permanent establishment.[26] This approach seems likely to carry over into the OECD's work, per some recent policy statements.[27] But it is not obvious what restoration means in this context.

Nexus is an enduring structural feature of international tax policy, but upon examination it is hard to state with any conviction that nexus is a principle that can be articulated and defended on normative grounds. Instead, it seems to be an extremely accommodating concept—much like the concept of value creation. Compounded, the two seem likely to please everyone and no one at the same time.[28] Revisiting nexus provides a useful reminder of how OECD countries came to find themselves today, effectively hamstrung by age-old political compromises that we now seem to think are supposed to represent conceptually coherent principles. The ancients probably knew better then, and we ought to know better now: defining a jurisdiction to tax, let alone a primary right to

[26] EC 2014 Report.
[27] OECD, *Brief On The Tax Challenges Arising From Digitalisation: Interim Report 2018*, https://www.oecd.org/tax/beps/brief-on-the-tax-challenges-arising-from-digitalisation-interim-report-2018.pdf; see also BIAC, Business sets out key principles for digital tax measures, http://biac.org/wp-content/uploads/2019/01/Media-Release-Digital-Principles-Position-Paper1.pdf (calling for cautious and uniform movement by the international tax community).
[28] *See* Allison Christians, *Taxing According to Value Creation*, 90 Tax Notes Int'l 1379 (18 June 2018).

do so, has always been an exercise in political compromise among the overlapping, self-delineated claims of competing sovereigns.

A. THE ORIGINS OF NEXUS

A century ago, as the growing popularity of income taxation made competing claims over the same income likely to produce double or multiple taxation of strategically important national industries, the League of Nations struck a committee of four economists to study the problem of defining international standards for tax jurisdiction claims.[29] The economists laid out a framework for dividing the tax base that endures today and forms the starting point for virtually every discussion about international taxation as a regime or as a set of policy norms. Their report, published in 1923, sought to articulate a nation's jurisdiction to tax as a function of what they termed "economic allegiance."[30]

Economic allegiance arose from the sense that the tax base, as a product of economic activity, must be understood not in terms of a taxpayer's political or social connections to a country, but by their economic interaction with and within it. As the economists put it, "In the modern age of the international migration of persons as well as of capital, political allegiance no longer forms an adequate test of individual fiscal obligation. It is fast breaking down in practice, and it is clearly insufficient in theory."[31]

That assessment still seems correct, but it is not clear whether economic allegiance solved or can solve the difficulty posed by the digital economy. The economists readily admitted that, owing to the economic impossibility of assigning income to particular geographic sources, dividing the global income tax base would be a question of political feasibility, and not science.[32] Yet economic

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[29] Gijsbert W. J. Bruins, Luigi Einaudi, Edwin R. A. Seligman, and Sir Josiah Stamp, REPORT ON DOUBLE TAXATION, April 5, 1923 (hereinafter, "1923 Report").

[30] This was a reasoned move away from the citizen/state relationship traditionally understood to confer jurisdiction in public international law terms, because the state's ability to tax must inherently extend to non-citizens).

[31] 1923 Report at 19.

[32] 1923 Report at 49–50 (discussing what debtor and creditor countries would be expected to accept, and concluding that "At the present stage of our considerations … we do not see any other form of compromise which is likely to reconcile the conflicting interests and to have any prospect of success upon three points: (1) to reconcile the widely opposed interests of debtor and creditor exchequers; (2) to admit those ideas which, though widely accepted in many countries, are, in our view, in relation to income tax, to a considerable extent economically undeveloped in so far as they ascribe undue importance to origin taxation; and,

allegiance was accepted as a workable framework for explaining jurisdictional thresholds to taxation.[33] The likely reason for this is that conceptually, economic allegiance satisfies some version of benefit theory, which itself was viewed as a plausible normative explanation for how taxation burdens should be shared among members of a society.

