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TAX'S DIGITAL LABOR DILEMMA

AMANDA PARSONS†

ABSTRACT

Digitalization has reshaped the relationship between companies and their customers and users. Customers and users increasingly serve a dual role. They are not only consumers but also producers, creating data and content. They are a value-creating workforce, functioning as “digital laborers.”

Digital laborers’ value creation highlights that there are two parts to the question of whether multinational companies are paying their “fair share” of taxes—one of amount and one of location. First, are companies’ total tax bills paid across all countries in line with their global income? Second, is taxing authority over multinational companies’ income being divided amongst countries in a coherent and fair way? Digital laborers’ value creation implicates the second. Under the current international tax system, the presence of digital laborers in a country does not grant that country taxing rights over income stemming directly from those digital laborers’ data and content creation. As a result, what are essentially the same activities—individuals creating products and performing services for a company—are taxed differently when they are performed by digital laborers rather than by a traditional workforce. This inconsistency and the accompanying outcome that countries cannot tax corporate income arising from extensive business activities within their borders have contributed to cries that the current system is unfair.

Recent reforms addressing this outcome share a common weakness. They do not recognize the function of digital laborers as producers in the modern economy. As a result, they overturn the theory of source-based taxation as a taxing right granted only to the country of

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production and introduce major structural changes to the international tax system that apply only to a subset of global companies. These changes are all to correct an unfairness that can be remedied under the system's current theoretical framework and structure.

This Article rejects the notion that these major theoretical and structural changes are necessary or even appropriate methods to allow digital laborers' home countries to tax income directly related to their data and content creation. Instead, the international tax system should recognize digital laborers' role as a new type of workforce for companies and, accordingly, allow their home countries to tax income related to their work under the existing application of the source principle and with more incremental structural reforms. In addition to minimizing disruption in international tax law, this approach reinforces coherence and fairness by taxing equivalent economic activities equivalently.

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INTRODUCTION

Digital laborers are a fixture of our increasingly digitalized global economy. Digital laborers are users and customers who create data and content for companies, serving a dual role as both producers and consumers. The phenomenon of digital labor highlights that when we ask whether multinational companies are paying their “fair share” of taxes in the modern economy, we are asking two questions. The first, and perhaps more familiar, is if multinational companies are paying taxes at all. Have multinational companies been able to manipulate weaknesses in international tax law to achieve a low or even nonexistent tax bill?¹ But a second and equally important question is where these companies are paying taxes. Is taxing authority being divided amongst countries in a coherent and fair way?² Digital laborers’ data and content creation implicate this second question. Under the current application of the international tax system, digital laborers’ home countries are not granted taxing authority over income stemming directly from their production, and this outcome has been identified as unfair.³

The international tax system should recognize that digital laborers serve a similar function as a traditional workforce does and treat them as such for purposes of allocating taxing authority over income directly attributable to their production amongst jurisdictions. Doing so brings

1. See, e.g., Patricia Cohen, *No Federal Taxes for Dozens of Big, Profitable Companies*, N.Y. TIMES, <https://www.nytimes.com/2021/04/02/business/economy/zero-corporate-tax.html> [<https://perma.cc/FH2A-YYEC>] (last updated Oct. 7, 2021) (reporting that at least fifty-five Fortune 500 companies did not pay federal income taxes in 2020). For further discussion, see *infra* notes 55–59 and accompanying text (outlining criticisms of the international tax system, claims that multinational companies are not paying their “fair share” of taxes, and the rise of “stateless” and “homeless” corporate income).

2. See *infra* notes 55, 58 and accompanying text (identifying incoherence in the place where income is taxed under the current international tax system).

3. See *infra* notes 75–78 and accompanying text (explaining the reasons for this outcome and identifying criticisms of its unfairness).

consistency to international tax law by taxing equivalent economic activities—individuals producing goods and performing services for a company—in the same way. Treating digital laborers in the same way as a traditional workforce grants taxing authority to digital laborers’ home countries under the current theoretical framework of international tax law and requires more incremental structural changes than those proposed by other reforms.

The story of Facebook⁴ illustrates the central role of digital laborers’ production in the digital economy.⁵ Each day one-fifth of the world’s population logs onto Facebook, and one-third of the world’s

4 This Article uses “Facebook” to refer to both the parent company now known as Meta Platforms, Inc., and the digital platform known as Facebook.

5 There is no universally agreed upon definition of the “digital economy.” See, e.g., IMF, MEASURING THE DIGITAL ECONOMY 7 (2018), <https://www.imf.org/en/Publications/Policy-Papers/Issues/2018%20/04/03/022818-measuring-the-digital-economy> [<https://perma.cc/K3Q2-ZPZA>] (“There are no agreed definitions of digital sector, products or transactions, let alone the digital economy.”); Lilian V. Faulhaber, *Taxing Tech: The Future of Digital Taxation*, 39 VA. TAX REV. 145, 150–51 (2019) (explaining that there is no clear definition of the digital economy).

The digital economy is often defined broadly. The Organisation for Economic Co-operation and Development (“OECD”), for example, has recently defined the digital economy as “all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. . . . [and] all producers and consumers, including government, that are utilising these digital inputs in their economic activities.” OECD, A ROADMAP TOWARD A COMMON FRAMEWORK FOR MEASURING THE DIGITAL ECONOMY 5 (2020) [hereinafter OECD, MEASURING THE DIGITAL ECONOMY], <https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf> [<https://perma.cc/H24L-EMBQ>]; see also SEAN LOWRY, CONG. RSCH. SERV., R45532, DIGITAL SERVICES TAXES (DSTs): POLICY AND ECONOMIC ANALYSIS 1 (2019) (defining the digital economy as including all economic activities that occur via mobile devices or devices connected to the internet).

There are certain features of the digital economy that are most relevant to the analysis of the work of customers and users. The first is the centrality of information and data within the digital economy. See JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM 16, 47 (2019) (defining the informational economy as “one oriented principally toward the production, accumulation, and processing of information” and identifying data as the “fourth factor of production” within the informational economy). The work of customers is very often the key source of data production for companies. The second is the importance of platform-based business models within the digital economy. Platform-based business models are important to this analysis because they are the mechanism through which the work of content creation (and accompanying data creation) is accomplished. See generally GEOFFREY G. PARKER, MARSHALL W. VAN ALSTYNE & SANGEET PAUL CHOUDARY, PLATFORM REVOLUTION: HOW NETWORKED MARKETS ARE TRANSFORMING THE ECONOMY—AND HOW TO MAKE THEM WORK FOR YOU (2016) (documenting the rise of the platform economy). References to “digitalization” and the “digital economy” in this Article will, therefore, most commonly be linked to the data economy and the platform economy.

population uses the platform each month.⁶ The social media giant's attraction of nearly 1.9 billion daily users and 2.9 billion monthly users is staggering—60 percent of all people with internet access are active users of the website.⁷ And Facebook's reach is truly global—90 percent of its daily users are located in countries other than the United States and Canada.⁸

Facebook's success relies on this global army of users producing masses of content, as well as data. Users upload more than three hundred million photos to the platform each day.⁹ Each minute, users post nearly three hundred thousand status updates and five hundred thousand comments.¹⁰ And, even more importantly, Facebook's billions of users produce valuable data both through their content creation and through their navigation of the platform—four petabytes (four million gigabytes) of data each day as of 2019.¹¹ Facebook monetizes this data and content in a variety of ways.¹² Leveraging the work of its users, Facebook has grown since its 2004 founding to a company with \$86 billion in annual revenue.¹³

6. In the first quarter of 2021, Facebook estimated that it had 1.878 billion daily active users and 2.853 billion monthly active users. FACEBOOK, FB EARNINGS PRESENTATION Q1 2021 2-3 (Apr. 28, 2021), https://s21.q4cdn.com/399680738/files/doc_financials/2021/FB-Earnings-Presentation-Q1-2021.pdf [<https://perma.cc/N8RT-9W3D>].

7. See *Statistics*, ITU, <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> [<https://perma.cc/R6AC-UFQK>] (estimating that 4.6 billion people across the globe had access to internet at the end of 2020).

8. Forty percent of its daily users are located in the Asia-Pacific region, 16 percent are located in Europe, 10 percent are located in the United States and Canada, and the remaining 34 percent are located across the rest of the world. FACEBOOK, *supra* note 6, at 2. The geographic distribution of monthly users is substantially similar. *Id.* at 3.

9. Bernard Marr, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read*, FORBES (May 21, 2018, 12:42 AM), <https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-every-one-should-read> [<https://perma.cc/D5ES-FKBL>].

10. *Id.*

11. Jeff Desjardins, *How Much Data Is Generated Each Day?*, WORLD ECON. F. (Apr. 17, 2019), <https://www.weforum.org/agenda/2019/04/how-much-data-is-generated-each-day-cf4bddf29f> [<https://perma.cc/44XM-U9Y5>].

12. How firms monetize customer-generated content and data is outlined in Part II.C below.

13. See Facebook, Inc., Annual Report (Form 10-K) 11, 66 (Jan. 27, 2021) [hereinafter Facebook 2020 Form 10-K].

Facebook's business model reflects this new hybrid relationship between customers¹⁴ and an enterprise.¹⁵ In business models employed before the rise of the digital economy, as well as in lines of business less impacted by digitalization today, the relationship between customers and an enterprise is separate and more clearly defined. The enterprise produces products and services, which customers then purchase with money. In contrast, Facebook's users both consume the company's products and services and contribute to their production.

Facebook and other social media platforms are not the only enterprises that both have this type of hybrid relationship with customers and leverage their labor. The digital economy is growing rapidly.¹⁶ This growth includes the rise of platform business models, such as online marketplaces, review sites, and media hosting platforms, where the work of content creation by digital laborers is prominent. The data economy is also a key component to the digital economy. Digital laborers create vast quantities of data for platform businesses through their content creation and other activities on the platforms, and these companies are at present most attuned to the value of this data and how to monetize it.¹⁷ However, digital technologies have enabled companies to collect data on their customers across a variety of industries, causing one commentator to note that "for most companies, their data is their single biggest asset."¹⁸ As other industries begin to recognize the value of customer data, the work of digital

14. This Article employs the term "users" when discussing specific businesses or categories of businesses, such as social media companies, that refer to their patrons as "users." When not referring to these specific businesses and business models, it employs the more generic term "customers."

15. This Article uses the terms "company," "firm," and "enterprise" interchangeably to refer to business entities generally—both entities that are taxed directly and entities that pass the tax burden through to their owners. The conclusions of this Article apply to both non-pass-through and pass-through entities. The term "corporation" is used to refer to an entity that is taxed under U.S. federal income tax law as a corporation as that term is defined in I.R.C. § 7701(a)(3).

16. See OECD, MEASURING THE DIGITAL ECONOMY, *supra* note 5, at 11.

17. See, e.g., MIT TECH. REV. CUSTOM & ORACLE, THE RISE OF DATA CAPITAL 4 (2016), http://files.technologyreview.com/whitepapers/MIT_Oracle+Report-The_Rise_of_Data_Capital.pdf [<https://perma.cc/39BS-RW9S>] ("Google, Amazon, Netflix, and Uber have all realized that data is more than just a record of something that happened. Data is raw material for creating new kinds of value . . ."); THE BOS. CONSULTING GRP., THE VALUE OF OUR DIGITAL IDENTITY 9 (2012) (highlighting that internet sectors, as well as the retail sector, are most advanced in their use of personal data).

18. MIT TECH. REV. CUSTOM & ORACLE, *supra* note 17, at 3 (quoting financial economist Andrew W. Lo).

laborers will become an even more important feature of the economy overall.