Benefit theory posits that people should contribute to government according to the benefits they receive from it; economic allegiance appeals to that portion of benefit theory that connects the person to the state as a threshold matter, that is, the act of justifying taxation prior to that of determining the appropriate amount (i.e., that which was proportional to the benefit received). Benefit theory has always satisfied some intuitive notions about the relationship between the state and its people, but it has continuously been rejected for domestic tax purposes as effectively impossible to satisfy. A major barrier to achieving benefit theory is, not surprisingly, that it is virtually impossible to value with any accuracy the relative amount of public goods that are "received" by specific taxpayers. The impossibility of taxing those who benefit but have no capacity to actually pay tax is a second but no less difficult problem for proponents of benefit theory.

Despite its clear unworthiness to the distributive rules of taxation within countries, benefit theory continues to hold an intuitive appeal when thinking about nexus. This may be primarily due to its alignment with the reality of tax enforcement. A state must have something to seize—whether that be a person or their assets—to counter noncompliance with its tax laws. As such, physical presence of someone or something is clearly a prerequisite to effective enforcement of whatever the lawmakers of the day deem to be the appropriate form and manner of taxation.

The idea of benefit theory supports this practicality in the international context because it defends a country's imposition of tax on a person who "belongs" in tax terms primarily to another jurisdiction. Without the justification that the foreign person is benefiting from the local market, the imposition of taxation at source might look more opportunistic than principled. Certainly it is politically more palatable to tax the non-voter abroad; the benefit theory explains when that it is normatively justified as well.

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lastly, (3) to conform to what is, in the experience of fiscal administrations, practically possible in dealing, in such a complex world, with the income of individual persons.").

[33] Using economic allegiance as the framework, the international tax architects outlined the concept of origin or source as the conceptually consistent opposite of residence-based taxation.

But using benefit theory in this way is problematic. It might be viewed as inherently problematic because this use explains nothing about the appropriate level of taxation after the connection threshold is met. That is, it is hard to understand why a normative theory should justify the state's jurisdiction but not the level or scope of its tax. But the bigger problem seems to be that in an economically integrated world, benefit theory appears all-encompassing as a jurisdictional threshold.

B. IS THERE A NORMATIVE LIMIT TO NEXUS?

If in the context of nexus we are trying to assert that the taxpayer has made use of the state in some way and therefore can be required to support it from abroad, the implicit claim is that the foreign person is taking advantage of the things the state has provided to create and sustain a market that is open and available to that person. This potentially includes virtually any tangible or intangible aspects of social ordering: roads, police and fire, public health care and education, to be sure, but it also includes things that are absolutely requisite to international trade and investment, namely, the rule of law, the ability to use currency to engage in market transactions, the ability to engage in market transactions and have protections against exploitation; the ability to pool capital for shared projects.

All of these things cost money, most have to be provided by public institutions (that is, the state), and any one of them could be considered sufficient to provide justification that any given taxpayer has nexus with virtually any jurisdiction. If so, benefit theory seems to prove too much when it comes to nexus.[34]

The four economists provided illustrative examples in this regard. For instance, they posit the difficulty of assigning a single origin to a stream of income that is earned by a vessel "ply[ing] navigable waters which traverse different countries," using docks and appurtenances along the way that materially contributed to profitable operations, depending as well on the good management and "business sagacity" of the captain and the owner, wherever they may be at a given time.[35] Unstated though equally relevant, the vessels would have also benefited from the existence of private legal

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[34] Public international law theorists posit that there are customary constraints on sovereignty that must limit nexus to some degree. For a review of the literature, see Stjepan Gadzo, *Nexus Requirements for Taxation of Nonresidents' Business Income: A Normative Evaluation in the Context of the Global Economy* (IBFD 2018). Practical experience weighs against this view even if it is conceptually coherent.

[35] 1923 Report at 24; 33–34.

protections and financial instruments accepted across legal systems, to assure that commercial intentions would be respected.