The rising importance of digital laborers in the economy and the data and content they create has sparked a lively and growing debate across various areas of the law as well as other disciplines. For example, the widespread creation and collection of digital laborers' data have provoked concerns about the sufficiency of data governance and privacy laws,¹⁹ as well as about the impact of big data on antitrust law.²⁰ Concerns over the equitable division of the wealth created by digital laborers' data have led to calls for digital laborers to be compensated for their work,²¹ as well as to broader discussions on the exploitative nature of data collection.²² And a crucial conversation has emerged exploring the changes (and threats) that the rise of informational capitalism, of which digital labor is a vital component, has brought about in our legal system at a fundamental level.²³ Although focused

19. See generally, e.g., Salomé Viljoen, *A Relational Theory of Data Governance*, 131 YALE L.J. 573 (2021) (identifying the population-level harms of datafication and the inadequacy of individualistic approach to data governance law to address these harms); SHOSHANA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER* (2019) (outlining in detail the business practices of surveillance and data collection as well as their harms, and arguing that current privacy and antitrust laws are insufficient to prevent these harms); Alexander Tsesis, *Data Subjects' Privacy Rights: Regulation of Personal Data Retention and Erasure*, 90 U. COLO. L. REV. 593 (2019) (contrasting the European Union's General Data Protection Regulation with the libertarian conceptions of the internet prevalent in the United States); Laura DeNardis & Mark Raymond, *The Internet of Things as a Global Policy Frontier*, 51 U.C. DAVIS L. REV. 475, 482 (2017) (outlining privacy concerns related to data gathering on users within the Internet of Things ("IoT")).

20. See generally MAURICE E. STUCKE & ALLEN P. GRUNES, *BIG DATA AND COMPETITION POLICY* (2016) (discussing the competitive implications of big data and the practice of data-driven mergers).

21. See, e.g., JARON LANIER, *WHO OWNS THE FUTURE?* 15–17 (2013) (arguing that individuals should be proportionally compensated for their creation and contribution of data); ERIC A. POSNER & E. GLEN WEYL, *RADICAL MARKETS: UPROOTING CAPITALISM AND DEMOCRACY FOR A JUST SOCIETY* 209 (2018) (arguing that enterprises should be required to compensate individuals for their electronic data).

22. See *infra* note 126 and accompanying text for a more detailed discussion of concerns about the exploitation of digital laborers within the field of political economy.

23. See, e.g., COHEN, *supra* note 5, at 15 (tracing how the information economy has resulted in the development of private power and analyzing how the law has both facilitated and been shaped by these developments); Amy Kapczynski, *The Law of Informational Capitalism*, 129 YALE L.J. 1460, 1460 (2020) (arguing that informational capitalism threatens equality and self-governance); Katharina Pistor, *Rule By Data: The End of Markets?*, 83 LAW & CONTEMP. PROBS. 101, 101 (2020) (exploring the idea that data may become a form of governance replacing both law and markets).

on international tax law, this Article's observations and conclusions inform some of these crucial debates in multiple fields.²⁴

The rising importance of digital laborers has critical implications for the taxation of the firms for whom they work. The work of digital laborers has been discussed in tax academia and policy as part of conversations on the broader crisis of multinational companies, particularly digital companies, being able to conduct substantial economic activities in countries without paying taxes there.²⁵ In particular, commentators have highlighted the value that users of digital platforms create for digital companies, the inability of users' countries to tax these companies despite this value creation, and the unfairness of this outcome.²⁶ This outcome stems from the current application of the source principle to digital laborers.

The source principle grants taxing authority to the country that is the location of production of goods and services, not the location of consumption.²⁷ The mere presence of consumers in a jurisdiction does not grant that jurisdiction taxing authority under the source principle. The current international tax system treats users and customers who create data and content for companies as consumers only—their production role as digital laborers is ignored. Their home countries, therefore, are not able to tax income directly stemming from their data and content creation under the current application of the source principle.²⁸

Two categories of reform have been put forward to correct this unfairness—proposals that grant taxing rights over a portion of a company's residual profits to the market jurisdiction, culminating in the Organisation for Economic Co-operation and Development ("OECD") Pillar One Blueprint, and digital services taxes that have been unilaterally imposed by several countries.²⁹ These reforms represent an upheaval of the current theoretical approach to source-based taxation, granting taxing authority to the market jurisdiction. As

24. For further discussion of the development and analysis of the concept of digital labor in legal scholarship and other disciplines, see *infra* notes 120–26 and accompanying text.

25. See Part I.B for a more detailed discussion of these debates.

26. See *infra* notes 75–79 and accompanying text.

27. See Part I.A for an explanation of the source principle as a production-based concept.

28. See Part I.B for an explanation of the current international tax system's application of the source principle to income stemming from digital labor.

29. For a more detailed description of these reforms, see *infra* notes 80–96 and accompanying text.

is discussed in more detail in Part I.C below, they include substantial overhauls to the structure of the international tax system.³⁰ And they do not represent comprehensive reforms of the taxation of all global businesses. The OECD Pillar One Blueprint applies only to the top one hundred multinational companies based on profitability and revenue measures.³¹

Digital services tax proposals likewise apply only to multinational companies that surpass high revenue thresholds.³² As a result, these reforms do not address the fair allocation of taxing authority over a substantial amount of global economic activity. This Article argues that these reforms share a common flaw. They do not recognize the production role that digital laborers play in the modern economy. As a result, they unnecessarily alter the international tax system from both a theoretical and structural perspective and allow the incongruent result of similar economic activities being taxed differently to remain.

This Article establishes that users and customers, in their production role as digital laborers, serve a similar economic function to a traditional workforce. It argues that, as a result, digital laborers should be treated in the same way as a company's workforce when considering the tax implications of their work for the sourcing of such company's income. This approach of treating digital laborers in the same way as a traditional workforce brings coherence and fairness to the international tax system by taxing equivalent economic activities—individuals creating products and performing services for companies—in the same way. It then demonstrates that under U.S. international tax law, once digital laborers are properly treated in the same way as a company's workforce, their home countries should be the source countries for income attributable to their work in most instances. After these countries are established as the source country, they can be granted taxing authority through a more incremental rebalancing of taxing rights between the source and residence countries under the bilateral treaty system. This approach corrects the unfairness of digital laborers' home countries being unable to tax income attributable to their work while minimizing theoretical and structural disruption to the international tax system. Because this approach operates under the

30. See *infra* notes 102–10 and accompanying text.

31. See *infra* notes 89–94 and accompanying text (describing the design of the OECD Pillar One Blueprint).

32. See *infra* notes 95–97 and accompanying text (describing the design of the digital services taxes of various countries).

current international tax structure, it can be applied uniformly across all global businesses.

The Article proceeds as follows. Part I outlines the general principles and structure of the current international tax system and the challenges brought about by digitalization. It introduces and critiques proposed reforms and offers an alternative path forward. Part II reveals how digital laborers function in a similar way to members of firms' workforces, as well as how firms monetize this work. It also discusses the unique features of digital labor. Part III applies this new framework of digital laborers as a type of workforce to the U.S. statutory rules for sourcing income between the United States and foreign jurisdictions, as well as to the U.S. bilateral treaty network. It demonstrates how allocating income associated with digital laborers' work to their home countries is consistent with existing U.S. statutory rules and provides a guide for stakeholders to incorporate this framework in the context of bilateral tax treaties. Part IV addresses general issues of administrability and implementation.

I. INTERNATIONAL TAXATION IN THE TWENTY-FIRST-CENTURY ECONOMY

This Part begins by outlining the basic structure and underlying theory of the international tax system. It then explains how the rise of the digital economy has challenged the international tax system and describes different approaches to reform, focusing in particular on two types of reform intended to address the appropriate taxation of value creation by users and customers—the OECD Pillar One Blueprint and digital services taxes. It then describes the weaknesses of the OECD Pillar One Blueprint and digital services taxes. It concludes with a call for a different approach to reform—treating digital laborers in the same way as a traditional workforce when allocating taxing authority amongst jurisdictions.

A. *Structure and Principles of International Taxation—Source and Residence*

More than one hundred years ago, following the passage of the Sixteenth Amendment in 1913, Congress imposed a tax on income “derived from any source whatever.”³³ Since this time, policymakers

33. Revenue Act of 1913, ch. 16, § II.B., 38 Stat. 114, 167.

have grappled with the question of how to tax international commerce.³⁴ What happens when a French citizen or resident earns income in the United States, or when a U.S. citizen or resident earns income in France? Both the United States and France arguably have claims to tax that income. U.S. international tax law answers this question through the interplay between a complex statutory scheme primarily contained in subchapter N of the Internal Revenue Code (“the Code”)³⁵ and a series of bilateral treaties between the United States and various foreign jurisdictions.³⁶

Under the theoretical framework that has dominated international taxation since its inception, taxing authority can be granted to a country under one of two principles—the residence principle or the source principle.³⁷ The residence principle grants

34. See Reuven S. Avi-Yonah, *All of a Piece Throughout: The Four Ages of U.S. International Taxation*, 25 VA. TAX. REV. 313, 315–17 (2005) [hereinafter Avi-Yonah, *Four Ages*] (outlining changes in international tax law from the Revenue Act of 1918 through the George W. Bush administration and highlighting common themes that have driven policymakers in these revisions, such as avoidance of double taxation).

35. I.R.C. §§ 861–1000.

36. This summary of U.S. international taxation is an extremely brief simplification of an extremely complex area of tax law. For a robust guide, see generally JOEL KUNTZ & ROBERT PERONI, *U.S. INTERNATIONAL TAXATION* (2021).

This Article contains references to the “U.S. international tax system” and the “international tax system” as well as to “U.S. international tax law” and “international tax law.” The international tax system is created by a combination of (1) the domestic laws of individual countries regarding the taxation of foreign persons and foreign-source income and (2) vast numbers of bilateral treaties between countries. Ruth Mason, *The Transformation of International Tax*, 114 AM. J. INT’L L. 353, 355 (2020). While the exact contours of each country’s domestic law and bilateral treaties may vary, they all follow the same basic structure and norms, creating a coherent international tax system and body of international tax law. See REUVEN S. AVI-YONAH, *INTERNATIONAL TAX AS INTERNATIONAL LAW* 11 (2007) (explaining the driving norms that underlay international tax law); Mason, *supra*, at 374–75 (describing this uniformity amongst domestic tax laws and bilateral treaties as a form of “coordinated unilateralism”). This Article uses the specific domestic tax laws of the United States and the U.S. bilateral treaty network as the basis for its analysis, but, because of its uniformity, the conclusions apply to the international tax system as a whole. When used in this Article, the terms “U.S. international tax law” and the “U.S. international tax system” refer specifically to U.S. domestic tax law and bilateral treaties. The terms “international tax law” or the “international tax system” refer to the basic structure and principles followed by all countries.

37. See, e.g., HUGH J. AULT & BRIAN J. ARNOLD, *COMPARATIVE INCOME TAXATION: A STRUCTURAL ANALYSIS* 429, 431 (3d ed. 2010) (describing the common conceptual framework in international tax for allocation of taxing authority amongst jurisdictions as based on the concepts of (1) personal connection to the jurisdiction, which is primarily determined by residence and (2) the jurisdiction being the “source” of income); Mason, *supra* note 36, at 355 (“The current international tax system . . . relies on the concepts of source and residence.”); Michael J. Graetz & Michael M. O’Hear, *The “Original Intent” of U.S. International Taxation*, 46 DUKE L.J. 1021,

taxing rights to the taxpayer's residence country,³⁸ and the source principle grants taxing rights to the country that is the locus of the economic activities that give rise to income.³⁹ The source principle is based on the place of production, the supply side. The mere presence of consumers in a country, the demand side, does not make it a locus of economic activities under the source principle and does not result in it being granted taxing rights.⁴⁰ The market jurisdiction, therefore, is not granted taxing rights under the existing theoretical framework of international tax. The source principle is justified under the benefits

1033 (1997) (identifying the investor's residence country and the country that is the source of income creation as the two jurisdictions with "legitimate claims to tax [cross-border] income"); *see also* AVI-YONAH, *supra* note 36, at 22 (linking the justification for jurisdiction to tax based on residence and source to the "grounds of jurisdiction to prescribe in international law" based on nationality and territoriality).