It was obvious to the economists, and it is still obvious today, that a dollar produced in the global economy is the product not of the effort of one person or group of persons – and not of one nation or of a handful of nations – but rather of the entirety of the global economic community working cooperatively to make international transactions possible. The production of value relied then, as it does now, on the international enforceability of rights,[36] the ability to exchange currency,[37] the existence of uniform weights and measures standards,[38] the ability to assess creditworthiness and impose accountability on all those involved in trading across borders,[39] the ability of individuals to exchange their labor for compensation in multiple nations,[40] the physical, financial, and legal

[36] For example, courts across jurisdictions and forums have acknowledged and protected various corporate rights including the right to sue, to freedom of expression, freedom of assembly, compensation for non-pecuniary harm, privacy, and equal treatment under the law. *See Troy & N.C. Gold Mining Co. v. Snow Lumber Co.*, 173 N.C. 593, 92 S.E. 494 (1917) (affirming a foreign corporation's right to sue in a local court); *Singer v. Canada*, Communication No. 455/1991, UN Doc CCPR/C/51/D/455/1991 (1994) (protecting corporate right to freedom of expression); *Autronic AG v. Switzerland* A 178 (1990) (same); (1990) 12 EHRR 485 (same); *A and H v. Austria,* App No. 9905/82 7 Eur HR Rep 137 (1985) (protecting corporate right to freedom of assembly); *Comingersoll SA v. Portugal* 2000-IV 355 (protecting corporate right to compensation for non-pecuniary harm); *Société Colas Est and Others v. France* 2002-III 421 (protecting corporate right to privacy); *Santa Clara County v. Southern Pacific Railroad,* 118 US 394 (1886) (protecting corporate right to equal treatment); *Oakdale Mfg. Co. v. Garst*, 18 R.I. 484, 28 Atl. 973 (1894) (affirming the right of foreign corporations to the enforcement of local contracts); *Cumberland Tel. & Tel. Co. v. Louisville Home Tel. Co.,* 114 Ky. 892, 72 S.W.4 (1903) (affirming the right of foreign corporations to protection of local property and other interests).

[37] *See, e.g.*, A. L. Calvet, *A Synthesis of Foreign Direct Investment Theories and Theories of the Multinational Firm*, 12 J. INT'L BUS. STUDIES 43 (1981).

[38] *See* Bureau Internationale des Poids et Mesures, The Role and Objectives of the BIPM, *at* http://www.bipm.org/en/about-us/role.html.

[39] *See* generally David K. Eiteman, Arthur I. Stonehill and Michael H. Moffett, MULTINATIONAL BUSINESS FINANCE, 13th ed. (Prenctice Hall, 2012).

[40] *See,* e.g., Farhad Noorbakhsh and Alberto Paloni, *Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence*, 29 WORLD DEVEL. 1593 (2001); Chien-Hsun Chen, *Regional Determinants of Foreign Direct Investment in Mainland China*, 23 J. ECON. STUDIES 18 (1996); Maurice Kugler and Hillel Rapoport, *International Labor and Capital Flows: Complements or Substitutes?*, 94 ECON. LETTERS 155 (2007); Nigel Driffield and Karl Taylor, *FDI and the Labour Market: A Review of the Evidence and Policy Implications*, 16 OXF. REV. ECON. POL'Y 90 3 (2000).

infrastructure built in multiple nations,[41] and on and on.[42] There is nothing new about any of this but these are also all the things that make the digital economy work.

The greater economic interdependence achieved through regional and global trade and finance agreements, the harder it is to explain how nexus could possibly be delimited in normative terms. For example, the United States could plausibly claim that since everyone in the world benefits from its provision of the world's reserve currency which protects against total global financial crisis, everyone in the world can be said to have nexus in the United States. By the same token, the Cayman Islands is a financially sophisticated jurisdiction that facilitates capital pooling by individuals and companies across the globe, in shared projects—especially hedge funds. Using economic allegiance or benefit theory as the explanation for nexus, the Cayman Islands could plausibly claim that but for its provision of international financial services, much less trade in goods or services across borders would occur, so anyone buying or selling anything that is ultimately funded through international capital markets has nexus in the Cayman Islands.

Both of these assertions must be wrong, but benefit theory does not explain why. The United States does not overtly attempt to claim nexus on the basis of its superpower status (but surely brings that view of itself to any tax negotiation scenario). The whole project of the OECD seems to be to deny taxing rights to countries like the Caymans, on the grounds that the "real" or "substantive" economic activity is elsewhere. Yet relying on the benefit theory, it is difficult to explain why currency exchange and collective capital investment do not justify tax nexus as a threshold matter. And again, if the threshold cannot be denied, then it is hard to say why a claim of primary tax base can.