38. Within the international tax system, whether a country can tax on the basis of residence is determined by reference to domestic law. *See* OECD, MODEL TAX CONVENTION ON INCOME AND ON CAPITAL art. 4, ¶ 1 (2017) [hereinafter OECD, MODEL TAX CONVENTION] (defining "resident of a Contracting State" as "any person who, under the laws of that State, is liable to tax therein by reason of his domicile, residence, place of management or any other criterion of similar nature"). For individuals, "residence-based" taxation may be asserted by a country based on either physical presence within the country or citizenship. *See* KUNTZ & PERONI, *supra* note 36, ¶ B1.01 (explaining that the United States generally asserts taxing authority over the worldwide income of both U.S. citizens and resident alien individuals); I.R.C. § 7701(b)(1)(A), (3) (defining resident aliens as including individuals who meet a substantial presence test). For corporations, "residence-based" taxation is typically asserted by countries based on the corporation's place of incorporation or place of management. *See* Mason, *supra* note 36, at 355 (explaining that corporate tax residence is typically determined based on either place of incorporation or place of management or control).

39. *See, e.g.,* Mitchell A. Kane, *A Defense of Source Rules in International Taxation*, 32 YALE J. ON REGUL. 311, 313 (2015); AULT & ARNOLD, *supra* note 37, at 429, 431; Graetz & O'Hear, *supra* note 37, at 1033.

40. *See, e.g.,* I.R.C. § 863(b) (sourcing inventory property produced by taxpayer to the place of production); I.R.C. § 861(a)(3) (sourcing income from services to the place of performance); OECD, MODEL TAX CONVENTION, *supra* note 38, at arts. 5, 7 (allowing a jurisdiction to tax business profits only in the instance that the business has an office, factory, or other fixed place of business through which they conduct business); *see also* OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, TAX CHALLENGES ARISING FROM DIGITALISATION—REPORT ON PILLAR ONE BLUEPRINT: INCLUSIVE FRAMEWORK ON BEPS 11 (2020) [hereinafter OECD, PILLAR ONE BLUEPRINT], <https://www.oecd-ilibrary.org/sites/beba0634-en/index.html?itemId=/content/publication/beba0634-en> [https://perma.cc/3FAZ-GGD5] (framing the allocation of taxing authority to the market jurisdiction as a creation of a "new taxing right"); Avi-Yonah, *Four Ages*, *supra* note 34, at 320 (linking source-based taxation with the concept of "production of wealth"); *Report on Double Taxation Submitted to the Financial Committee by Professors Bruins, Einaudi, Seligman and Sir Josiah Stamp*, at 23, League of Nations Doc. E.F.S.73 F.19 (1923) (framing source-based taxation as taxation by the jurisdiction that is the origin of wealth and describes such jurisdiction as "the place where the wealth is *produced*" (emphasis added)).

theory of taxation,⁴¹ which views taxes as compensation for benefits that a government supplies (such as infrastructure and legal protections) that facilitate production.⁴²

The source principle plays a central role in the United States' statutory approach to international taxation. An analysis of the treatment of an item of income with international elements under U.S. tax law begins by applying the U.S. source rules to the transaction.⁴³ The source rules outline whether particular types of income are from sources within the United States (U.S. source) or from sources without the United States (foreign source).⁴⁴ For example, if a French firm earns income for providing services within the United States, the source rules dictate that that income comes from sources within the United States.⁴⁵ These source rules express the United States' view of the location of production, the place from which gains from various

41. *E.g.*, Kane, *supra* note 39, at 315 (concluding that “source-based taxation must ultimately rest on some sort of benefits rationale” while acknowledging criticisms of the benefits theory); Avi-Yonah, *Four Ages*, *supra* note 34, at 320 (explaining that benefits theory is used to justify source-based taxation); Klaus Vogel, *Worldwide vs. Source Taxation- A Review and Re-Evaluation of Arguments (Part III)*, 16 *INTERTAX* 393, 398 (1988) (“The only valid legitimation [for source-based taxation], therefore, can be derived from benefit aspects. Usually it is the state of source that has provided most or all of the benefits relevant for production of the income. Without this state’s economic opportunities the income normally would not have been generated.”).

42. *See* Reuven S. Avi-Yonah, *Tax Competition, Tax Arbitrage and the International Tax Regime*, 61 *BULL. FOR INT’L TAX’N* 129, 135 (2007) (“[Government] benefits justify source-based corporate taxation in the sense that the host country’s government bears some of the costs of providing the benefits that are necessary for earning the income.”). The benefits theory has been criticized by many scholars. *See, e.g.*, Robert A. Green, *The Future of Source-Based Taxation of the Income of Multinational Enterprises*, 79 *CORNELL L. REV.* 18, 29 (1993) (arguing that source-based taxation is not compatible with underpinnings of international taxation because it does not comport with the ability-to-pay principle); Hugh J. Ault & David F. Bradford, *Taxing International Income: An Analysis of the U.S. System and Its Economic Premises*, in *TAXATION IN THE GLOBAL ECONOMY* 30–32 (Assaf Razin & Joel Slemrod eds., 1990) (arguing that income cannot be ascribed to a geographic location). Still, it has remained a central and enduring feature of the international tax system since its inception. *See, e.g.*, AVI-YONAH, *supra* note 36, at 1 (identifying the benefits principle as a basic underlying norm of the international tax system); Graetz & O’Hear, *supra* note 37, at 1027–28 (noting the emphasis on source-based taxation in the initial development of the U.S. international tax system).

43. Sections 861–63 and 865 of the Code, along with accompanying Treasury regulations, contain the source rules.

44. I.R.C. §§ 861–862.

45. I.R.C. § 861(a)–(b) (delineating items of gross and taxable income stemming from sources within the United States); I.R.C. § 862(a)–(b) (delineating items of gross and taxable income stemming from sources without the United States); I.R.C. § 865 (outlining what types of sales of personal property produce U.S.-source versus foreign-source income).

types of economic activities stem, and when a jurisdiction should be given taxing authority under the source principle.

Both the source jurisdiction and the residence jurisdiction have legitimate claims to tax income earned by the resident of one jurisdiction through economic activity in the other jurisdiction. These dual claims lead to the possibility of income being taxed twice. Avoiding double taxation has been the central project of international taxation.⁴⁶ To avoid double taxation, the U.S. statutory scheme interacts with a series of bilateral income tax treaties that the United States has entered into with various nations.⁴⁷ The United States currently has about forty such bilateral income tax treaties in force.⁴⁸ Although each treaty is individually negotiated and is unique, there is standardization across the treaties. This standardization arises from the United States' reliance on model treaties—most notably the OECD Model Tax Convention, which is widely followed by other countries—in treaty negotiations.⁴⁹ These treaties represent a bargain between the claims of the source jurisdiction and the residence jurisdiction with respect to certain items of income. They reflect whether the source principle or the residence principle is given primacy when determining the appropriate taxation of specific economic activities by taxpayers in the party countries—a balancing of the taxing rights of the source and residence jurisdictions.

B. The Failings of International Tax Law in the Modern Economy and Proposed Reforms

The basic framework and structure of the international tax system were established in the 1920s by members of the League of Nations when they negotiated a series of model treaties aimed at preventing

46. As Michael Graetz and Michael O'Hear observe, "The basic task of international tax rules is to resolve the competing claims of residence and source nations in order to avoid the double taxation that results when both fully exercise their taxing power." Graetz & O'Hear, *supra* note 37, at 1033.

47. The treaties in some cases will alter the division of taxing rights between source and residence jurisdictions that exists under each party's domestic law. See I.R.C. § 894(a)(1) ("The provisions of this title shall be applied to any taxpayer with due regard to any treaty obligation of the United States which applies to such taxpayer.").

48. KUNTZ & PERONI, *supra* note 36, ¶ C4.02[1].

49. OECD, MODEL TAX CONVENTION, *supra* note 38, at 12 (explaining the influence that the OECD Model Tax Convention has had since 1963 on the drafting of bilateral tax treaties both by OECD member states and non-OECD member states).

double taxation.⁵⁰ This framework and structure have endured for nearly a century with few modifications despite the economic changes that have occurred in the intervening years.⁵¹

The structure of the international taxation system has been the target of much criticism. Globalization, a trend that has continued to the present,⁵² accelerated rapidly beginning in the 1990s with the fall of the Soviet Union and proliferation of free trade agreements.⁵³ At the same time, the widespread adoption of the internet ignited the rise of the digital economy.⁵⁴ These changes in the economy have placed pressure on the international tax system, exposing cracks and sparking calls for broad reform.

Scholars and policymakers have highlighted that the current international regime does not appropriately allocate tax revenues to the jurisdictions in which firms are adding economic value,⁵⁵ and, in

50. Reuven S. Avi-Yonah, *The Structure of International Taxation: A Proposal for Simplification*, 74 TEX. L. REV. 1301, 1303 (1996) (citing the League of Nations project in the 1920s as the foundation for the current international tax treaty system); Graetz & O'Hear, *supra* note 37, at 1023 (explaining that “the fundamental structure for international taxation of income announced . . . in the 1928 League of Nations Model Treaty forms the common basis for more than twelve hundred bilateral tax treaties now in force throughout the world”). For a detailed history of the League of Nations and the development of the international tax system in the 1920s, see generally SUNITA JOGARAJAN, *DOUBLE TAXATION AND THE LEAGUE OF NATIONS* (2018).

51. Michael J. Graetz, *The David R. Tillinghast Lecture: Taxing International Income: Inadequate Principles, Outdated Concepts, and Unsatisfactory Policies*, 54 TAX L. REV. 261, 262–63 (2001) (noting the limited changes to the system of international taxation since the “1920’s compromise”).

52. See MCKINSEY & CO., *A VISION FOR THE FUTURE OF CROSS-BORDER PAYMENTS 2–5* (2018), <https://www.mckinsey.com/~media/McKinsey/Industries/Financial%20Services/Our%20Insights/A%20vision%20for%20the%20future%20of%20cross%20border%20payments%20final/A-vision-for-the-future-of-cross-border-payments-web-final.ashx> [<https://perma.cc/MG7U-6VE5>] (showing a steady increase in cross-border payments and predicting a continuation of that trend).

53. See Peter Vanham, *A Brief History of Globalization*, WORLD ECON. F. (Jan. 17, 2019), <https://www.weforum.org/agenda/2019/01/how-globalization-4-0-fits-into-the-history-of-globalization> [<https://perma.cc/TA38-Y8JW>] (describing the combination of these factors as resulting in “globalization on steroids”).

54. See UNITED NATIONS CONF. ON TRADE & DEV., *DIGITAL ECONOMY REPORT 2019: VALUE CREATION AND CAPTURE: IMPLICATIONS FOR DEVELOPING COUNTRIES 1–9* (2019), https://unctad.org/system/files/official-document/der2019_overview_en.pdf [<https://perma.cc/YUD7-ERMP>] (providing an overview of the evolution of the digital economy beginning in the 1990s and current trends).

55. Allison Christians, *Digital Services Taxes and International Equity: A Tribute to Peggy Musgrave*, 95 TAX NOTES INT’L 589, 589 (2019) (discussing the interaction of the current debate over which jurisdictions are entitled to tax a company’s economic gain and the concept of international equity); Michael P. Devereux & John Vella, *Are We Heading Towards a Corporate Tax System Fit for the 21st Century?*, 35 FISCAL STUD. 449, 461 (2014) (noting that the current

many cases, it allows firms to earn income that is not taxed by any jurisdiction, so-called “stateless income.”⁵⁶ Professor Ruth Mason has highlighted how this state of affairs has led international tax scholars to supplement the goal of avoiding double taxation with the goal of achieving “full taxation.”⁵⁷ There is a broad belief that large global enterprises generally—and, in particular, digital enterprises—are not paying their fair share of tax both cumulatively and in the specific countries in which they operate;⁵⁸ the mantra of the need to pay a fair share has become ubiquitous amongst politicians and in the popular press.⁵⁹

There are a variety of features of the current international tax system that allow global companies to shift profits and avoid taxation;

international system of allocating tax rights amongst jurisdictions is “arbitrary” and “often incoherent and unprincipled”). See generally Carol A. Dunahoo, *Source Country Taxation of Foreign Corporations: Evolving Permanent Establishment Concepts*, 86 TAX MAG. 37 (2008) (discussing the challenges that e-commerce has presented in appropriately allocating profits among jurisdictions).

56. See generally, e.g., Bret Wells & Cym Lowell, *Tax Base Erosion and Homeless Income: Collection at Source Is the Linchpin*, 65 TAX L. REV. 535 (2012) (tracing the roots of stateless income); Edward D. Kleinbard, *Stateless Income*, 11 FLA. TAX REV. 699, 703–05 (2011) (discussing how source rules and the transfer pricing regime have contributed to ability of multinational enterprises to create income that escapes tax in any jurisdiction). The OECD reported that an estimated \$100 billion to \$240 billion in tax revenue is lost annually due to shifting of income to no-tax or low-tax jurisdictions. OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, EXPLANATORY STATEMENT 16 (2015) [hereinafter OECD, EXPLANATORY STATEMENT].

57. Mason, *supra* note 36, at 370–73.

58. Faulhaber, *supra* note 5, at 152–53; Michael P. Devereux & John Vella, *Chapter 4: Implications of Digitalization for International Corporate Tax Reform*, in DIGITAL REVOLUTIONS IN PUBLIC FINANCE 91, 92 (Sanjeev Gupta et al. eds., 2017).

59. See, e.g., Matt Egan, *Elizabeth Warren: US Taxes Are Rigged in Favor of Amazon, Netflix and Other Big Companies*, CNN BUS. (last updated Apr. 27, 2021, 7:06 PM), <https://www.cnn.com/2021/04/27/business/elizabeth-warren-amazon-netflix-taxes/index.html> [https://perma.cc/GEA3-NGC7] (quoting Senator Elizabeth Warren saying that small businesses were paying their “fair share” of taxes while large corporations were not); Editorial, *Make Tax-Dodging Companies Pay for Biden’s Infrastructure Plan*, N.Y. TIMES (Apr. 17, 2021), <https://www.nytimes.com/2021/04/17/opinion/sunday/biden-taxes-companies.html> [https://perma.cc/BCZ6-2HJZ]; Jim Tankersley & Alan Rappaport, *Biden and Democrats Detail Plans to Raise Taxes on Multinational Firms*, N.Y. TIMES (last updated June 5, 2021), <https://www.nytimes.com/2021/04/05/business/raising-taxes-corporations.html> [https://perma.cc/TPL3-JGT8] (reporting that Democrats and Biden administration officials characterize proposed tax changes as an effort to make corporations pay their “fair share” of taxes); Christopher Ingraham, *Dozens of America’s Biggest Businesses Paid No Federal Income Tax—Again*, WASH. POST (Apr. 5, 2021, 6:00 AM), <https://www.washingtonpost.com/business/2021/04/05/corporations-federal-taxes> [https://perma.cc/VE7V-SQT6] (quoting Biden as “asking corporate America to pay their fair share”).

many of these apply across all types of businesses.⁶⁰ But several features of digital business models make digital firms particularly well positioned to exploit these weaknesses,⁶¹ including substantial value created by users, as is discussed in more detail below.⁶² The rise of the digital economy has, therefore, made the desire to reform the international tax system more urgent. An array of reforms have been put forward by academics and policymakers in recent years to address the failure to adequately tax digital enterprises. These include residual profit allocation schemes that divide an enterprise's residual profits⁶³ amongst jurisdictions based on factors such as the destination of the

60. Some of the features of the international tax system that have been cited as contributing to profit shifting and base erosion include (1) corporate residence rules that allow firms to establish residence in countries other than those in which their primary business activities occur, David Elkins, *The Myth of Corporate Tax Residence*, 9 COLUM. J. TAX L. 5, 5 (2017); Daniel Shavero, *The David R. Tillinghast Lecture: The Rising Tax-Electivity of U.S. Corporate Residence*, 64 TAX L. REV. 377, 429–30 (2011); (2) a trend of allocating primary taxing authority to the residence country versus the source country when both have claims, Wells & Lowell, *supra* note 56, at 603–04; (3) the now-outdated “permanent establishment” backstop to source-based taxation, which requires a physical presence for a country to be considered the source country, OECD, MODEL TAX CONVENTION, *supra* note 38, at art. 5; Paul Oosterhuis & Amanda Parsons, *Destination-Based Income Taxation: Neither Principled Nor Practical?*, 71 TAX L. REV. 515, 533–34 (2018); and (4) the flexibility of the transfer pricing rules, which allow companies to direct income, both that taxed under the source principle and the residence principle, to countries with favorable tax rates, OECD, ACTION PLAN ON BASE EROSION AND PROFITS SHIFTING 14 (2013) [hereinafter OECD, ACTION PLAN], <https://www.oecd.org/ctp/BEPSActionPlan.pdf> [<https://perma.cc/D6QD-5TKD>]; Joe Andrus & Paul Oosterhuis, *Transfer Pricing After BEPS: Where Are We and Where Should We Be Going*, 95 TAX MAG. 89, 90 (2017).

61. See OECD, EXPLANATORY STATEMENT, *supra* note 56, at 8 (explaining that the risk of companies shifting profits to advantageous jurisdictions is “exacerbated by the digital economy”). For example, digital enterprises derive a large portion of their revenues from intangible assets as well as data, and the mobility of these assets and difficulty in valuing them make it easier for companies to avoid source-based taxation and manipulate transfer pricing rules. See LOWRY, *supra* note 5, at 2–3 (outlining transfer pricing strategies in the digital economy); Kleinbard, *supra* note 56, at 705 (discussing the increased ability of companies to take advantage of weaknesses in source and transfer pricing rules in the context of intangible assets).

62. See PIERRE COLLIN & NICOLAS COLIN, TASK FORCE ON TAXATION OF THE DIGITAL ECONOMY 4 (Jan. 2013) (explaining that the value created by users is neither taken into account for tax purposes nor attributed to the users' countries).

63. Residual profits are profits remaining after taking into account routine returns on business activities.

final sale,⁶⁴ turnover taxes on certain types of revenues,⁶⁵ and global minimum tax schemes.⁶⁶ The Biden administration has embarked on a number of reforms, such as a revised global minimum tax.⁶⁷

The most substantial and ambitious project has undoubtedly been the OECD/G20 Base Erosion and Profit Shifting (“BEPS”) Project. BEPS is a multilateral project in which members of the OECD, the G20, and other states, together representing 139 countries, have joined together in an attempt to combat corporate tax avoidance.⁶⁸ The project released a framework in 2015 outlining fifteen actions to achieve this goal, such as interest deductibility rules to prevent base erosion and profit shifting and country-by-country reporting standards to improve transparency.⁶⁹ The project continues to work toward consensus amongst the member states on elements of the framework and on implementation of the actions.⁷⁰

64. See, e.g., Reuven S. Avi-Yonah, Kimberly A. Clausing & Michael C. Durst, *Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split*, 9 FLA. TAX REV. 497, 507–10 (2009) (residual profits formulary apportionment); MICHAEL DEVEREUX, RESIDUAL PROFIT ALLOCATION PROPOSAL (2016), https://www.taxpolicycenter.org/sites/default/files/residual-profit-allocation-proposal_2.pdf [<https://perma.cc/8VWN-ED9G>] (residual profits allocation); Andrus & Oosterhuis, *supra* note 60, at 103 (destination-based cash flow tax).

65. See, e.g., *India: Digital Taxation, Enlarging the Scope of “Equalisation Levy”*, KPMG (Mar. 24, 2020), <https://home.kpmg/us/en/home/insights/2020/03/tnf-india-digital-taxation-enlarging-the-scope-of-equalisation-levy.html> [<https://perma.cc/6AZA-YNG5>] (describing India’s equalization levy on specified services such as online advertising).

Turnover taxes are taxes imposed on gross receipts rather than on income.

66. See, e.g., I.R.C. § 951A (U.S. minimum tax on “global intangible low-taxed income” earned abroad, known as “GILTI”); OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, TAX CHALLENGES ARISING FROM DIGITALISATION—REPORT ON PILLAR TWO BLUEPRINT: INCLUSIVE FRAMEWORK ON BEPS (Oct. 2020) [hereinafter OECD PILLAR TWO BLUEPRINT], <https://www.oecd-ilibrary.org/sites/abb4c3d1-en/index.html?itemId=/content/publication/abb4c3d1-en> [<https://perma.cc/4DNZ-ECWT>] (multilateral reform proposal for a global minimum tax).

67. Press Release, The White House, Fact Sheet: The American Jobs Plan (Mar. 31, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan> [<https://perma.cc/CA3B-FYJF>].

68. For an overview of the BEPS Project and its widespread implications for the future of international tax, see Mason, *supra* note 36, at 354–55.

69. *BEPS Actions*, OECD, <http://www.oecd.org/tax/beps/beps-actions> [<https://perma.cc/H67W-L3G8>]; OECD, EXPLANATORY STATEMENT, *supra* note 56, at 5.

70. See generally OECD, OECD SECRETARY-GENERAL TAX REPORT TO G20 FINANCE MINISTERS AND CENTRAL BANK GOVERNORS (2020), <https://www.oecd.org/tax/oecd-secretary-general-tax-report-g20-finance-ministers-july-2020.pdf> [<https://perma.cc/YQ6E-P2U5>] (outlining the BEPS Project’s actions and progress for the previous year).

Action 1 of BEPS addresses the challenges that the rise of the digital economy has presented to the international tax system.⁷¹ After a series of reports and consultation documents beginning in 2015, the members approved the release in 2020 of blueprints for two broad reforms—Pillar One and Pillar Two—to address tax challenges created by digitalization. Following subsequent negotiations, the members modified some provisions of those blueprints in fall 2021.⁷² Pillar Two aims to stop profit shifting to low- or no-tax jurisdictions through a global minimum tax.⁷³ Pillar One is presented as a reallocation of taxing rights over residual profits (profits remaining after allocating routine profits to jurisdictions where economic activities occur) to the market jurisdiction, regardless of whether the companies maintain a physical presence in the jurisdiction.⁷⁴

Pillar One has flowed from a desire to address the perceived unfairness of users' jurisdictions being unable to tax a company's income despite the value created by that user base.⁷⁵ Policymakers in various countries have highlighted this unfair outcome. The U.K.

71. OECD/G20 Base Erosion & Profit Shifting Project, *Action 1: Tax Challenges Arising from Digitalisation* [hereinafter OECD, Action 1], <https://www.oecd.org/tax/beps/beps-actions/action1> [<https://perma.cc/W7D9-67CS>] (outlining the purpose of the Pillar One and Pillar Two Blueprints that have been proposed as part of the Action 1 initiative).