The conclusion to be drawn is that problems states face in taxing today—even around such phenomena as electronic commerce, digital services, remote sales, and so on—are not in material respects that much different than those encountered in 1921, even if they loom vastly larger in scope and importance. The OECD is offering the value creation mantra as a counterweight to

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[41] *See,* e.g., Steven Globerman and Daniel Shapiro, *Governance Infrastructure and US Foreign Direct Investment*, 34 J. INT'L BUS. STUDIES 19 (2003); Christian Bellak, Markus Leibrecht and Jože P. Damijan, *Infrastructure Endowment and Corporate Income Taxes as Determinants of Foreign Direct Investment in Central and Eastern European Countries*, 32 WORLD ECON. 32, 267 (2009).

[42] *See,* e.g., Bruce A. Blonigen, *A Review of the Empirical Literature on FDI Determinants*, 33 ATL. ECON. J. 383 (2005); Marie M.Stack, Geetha Ravishankar and Eric J. Pentecost, *FDI Performance: A Stochastic Frontier Analysis of Location and Variance Determinants*, 47 APPLIED ECON. 3229 (2015).

the unlimited power potential of nexus backed by benefit theory. Yet value creation risks merely repeating the established pattern.

The connection between value creation and nexus is especially vivid at the digital frontier. In a nexus inquiry, the question is whether the kinds of inputs uses provide are in fact value-creating, such that harvesting enough of them justifies a state's imposition of corporate-level taxes on the foreign company's profits. This is why the idea that income should be taxed where value is created is viewed as vital to the question of nexus. But the idea that income should be taxed where value is created posits the exact same questions as those that bedevil economic allegiance and benefit theory. The fact that there is no scientific or technically correct answer to most value questions leaves states scrambling to protect a weak rule set. Hence the current discussion about whether nexus needs to be redrawn.

III. DIGITALLY REDRAWING THE TAX NEXUS FRONTIER

Given the above, a redrawing of the nexus frontier to accommodate the digital economy is not likely to satisfy any normative standard. The discussions underway at the OECD and EU, similar to those within the U.S. states, therefore do not seem authentically about demarcating or defending a holistic approach to national tax jurisdictions, but it they are about staking a position from which to promote national interests in bilateral tax and trade arrangements. As the evidence mounts that the world's tax policy consensus-builders have repeatedly failed and are likely to do so continuously, is there a defensible way to redraw nexus? This section will explore the terrain.

CONCLUSION

In 2001, Microsoft was the only digital business listed among the top five companies by market capitalization; the others were goods and services giants GE, Exxon Mobile, Walmart, and Citibank.[43] By 2017, all five of the market leaders were digital: Microsoft still, but now flanked by Apple, Amazon, Google, and Facebook.[44] Collectively, these five companies have billions of active users, deploy billions of advertisements, represent $3 trillion in market capitalization, and generate half a trillion in revenue per year. That these five are also notoriously low tax payers is perhaps the main reason why the international tax community is grappling

[43] Morningstar
[44] Id.

with the notion of user-generated value creation and a rethink of the nexus principle.

These digital business models reveal what amounts to a deeply embedded error in international tax policy theory, namely, that nexus is a principle that can be articulated and defended on normative grounds. It seems much more likely that nexus is merely an expression about what is currently viewed as feasible to tax. Feasibility to tax has always meant political will to build and deploy administrative and enforcement tools; perhaps today's business models have not changed this calculation even if they have changed the kinds of tools that are necessary for the task.

If this is correct, then talk of redrawing the nexus frontier to accommodate the digital economy is not really about demarcating the jurisdiction to tax as a normative matter, but it is about what states currently think is possible, and what they are willing to do in international tax terms to promote their national interests. If so, there is a real danger that the geo-political politics of the day will lead the world to adopt a new consensus that, like those of old, benefit the key players at the expense of everyone else.