72. OECD, PILLAR ONE BLUEPRINT, *supra* note 40; OECD, PILLAR TWO BLUEPRINT, *supra* note 66; OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, STATEMENT ON A TWO-PILLAR SOLUTION TO ADDRESS THE TAX CHALLENGES ARISING FROM THE DIGITALISATION OF THE ECONOMY 2 (2021) [hereinafter OECD, OCTOBER 2021 STATEMENT], <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> [<https://perma.cc/8LRU-MMWW>].

The modifications made in the October 2021 statement included changing the definition of “in-scope” companies from one based on business model to one based on revenue and profitability thresholds, establishing that 25 percent of residual profits would be reallocated under the new scheme and allowing for segmentation of business lines when reallocating income under exceptional circumstances. *Id.* at 1–2.

For a full listing of the reports and other documents released under Action 1 of BEPS, see OECD, Action 1, *supra* note 71.

73. OECD, PILLAR TWO BLUEPRINT, *supra* note 66.

74. OECD, PILLAR ONE BLUEPRINT, *supra* note 40, ¶ 6.

75. This Article, as well as the reforms it analyzes, focus on the implications of digital laborers' work for the taxation of companies, but the work of digital laborers also has implications for the taxation of the digital laborers themselves. For example, there is a question of whether the free services they receive from digital companies should be treated as in-kind income and taxed. See Louise Fjord Kjærsgaard & Peter Koerver Schmidt, *Allocation of the Right To Tax Income from Digital Intermediary Platforms—Challenges and Possibilities for Taxation in the Jurisdiction of the User*, NORDIC J. COM. L. 146, 159–60 (2018) (arguing that interactions between users and digital platforms should be treated as taxable barter transactions). The appropriate taxation of digital laborers is a promising area for future research.

government explained its concerns about the international tax system's treatment of user-generated value directly, stating that

the failure of the international tax rules to take account of . . . user-created value is leading to outcomes that are inconsistent with the objectives of those rules, through the creation of a mismatch between the location in which business profits are taxed and the location in which business value is created.⁷⁶

France, other OECD member states, and the European Commission have expressed similar concerns, reflecting the sentiment that the current international tax system is not fairly addressing the rising importance of users in economic activity.⁷⁷ Although critiques have largely focused on users of digital platforms, the same dynamics are at play with respect to data created by digital laborers in other industries.⁷⁸

The inability of the users' jurisdictions to tax companies stems from the current application of the source principle to users of digital platforms. The current international tax system considers users only in their role as consumers; their role as producers, or digital laborers, is

76. HER MAJESTY'S TREASURY, CORPORATE TAX AND THE DIGITAL ECONOMY: POSITION PAPER UPDATE 6 (2018) [hereinafter HMT 2018 REPORT], https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/689240/corporate_tax_and_the_digital_economy_update_web.pdf [<https://perma.cc/E6R4-7MQ6>].

77. OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, TAX CHALLENGES ARISING FROM DIGITALISATION—INTERIM REPORT 58 (2018) [hereinafter OECD, INTERIM REPORT], <https://www.oecd-ilibrary.org/docserver/9789264293083-en.pdf?expires=1646962296&id=id&accname=guest&checksum=048266BA8CD2F44F2CA87D4630C97681> [<https://perma.cc/MM3G-3ZFE>] (explaining the concern by some member nations about the international tax issues presented by users' creation of value in digital business models); EUR. COMM'N, PROPOSAL FOR A COUNCIL DIRECTIVE: LAYING DOWN RULES RELATING TO THE CORPORATE TAXATION OF A SIGNIFICANT DIGITAL PRESENCE 1 (2018), <http://data.consilium.europa.eu/doc/document/ST-7419-2018-INIT/en/pdf> [<https://perma.cc/J4ZS-RQTL>] (explaining that "the current [international tax] rules no longer fit the present context . . . where user generated content and data collection have become core activities for the value creation of digital businesses"); see COLLIN & COLIN, *supra* note 62, at 4 (noting the pivotal nature of "the data and 'free labour' provided by users, which are not yet taken into consideration for tax purposes, even though they are at the heart of value creation, easily attributed to a given country and common to all of the dominant business models of today's digital economy" (emphasis omitted)).

78. The focus on value created by users of digital platforms is likely attributable to the lack of recognition and exploitation of customer data creation at present in other industries. However, as this data creation becomes more widespread and businesses in other industries begin to exploit customer data more frequently, their work may become a greater focus. See generally Itai Grinberg, *User Participation in Value Creation*, 2018 BRIT. TAX REV. 407 (predicting that the reach of proposals to tax companies based on user-created value will expand to a broader range of companies as the IoT expands).

ignored when jurisdictions allocate taxing authority.⁷⁹ As is explained in Part I.A above, the source principle characterizes the source of economic activity leading to income in terms of production. The mere presence of customers or users in a country does not make that country the locus of economic activities giving rise to income under the source principle. Because digital laborers' production role is ignored, their home countries are not considered the source country with respect to income directly attributable to their work.

For example, consider a hypothetical social media company, FaceJournal. FaceJournal earns the vast majority of its revenue from online advertising. It has a substantial user base in India, and 10 percent of its annual advertising revenues come from online advertisements directed toward users in India. By creating content and navigating and interacting with others on the platform, these India-based users provide FaceJournal with the data necessary to properly "target" online advertising specifically to them. FaceJournal is a U.S. company. Development and maintenance of the platform occur in the United States along with all activities related to the sale of advertising services. In this instance, India does not have taxing authority over any of FaceJournal's income associated with its online advertising in India despite India-based users' role in producing the advertising services.

In another example, consider a retailer that sells data created by a customer in South Korea through the customer's purchase patterns and personal information submitted by the customer in conjunction with their purchases. South Korea is not considered the source of any portion of the income from the sale of that data even though at least a portion of the activities that gave rise to the income (the creation of the data) were performed there.

The outcome highlighted in these examples has sparked conversations on possible reforms. The Pillar One Blueprint has evolved from one line of reforms meant to address this unfairness of users' jurisdictions, as well as the jurisdictions of customers more generally, not having taxing rights over corporate income by allocating

79. HER MAJESTY'S TREASURY, CORPORATE TAX AND THE DIGITAL ECONOMY: POSITION PAPER 8-9 (2017) [hereinafter HMT 2017 REPORT], https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661458/corporate_tax_and_the_digital_economy_position_paper.pdf [<https://perma.cc/DZ5P-7XS5>] ("[U]ser-generated value is not captured under the existing international tax framework, which focuses exclusively on the physical activities of a business itself in determining where profits should be allocated for corporate tax purposes.").

a portion of corporate profits to the market jurisdiction. In 2017 and 2018 position papers, the U.K. government took the position that user participation creates value for certain businesses and articulated a possible reform to reallocate taxing authority to the user jurisdiction.⁸⁰ The U.K. government proposed a reform whereby a percentage of the residual profits of a company would be reallocated to the user jurisdiction in recognition of user-created value.⁸¹ Following the U.K. user participation proposal, the European Commission put forth a similar proposal, inspired by the same insight that the value created by users was not being taken into account in the international tax system.⁸² The European Commission proposed a reform whereby a taxable presence would be established if a company had a “significant digital presence” in a country—a significant digital presence corresponds with a large user or customer base.⁸³ Profits would then be allocated to the significant digital presence based on factors including the number of users and amount of data collected in a country.⁸⁴

In February 2019, the OECD Inclusive Framework included a user participation proposal with a similar design to the U.K. proposal as one of three reforms under consideration for Pillar One.⁸⁵ Each of these three reforms addressed value creation in the user and market jurisdictions that were not recognized and taxed under the existing international tax system.⁸⁶ In October 2019, the OECD announced a “unified approach,” a reform proposal which combined elements of the

80. *Id.* at 11; *see also* HMT 2018 REPORT, *supra* note 76, at 2–3 (updating 2017 report based on stakeholder feedback).

81. HMT 2017 REPORT, *supra* note 79, at 11.

82. EUR. COMM’N, *supra* note 77, at 1 (highlighting the misalignment between the place where value is created and the place where profits of a digital company are taxed under the current international system in business models where user-generated content and data collection are central to value creation).

83. *Id.* at 7–8.

84. *Id.* at 8–9.

85. *See* OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, PUBLIC CONSULTATION DOCUMENT, ADDRESSING THE TAX CHALLENGES OF THE DIGITALISATION OF THE ECONOMY 9–11 (2019), www.oecd.org/tax/beps/public-consultation-document-addressing-the-tax-challenges-of-the-digitalisation-of-the-economy.pdf [<https://perma.cc/F82X-44YT>].

86. *Id.* The other proposals presented were (1) the marketing intangibles proposal, which allocated income associated with marketing intangibles, such as brand and trade name, to the market jurisdiction and (2) the substantial economic presence proposal, which allowed a taxable nexus to be established through sustained economic activities and then allocated income between countries with a taxable presence based on a fractional apportionment method using factors such as sales and, in some cases, users. *Id.* at 11–17.

three reforms presented in the February report.⁸⁷ This unified approach, described in detail in the Pillar One Blueprint, draws from the principles underlying the user participation proposals in recognizing that businesses can “create meaningful value” from interactions with users and customers.⁸⁸

The Pillar One Blueprint creates what it describes as a “new taxing right” that it grants to the market jurisdiction.⁸⁹ The reform reallocates taxing authority over 25 percent of a company’s residual profits, called Amount A, to the market jurisdiction in recognition of the value created there.⁹⁰ This new taxing right is layered on top of the existing international tax law’s system of allocating taxing authority amongst countries, including current transfer pricing rules, which will continue to be used to allocate taxing authority over companies’ routine profits and residual profits not included in Amount A.⁹¹ This new method of residual profit allocation to market jurisdictions will only apply to the multinational companies with global revenues above €20 billion and profitability of more than 10 percent,⁹² which represents approximately one hundred companies.⁹³ One hundred forty-one countries entered into an agreement in fall 2021 to incorporate the blueprint’s reforms into their domestic laws and bilateral treaties to come into effect in 2023.⁹⁴

Another line of reforms that have been put forward to grant user jurisdictions, as well as in some cases customer jurisdictions more

87. OECD/G20 BASE EROSION & PROFIT SHIFTING PROJECT, PUBLIC CONSULTATION DOCUMENT, SECRETARIAT PROPOSAL FOR A “UNIFIED APPROACH” UNDER PILLAR ONE 2 (2019) [hereinafter OECD, UNIFIED APPROACH], www.oecd.org/tax/beps/public-consultation-document-secretariat-proposal-unified-approach-pillar-one.pdf [<https://perma.cc/US5P-26L9>].

88. *Id.* at 7.

89. OECD, PILLAR ONE BLUEPRINT, *supra* note 40, ¶ 10.

90. OECD, OCTOBER 2021 STATEMENT, *supra* note 72, at 2.

91. OECD, PILLAR ONE BLUEPRINT, *supra* note 40, ¶ 10 (“The new taxing right (Amount A) would be an overlay to the existing nexus and profit allocation rules.”).

92. OECD, OCTOBER 2021 STATEMENT, *supra* note 72, at 1. Extractives and regulated financial services companies are excluded from the reform. *Id.* The scope of the Pillar One Blueprint reforms may expand to multinational companies with revenues over ten billion euros in seven years, contingent on review by the Inclusive Framework members. *Id.*

93. Press Release, OECD, International Community Strikes a Ground-Breaking Tax Deal for the Digital Age (Aug. 10, 2021), <https://www.oecd.org/tax/beps/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm> [<https://perma.cc/5RPV-QNCN>].

94. OECD, *International Collaboration To End Tax Avoidance*, <https://www.oecd.org/tax/beps/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm> [<https://perma.cc/QH9X-T9Q8>].

generally, taxing authority over corporate income are digital services taxes. Although the exact contours of various countries' digital services taxes differ, they are generally structured as a small turnover tax (between 2 percent and 5 percent) on revenues associated with digital activities.⁹⁵ Revenues associated with digital activities can include revenues attributable to online advertising revenues, revenues earned through online marketplaces, and revenues generated through the sale of user data, all of which can be linked at least in part to user activities.⁹⁶

Digital services taxes are unilateral reforms, undertaken by individual countries rather than on a coordinated international basis, which represents a departure from customary practices in international tax law.⁹⁷ Countries have generally framed digital services taxes as temporary measures that will be repealed if more comprehensive reforms granting taxing authority to users' jurisdictions are achieved on a multilateral basis.⁹⁸ That commitment has been affirmed by those countries who joined the Pillar One Blueprint in October 2021.⁹⁹ However, in the interim, the scattered nature of these reforms have

95. See Young Ran (Christine) Kim, *Digital Services Tax: A Cross-Border Variation of the Consumption Tax Debate*, 72 ALA. L. REV. 131, 147–54 (2020) (summarizing the characteristics and design of various countries' digital services taxes); see also Teri Sprackland & Stephanie Soong Johnston, *French DST Signed Into Law Despite U.S., Competition Concerns*, 95 TAX NOTES INT'L 444, 444 (July 29, 2019), www.taxnotes.com/tax-notes-international/digital-economy/french-dst-signed-law-despite-us-competition-concerns/2019/07/29/29s8b [<https://perma.cc/K6Q8-WRZB>] (explaining French tax on 3 percent of revenues related to digital services); Stephanie Soong Johnston, *U.K. Goes It Alone With Digital Tax Pending OECD Solution*, TAX NOTES INT'L 640, 640 (Nov. 5, 2018), https://www.taxnotes.com/search-page-list?esq%3Du.k.%2Bgoes%2Bit%2Balone%26from%3D0%26size%3D20%26orderby%3Dsearchdate%26order%3Ddesc%26filterterm%3Dsearchtitle%26menu_type%3D0 [<https://perma.cc/7SNP-NSPZ>] (noting U.K. tax on 2 percent of revenues from digital services); Stephanie Soong Johnston, *Austria Proposes 5 Percent Digital Advertising Tax*, TAX NOTES INT'L 182, 182 (Apr. 8, 2019), www.taxnotes.com/tax-notes-international/digital-economy/austria-proposes-5-percent-digital-advertising-tax/2019/04/08/29bc3 [<https://perma.cc/6F45-A3BD>] (detailing an Austrian proposal for a 5 percent tax on digital services revenue).

96. See Kim, *supra* note 95 (summarizing the characteristics and design of various countries' digital services taxes).

97. Cf. Avi-Yonah, *Tax Competition, Tax Arbitrage and the International Tax Regime*, *supra* note 42, at 1 (characterizing international tax as a form of customary international law in which “countries are not free to adopt any international tax rules they please, but rather operate in the context of the regime”).

98. See Faulhaber, *supra* note 5, at 189 (noting that most countries have stated that they will eliminate unilateral digital tax proposals if an international consensus on digital tax reforms is reached).

99. OECD, OCTOBER 2021 STATEMENT, *supra* note 72, at 6.

added uncertainty into the international tax system.¹⁰⁰ This uncertainty stems from factors such as multinational companies' attempts to comply with dozens of new technical rules and challenges to the underlying legality of the tax measures.¹⁰¹

C. Weaknesses of the Pillar One Blueprint and Digital Services Taxes

The proposals culminating in the Pillar One Blueprint, as well as digital services taxes, represent fundamental changes to both the theoretical and structural framework of international taxation. Though the failings of the international tax system in the digital economy may require fundamental shifts in tax law in some instances, it is essential to minimize structural and normative disruptions and only pursue radical reforms when they are necessary—this approach helps to maintain continuity, predictability, and fairness in the international tax system. The major structural and theoretical changes contained in current reform proposals are not necessary to address the issue of digital laborers' jurisdictions being unable to tax income stemming directly from their work.

Most significantly, these proposals fundamentally alter the normative underpinnings of the international tax system by creating a new taxing right—a taxing right for the market jurisdiction.¹⁰² The existence of customers or users alone can grant taxing authority to a country. This is a drastic departure from the current approach to source-based taxation, which, as is discussed above, grants taxing authority based on production, not consumption.

It may be appropriate to grant the market jurisdiction taxing authority over a company's income because of the increased importance of factors like brand and customer or user networks in the

100. See Faulhaber, *supra* note 5, at 189–91 (outlining the technical and political challenges that unilateral digital tax reforms insert into the international tax system).

101. See *id.* See generally Ruth Mason & Leopoldo Parada, *The Legality of Digital Taxes in Europe*, 40 VA. TAX. REV. 175 (2020) (arguing that digital services taxes are a violation of E.U. law).

102. OECD, UNIFIED APPROACH, *supra* note 87, at 6 (“The Secretariat’s proposal is designed to address the tax challenges of the digitalisation of the economy and to grant new taxing rights to the countries where users of highly digitalised business models are located.”); OECD, PROGRAMME OF WORK TO DEVELOP A CONSENSUS SOLUTION TO THE TAX CHALLENGES ARISING FROM THE DIGITALISATION OF THE ECONOMY 11 (2019), www.oecd.org/tax/beps/programme-of-work-to-develop-a-consensus-solution-to-the-tax-challenges-arising-from-the-digitalisation-of-the-economy.pdf [<https://perma.cc/YM98-HV98>]; see also Christians, *supra* note 55, at 590 (framing the OECD’s project as one of defining a new taxing right to promote fairness in a digitalized economy).

modern economic environment. In these instances, customers are creating value in their role as consumers on the demand side of economic activities. Reforms such as the Pillar One Blueprint that allocate taxing authority to the market jurisdiction may, as a result, be necessary and appropriate reforms to fairly account for this type of value creation. However, with respect to the value that users and customers create when making content and data that companies directly and currently monetize, a new taxing right for the market jurisdiction is not necessary to allow their home countries to tax income associated with their work. As this Article explains, because they are functioning as producers, their home countries are the source countries under the current theoretical framework of international tax.

The reforms leading up to the Pillar One Blueprint and digital services taxes also represent major shifts in the structure and design of international tax. Digital services taxes as well as earlier residual profit allocation proposals contemplate “ring-fencing”¹⁰³ certain segments of the economy, creating a system of taxation that applies only to certain types of business activities.¹⁰⁴ Even though the final iteration of the Pillar One Blueprint has removed ring-fencing based on industry by defining in-scope companies based on revenue and profitability rather than on type of business, the reform only applies to companies that exceed high revenue and profitability measures (approximately one hundred companies),¹⁰⁵ thus resulting in the reform not applying consistently across global businesses.

The Pillar One Blueprint, as well as the reform proposals that influenced it, require worldwide apportionment of a multinational company’s global residual profits, a major departure from current practice that brings a variety of concerns over design and

103. “Ring-fencing” refers to tax policies that tax one type of business activity or industry in a different manner than other business activities or industries.

104. *E.g.*, Kim, *supra* note 95, at 152 (listing the scope of various digital service tax proposals, which in all cases are limited to certain digital business models); HMT 2018 REPORT, *supra* note 76, at 25 (proposing that user participation proposal be limited to “digital businesses that are deriving material value from user participation”); EUR. COMM’N, *supra* note 77, at 2 (proposing reform specific to digital business activities); OECD, UNIFIED APPROACH, *supra* note 87, at 5 (limiting OECD unified approach to highly digitalized business models and consumer-facing businesses); OECD, PILLAR ONE BLUEPRINT, *supra* note 40, ¶¶ 24, 31 (limiting the scope of the Pillar One proposal to automated digital services and consumer-facing business models).

105. OECD, OCTOBER 2021 STATEMENT, *supra* note 72, at 1.

administrability.¹⁰⁶ These questions are significant and, as Professor Lilian Faulhaber has explained, “raise fundamental issues such as how to determine value, where to locate value, how to allocate income, and many others.”¹⁰⁷ These questions entail problems of continuity, predictability, and compliance costs for taxpayers. Fundamental design changes also burden government tax authorities, which will have to build up new systems of administration and implementation. Lower-income countries with fewer resources to adapt and administer new tax laws could be particularly impacted by this burden. Issues with administrability and enforcement also have the potential to lead to inequitable outcomes because they may increase noncompliance risk.¹⁰⁸

Digital services taxes are turnover taxes on revenue rather than income taxes. Taxing revenue, as opposed to income, is unusual in international tax, and many argue that turnover taxes are inefficient taxes that will be borne primarily by consumers and lower demand.¹⁰⁹ Digital services taxes also contain features that many argue are

106. The Inclusive Framework acknowledged these design and administrability challenges in the Pillar One Blueprint and highlighted further work that needed to be done with respect to scope, the determination of the amount of profit to be reallocated, and tax certainty. OECD, PILLAR ONE BLUEPRINT, *supra* note 72, ¶ 8.

107. Faulhaber, *supra* note 5, at 176.

108. See Stefan C. Hammerl & Lily T. Zechner, *Taxing Profit and Consumption in Market Jurisdictions: Equity and Administrability in the Digital Era* 3 (Graz Law, Working Paper No. 06-2021, 2021).

109. *E.g.*, Wei Cui, *The Digital Services Tax on the Verge of Implementation*, 67 CANADIAN TAX J. 1135, 1148 (“Another popular (and casual) assertion among DST opponents is that the DST will ultimately be passed on to final consumers—especially in the jurisdiction that imposes the tax.”); DANIEL BUNN, TAX FOUND., A SUMMARY OF CRITICISMS OF THE EU DIGITAL TAX 6 (2018), <https://files.taxfoundation.org/20181022090015/Tax-Foundation-FF618.pdf> [<https://perma.cc/PP69-7GTU>] (“Historically, turnover taxes have been rejected as poor tax policy because they are inefficient, create barriers to economic growth, and generally considered to be unfair tax policy.”).

This criticism was bolstered by a Deloitte study that specifically analyzed the impact of the French digital services tax. The study predicted that 55 percent of the tax incidence would fall on consumers, 40 percent on businesses that use digital platforms, and 5 percent on the digital firms themselves. JULIEN PELLEFIGUE, DELOITTE & TAJ, THE FRENCH DIGITAL SERVICES TAX: AN ECONOMIC IMPACT ASSESSMENT 2 (2019), <https://blog.avocats.deloitte.fr/content/uploads/2020/03/dst-impact-assessment-march-2019.pdf> [<https://perma.cc/796E-B89K>]. *But see* Wei Cui, *The Digital Services Tax: A Conceptual Defense*, 73 TAX L. REV. 69, 103–08 (2019) (pushing back against the claims that “the DST must be a bad tax because it is based on revenue” and that the tax will be passed along to the imposing country’s consumers); Kim, *supra* note 95, 176–78 (arguing that the multisided nature of digital business models and the fact that many digital companies have monopolistic market positions may result in companies absorbing the tax rather than passing it along to consumers).

discriminatory against certain firms and comprise a tariff.¹¹⁰ Furthermore, the fact that digital services taxes are being enacted unilaterally by a multitude of governments across the world has contributed to chaos in the international tax system.¹¹¹

The most considerable weakness of these reforms points to a question of coherence in the international tax system. The reforms share the flaw (one that is also present in the current international tax system) that they do not recognize that users and customers are functioning in a similar way to a workforce when producing content and data for companies—they do not recognize the production role that they are serving, viewing them instead as merely consumers. As a result, both the current international tax system and these proposed reforms tax what are essentially the same economic activities—people producing goods and performing services for a company—differently when they are performed in the context of digital business models. This result is incoherent and leads to the sentiment that the international tax system’s taxation of the digital economy is unfair.

D. A New Path Forward—Digital Laborers as a Workforce

This Article advocates approaching the question of how digital laborers’ work should impact their home countries’ ability to tax companies by beginning with an evaluation of the role that digital laborers fulfill for companies. When they are creating content and data for companies, digital laborers are functioning in a similar role to a traditional workforce. If the international tax system recognizes this function and treats them in the same way as it does a workforce, digital laborers’ home countries are the places of production—and thus the source countries under the current application of the source principle in the international tax system. It is not necessary to uproot the theoretical framework of international tax and create a new taxing

110. See, e.g., Mason & Parada, *supra* note 101, at 183–84 (arguing that digital services taxes violate the European Union’s fundamental freedoms); Bunn, *supra* note 109 (“In the United States, where the largest of these multinational companies are headquartered, it is likely that the digital turnover tax would fit into the definition of ‘unreasonable, discriminatory, or unjustifiable’ as laid out in Section 301 of the Trade Act of 1974.”); GARY CLYDE HUFBAUER & ZHIYAO (LUCY) LU, PETERSON INST. FOR INT’L ECON., THE EUROPEAN UNION’S PROPOSED DIGITAL SERVICES TAX: A DE FACTO TARIFF 8–10 (2018), www.piie.com/system/files/documents/pb18-15.pdf [<https://perma.cc/7F2C-QRJZ>] (summarizing the ways in which various digital services tax proposals function as a tariff).

111. See Faulhaber, *supra* note 5, at 190–91 (outlining the technical and legal uncertainties brought about by the various unilateral reform measures).

right in order to give digital laborers' home countries taxing authority over income directly attributable to their content and data creation.

Once digital laborers are viewed through this framework and in the same way as a traditional workforce, an overhaul of the structure of the international tax system also becomes unnecessary. Under the U.S. statutory source rules, digital laborers' home countries are the source jurisdictions with respect to most of the ways in which companies currently and directly monetize their work. And, internationally, taxing authority can be allocated to their countries through an incremental rebalancing of taxing authority between source and residence jurisdictions. From the perspective of implementation, the impact of their work on the allocation of taxing authority between jurisdictions can be determined under the current system of transfer pricing and calculating the relative contribution of business activities in different jurisdictions to the production of an item of income.¹¹² Because this framework allows taxing authority to be granted to digital laborers' home countries under the current structure of the international tax system, the reform can apply consistently across all global businesses operating under the current system, rather than through limited application to a certain subset of companies.

This approach of treating digital laborers in the same way as a traditional workforce also coexists with the reform put forward by the OECD Pillar One Blueprint. As discussed in Part I.C, users and customers often create value for companies in their role as consumers, as well as in their role as producers, through factors such as network effects and brand loyalty,¹¹³ and it might be appropriate to allocate a new taxing right to the market jurisdiction based on that value creation. However, even if the OECD Pillar One Blueprint is implemented, the framework of treating digital laborers in the same way as a traditional workforce can still be applied because the Pillar One Blueprint layers the new taxing right on top of international tax law's existing system for allocating taxing authority amongst countries.¹¹⁴ The existing source and transfer pricing can be used to allocate taxing authority over income stemming directly from digital laborers' content and data

112. The existing system is certainly not perfect, but it has undergone revision as part of the OECD/BEPS Project and has the advantage of continuity and predictability for taxpayers and taxing authorities as well as consistent application across global companies. See Part IV below for a discussion of the challenges of implementing the transfer pricing rules.

113. See *infra* note 115 for additional discussion of other types of value creation by users and customers.

114. See *supra* note 91 and accompanying text.

creation, and the OECD Pillar One Blueprint's model of allocating profits amongst market jurisdictions can be applied with respect to residual profits.

Treating digital laborers in the same way as a traditional workforce is a fundamental reworking of the U.S. international tax system. It alters the doctrinal approach to the distinction between customers and labor in tax law and deviates from the traditional definition of an employee. But this reworking is less disruptive than the upending of the theoretical basis and structure of international tax that has been put forward by other reforms. And, even more importantly, it is a necessary reform in its own right. Without a shift in tax law's treatment of digital labor, the incoherence of taxing equivalent economic activities differently will remain, ultimately threatening the legitimacy of the international tax system.

The next Part explains how digital laborers serve in a similar role to a workforce when creating content and data for companies and how companies directly monetize that work in the digital economy.

II. DIGITAL LABORERS' WORK

This Part begins by introducing the phenomenon of digital labor and its study in fields outside tax law. It then outlines the key ways that digital laborers provide work for digital firms and how these firms directly and currently monetize digital laborers' work. It next analyzes the unique features of digital labor and differences between a digital labor workforce and a traditional workforce. It argues that, despite the unique features of digital labor, digital laborers function in a similar way to a traditional workforce when creating content and data for companies. Digital laborers, therefore, should be treated in the same way as a workforce when determining the allocation of taxing authority over income directly attributable to their work in order to maintain coherence in the international tax system. Neither this Part nor this Article more broadly addresses value that users and customers create indirectly for firms through occurrences such as network effects.¹¹⁵

115. This is an important and complex issue. Users and customers create an enormous amount of value for companies that is not currently or directly monetized. For example, on social media platforms, users' content creation as well as their consumption of other users' content makes the platform more valuable for other users, driving positive network effects and leading to overall increases in the revenues and value of companies. Value creation through network effects is not captured by the current international tax system. See COLLIN & COLIN, *supra* note 62, at

A. *The Phenomenon of Digital Labor*

The digital economy features business models in which users and customers play dual roles. In these business models, they act both as producers of goods and services through their content and data creation and as consumers through their purchases of products and services. The value-creating role of users and customers, beyond any payments for goods and services, is a central feature of the modern digital economy and a driver of many companies' success.¹¹⁶ Policymakers and scholars have identified this value-creating role, most commonly with respect to users of digital platforms, but, as is discussed elsewhere in this Article, digital laborers create value for companies in a range of industries, particularly through data creation.¹¹⁷

These policymakers and scholars do vary, however, with respect to how they conceptualize the value-creating role of users and

79–80. Data production is also an important driver of overall company value and revenues because companies are able to use customer data to improve and create new products and services, so-called “data network effects.” See Erik Brynjolfsson & Andrew McAfee, *The Big Data Boom Is the Innovation Story of Our Time*, ATLANTIC (Nov. 21, 2011), <https://www.theatlantic.com/business/archive/2011/11/the-big-data-boom-is-the-innovation-story-of-our-time/248215> [https://perma.cc/K53T-MAJL]. The question of whether and how different forms of value creation should be integrated into the international tax system has been a topic of debate in recent tax scholarship. See generally, e.g., Johannes Becker & Joachim Englisch, *Taxing Where Value Is Created: What’s “User Involvement” Got To Do With It?*, 47 INTERTAX 161 (2019) (arguing for an international tax system recalibration based on sustained user relationships); Allison Christians & Laurens van Apeldoorn, *Taxing Income Where Value Is Created*, 22 FLA. TAX REV. 1 (2018) (arguing that rigorous examination of the meaning of “value” could prompt changes in the consensus on allocation); Grinberg, *User Participation in Value Creation*, *supra* note 78 (examining the United Kingdom’s proposal to account for user value creation in digital platforms).

This indirect value creation, which users and customers create both in their role as consumers as well as digital laborers, lends support to the notion that the market jurisdiction should be granted a taxing right through reforms such as the Pillar One Blueprint. As is discussed in Part I.C above, unlike value created in their role as producers, a fundamental shift in the principle of source and substantial reforms to the structure of international tax may be necessary to fairly tax value created by users and customers in their role as consumers. And, as is discussed in Part I.D above, this type of reform could coexist with the approach advocated by this Article, granting taxing authority over income that is directly attributable to digital laborers’ work under the international tax system’s current approach while granting taxing authority to the market jurisdiction over residual profits based on indirect value creation.

116. As is discussed in more detail in Part II.D below, there are some business models in which customers or patrons create value for companies outside of content and data creation. While this hybrid role is far more prevalent in the digital economy, the same conclusions reached in this Article with respect to digital laborers also apply in the context of those business models.

117. See *supra* notes 17–18 and accompanying text.

customers. One viewpoint supports treating digital laborers in the same way as a workforce—this is the view that users and customers are creating value within the enterprise itself, serving a production role.¹¹⁸ Others acknowledge the value created by users' activities but view the relationship between users and digital firms as a transactional one that occurs outside of the firm—a relationship in which these users and customers are still in the role of a consumer but are exchanging their data or content rather than money for services in a type of barter exchange.¹¹⁹ This view of customers and users engaged in a barter exchange in a consumer role outside the company counters the argument that they serve a similar economic role to a traditional workforce.

This Article agrees with the view that users and customers create value within a firm as producers. First, users and customers do not in all cases receive free products or services in exchange for their content and data creation. Second, in the cases where they do receive free products or services, the fact that the “payment” provided to the company is a product of their labor, rather than monetary, makes the interaction closer in nature to a worker creating value for a firm through labor. Digital laborers' data and content creation produce value within a firm in a similar manner as a workforce.

The phenomenon of digital labor was first identified and studied outside of legal scholarship. In 2000, Italian media studies theorist Tiziana Terranova identified the role of free labor as a value-creating

118. See, e.g., OECD, INTERIM REPORT, *supra* note 77, at 25 (describing how some member countries view user contributions as value generation within a firm); HMT 2018 REPORT, *supra* note 76, at 9 (“[F]or some types of digital businesses, users can be seen participating in a non-traditional value chain and performing supply-side functions that would historically have been undertaken by the business itself.”); COLLIN & COLIN, *supra* note 62, at 49 (describing the free work of users as an extension of Coase’s theory of the firm, providing companies with the opportunity to inspire users to engage in activities that are incorporated into the production chain). But see Wolfgang Schön, *One Answer to Why and How To Tax the Digitalized Economy* 17 (Max Planck Inst. for Tax L. & Pub. Fin., Working Paper No. 2019-10, 2019) (noting that content and data creation by users in digital business models “do[] not turn the user into a special category of employee within the firm and his contributions do not reflect value created by the taxpayer”). See generally LANIER, *supra* note 21 (identifying users as a source of labor for firms); POSNER & WEYL, *supra* note 21 (arguing that customers serve as a source of labor for firms when creating data).

119. See, e.g., OECD, INTERIM REPORT, *supra* note 77, at 25 (explaining that some member countries view user contributions and data collection as transactions between users and digital companies); Kjærsgaard & Schmidt, *supra* note 75, at 159–60 (identifying free labor provided by users of digital platforms and arguing that the economic arrangement between users and platforms should be treated as a barter transaction).

mechanism for digital companies in her analysis of the free work that chat room moderators played for AOL in the mid-1990s.¹²⁰ In the years that followed, authors in fields ranging from media theory to sociology to critical theory joined the conversation on the implications of free content production by digital laborers.¹²¹ These scholars have presented the “consistent analysis of digital labor as a continuation of the social relations surrounding the traditional work-place.”¹²²

The rise of the data economy in recent years has expanded the analysis of digital labor from content creation to data creation. The topic of digital labor and data creation entered the law and economics literature in Professors Eric Posner and E. Glen Weyl's 2018 essay, *Data as Labor*.¹²³ Posner and Weyl argue that data is a product of a data subject's labor.¹²⁴ They are joined in this characterization of data as a form of labor by other scholars, such as Jaron Lanier.¹²⁵ The potentially exploitative nature of companies' collection and use of digital laborers' data has been highlighted as part of these discussions.¹²⁶ Although a full discussion of the exploitation of the free

120. Tiziana Terranova, *Free Labor: Producing Culture for the Digital Economy*, 18 SOC. TEXT 33, 33–34 (2000).

121. See generally DIGITAL LABOR: THE INTERNET AS PLAYGROUND AND FACTORY (Trebor Scholz ed., 2013) (collecting essays from scholars across disciplines on the phenomenon of digital labor).

122. Trebor Scholz, *Introduction: Why Does Digital Labor Matter Now?*, in DIGITAL LABOR: THE INTERNET AS PLAYGROUND AND FACTORY, *supra* note 121, at 11.

123. See POSNER & WEYL, *supra* note 21, at 205–49.

124. *Id.* at 207–09.

125. See, e.g., LANIER, *supra* note 21, at 15–17; Imanol Arrieta-Ibarra, Leonard Goff, Diego Jiménez-Hernández, Jaron Lanier & E. Glen Weyl, *Should We Treat Data as Labor? Moving Beyond “Free”*, 108 AM. ECON. ASS'N PAPERS & PROC. 38, 39–40 (2018).

126. Christian Fuchs, *Labor in Informational Capitalism and on the Internet*, 26 INFO. SOC'Y 179, 192 (2010) (“The notion that knowledge labor, such as the one performed online by producers, is productive, then also means that under capitalist class relations it is exploited and that all knowledge workers, unpaid and paid, are part of an exploited class.”).

Scholars have characterized the exploitation of digital laborers through the collection and use of their data as a new form of colonialism, NICK COULDRY & ULISES A. MEJIAS, *THE COSTS OF CONNECTION: HOW DATA IS COLONIZING HUMAN LIFE AND APPROPRIATING IT FOR CAPITALISM* 3–6 (2019), and even a form of slavery, Mick Chisnall, *Digital Slavery, Time for Abolition?*, 41 POL'Y STUD. 488, 488 (2020). And the need to seek radical reforms to ensure that the value created by data does not accrue exclusively to the wealthy and powerful has been a focus of recent political economy scholarship. See generally Barbara Prainsack, *The Political Economy of Digital Data: Introduction to the Special Issue*, 41 POL'Y STUD. 439 (2020) (discussing the impetus for and importance of a journal issue devoted to the political economy of data).

As discussed in the Introduction, Posner, Weyl, Lanier and others who have argued that data is a product of labor have also advocated for digital laborers to be paid for their work. See

work of digital laborers is beyond the scope of this Article, it undoubtedly supports the sentiment that digital laborers' home countries being unable to tax income attributable to their work is unfair.

B. Examples of Digital Laborers' Work

Digital laborers' work can be broadly divided into two categories—the creation of various types of content, which predominantly occurs via digital platforms, and the production of data, which occurs across a vast array of business models.

1. *Content Creation.* Digital laborers' content creation is a dominant feature of the digital economy. This Subsection discusses two central examples of content creation by digital laborers—social media content and online reviews and ratings.

a. Social Media Content. In the context of social media and information sharing platforms, digital laborers create entertainment content. When Facebook's digital laborers post news articles, status updates, or photos, they deliver Facebook content that provides other Facebook customers with information and entertainment—they create a product. This content creation is rapid and massive. Every minute, for example, Twitter users send approximately 456,000 tweets and Instagram users post approximately 46,740 photos.¹²⁷

Reddit is one example of a social media website that relies on digital laborers to produce content. Reddit is an online platform through which digital laborers create and post content in various forums addressing specific topics—these digital laborers have created over one hundred thousand forums, and the platform has over fifty million daily users on average.¹²⁸ Reddit goes even further than most digital platforms in its reliance on digital laborers as its workforce. Not only do Reddit's digital laborers produce the platform's content but some of its digital laborers also act as moderators for forums without compensation, setting standards for the community of users and

supra note 21 and accompanying text. Whether digital laborers are or are not paid for their work does not impact the division of taxing authority over companies' income amongst jurisdictions. See *supra* Part I.A (explaining the allocation of taxing authority over corporate income in international tax law).

127. Marr, *supra* note 9.

128. *About, REDDIT*, <https://www.redditinc.com> [<https://perma.cc/3Q8K-X4SV>].

policing content posted to the forum.¹²⁹ This same model of relying on digital laborers to create the content that entertains and informs consumers is used by countless other social media companies.

This platform model contrasts with more traditional media firms where the firm itself both produces and disseminates the content. Radio and television stations devote substantial resources to creating the content that they then distribute to customers. A large number of employees are needed to create this content. For example, approximately 37 percent of the CBS Corporation's operating expenses for 2018 were for direct costs related to internally developed television and film content and related expenses such as on-air talent.¹³⁰ The CBS Corporation employed approximately seventeen thousand staff members in 2018.¹³¹ Even though CBS's public financial filings do not disclose the percentage of employees that are devoted to content creation, it can be assumed that a substantial portion of CBS's seventeen-thousand-person workforce is devoted to creating the content that is disseminated to CBS's viewers. In sharp contrast, Reddit had approximately seven hundred employees at beginning of 2021¹³² and reached a market valuation of \$10 billion that year.¹³³ Social media enterprises leverage digital laborers' content production and are able to operate and produce revenue and income using a fraction of the workforce that traditional media enterprises employ.

There are many other models of social media platforms that rely, at least in part, on the content creation of digital laborers. For example, media hosting websites, such as YouTube, rely on digital laborers to

129. See *Moderator Guidelines for Healthy Communities*, REDDIT, <https://www.reddit.com/policies/moderator-guidelines> [<https://perma.cc/9ECJ-QLZZ>]; Kim Renfro, *For Whom the Troll Trolls: A Day in the Life of a Reddit Moderator*, BUS. INSIDER (Jan. 13, 2016, 12:27 PM), <https://www.businessinsider.com/what-is-a-reddit-moderator-2016-1> [<https://perma.cc/R2GG-5XGS>].

130. CBS Corp., Annual Report (Form 10-K) II-12 (Feb. 15, 2019).

131. *Id.* at I-16.

132. Jon Porter, *Reddit To Double Employees After Raising \$250 Billion*, VERGE (Feb. 9, 2021), <https://www.theverge.com/2021/2/9/22274077/reddit-funding-round-250-million-double-employees-investment> [<https://perma.cc/G48Y-LEHN>].

133. Meghan Bobrowsky, *Reddit Valuation Soars to \$10 Billion in New Funding Round*, WALL ST. J. (Aug. 12, 2021, 12:05 PM), <https://www.wsj.com/articles/reddit-taps-investor-appetite-for-startups-further-raising-valuation-11628766000> [<https://perma.cc/RD4L-2QML>]. The CBS Corporation had a market capitalization of approximately \$25 billion at the end of 2019. *ViacomCBS Market Cap 2006-2021*, MACROTRENDS, <https://www.macrotrends.net/stocks/charts/VIAC/viacomcbs/market-cap> [<https://perma.cc/PR3H-4WER>].

upload video content to the platform.¹³⁴ In this instance, digital laborers are creating the core entertainment product delivered to other users. In other contexts, digital companies do themselves create content and provide other services beyond maintaining a platform and delivering information, and digital laborers' work supplements the activities performed by the company. These business models blend together social media and other services. On the music platform Spotify, for example, digital laborers are able to create playlists that they can then make public to other Spotify listeners.¹³⁵ These digital-laborer-created playlists supplement the playlists and other products and services that Spotify itself creates and provides, enhancing the value of the central product that Spotify offers to consumers (that is, licensing music content and providing consumers access to such content) and adding to the services offered to consumers when they join the platform.

b. Online Reviews and Ratings. Another form of content created by digital laborers includes reviews and questions and answers in online marketplaces, such as Airbnb, Apple's App Store, and Amazon. Airbnb's digital laborers, for example, provide valuable information through reviews. Guests on Airbnb can provide numerical ratings of several specific elements of the accommodation and their experience with an Airbnb host and can also provide narrative reviews of the host and their experiences.¹³⁶ These ratings and reviews then guide future guests in their choice of accommodations, and the sharing of this information is part of the service provided by the platform.

Similarly, digital laborers on Apple's App Store provide ratings and reviews of the applications available through the App Store. The

134. YouTube does compensate digital laborers who post videos on the platform once they have reached a certain level of viewership. The size of these thresholds and their terms result in most individuals who post videos to YouTube not receiving compensation. See Brett Molina, *How YouTube Creators Get Paid for Ads and Why Some Have Been Angry*, USA TODAY, <https://www.usatoday.com/story/tech/news/2018/04/04/how-youtube-creators-get-paid-ads-and-why-some-have-been-angry/485032002> [<https://perma.cc/7N58-Z5K5>] (last updated Apr. 4, 2018, 7:08 PM); *YouTube Partner Earnings Overview*, YOUTUBE, <https://support.google.com/youtube/answer/72902?hl=en> [<https://perma.cc/F58R-Z8ZD>].

135. *Share from Spotify*, SPOTIFY, <https://support.spotify.com/us/article/share-from-spotify> [<https://perma.cc/7TQB-DMNF>] (describing how users can share playlists and other items with fellow users).

136. See generally *How Airbnb Works*, AIRBNB, <https://www.airbnb.com/d/howairbnbworks> [<https://perma.cc/5N9W-YLAJ>] (describing the platform and providing links to search for more information).

massive volume of Apple's digital laborers results in a huge quantity of reviews. The popular dating app Bumble, for example, has one million ratings¹³⁷ while the social networking app Instagram has twenty-two million ratings.¹³⁸

For each product sold on Amazon, the platform allows digital laborers to post reviews of the product as well as answer Amazon's customers' questions about the product. These reviews and answers provide Amazon's customers with extensive and detailed information about the products sold via the platform. For example, the Toshiba thirty-two-inch HD Smart TV has over twenty-four thousand reviews on Amazon.¹³⁹ Over one thousand questions about the product have been answered—some by the seller but the majority by digital laborers.¹⁴⁰ These questions range from whether the TV is Bluetooth compatible to whether it is worth the investment if the customer already owns certain other products.¹⁴¹

In each of these examples, digital laborers serve a similar role to the one that a salesperson would traditionally serve in a typical brick-and-mortar business model. Digital laborers provide information on specific products and direct customers to the products that are most relevant to them. Digital firms, therefore, are able to employ the work of digital laborers to serve a role that firms have historically had to hire employees or agents to perform.

In the online marketplace examples discussed above, digital laborers' reviews and ratings provide a valuable sales function for the marketplace, but they are only one component of the services that the online marketplace provides to third-party retailers. On review platforms such as Tripadvisor and Yelp, digital laborers' content production serves a similar role to content production in the context of social media companies—they provide the information that is the

137. *Bumble*, APP STORE PREVIEW, <https://apps.apple.com/us/app/bumble-dating-friends-bizz/id930441707> [<https://perma.cc/3NUC-PVBR>].

138. *Instagram*, APP STORE PREVIEW, <https://apps.apple.com/us/app/instagram/id389801252> [<https://perma.cc/UW8S-3EXR>].

139. *Toshiba 32LF221U21 31.5-inch HD Smart 720p TV - Fire TV, Released 2020*, AMAZON, <https://www.amazon.com/All-New-Toshiba-32LF221U21-32-inch-Smart/dp/B0872FYTWS> [<https://perma.cc/BN64-UNZZ>].

140. *Id.*

141. *Id.*

essence of the company's product.¹⁴² Tripadvisor advertises itself as the ultimate travel companion based on "more than 1 billion reviews and opinions of nearly 8 million businesses."¹⁴³ Tripadvisor has built a now multi-billion dollar company through an "ever-growing army of contributors who provide their services for free."¹⁴⁴ Tripadvisor's digital laborers, this "army of contributors," provide the information that is Tripadvisor's product.

2. *Data Creation.* Data creation is another major way in which digital laborers create a product that companies are then able to monetize. This data creation is massive and growing exponentially. In 2013, the accumulated amount of data across the globe was 4.4 zettabytes, a number that was projected to be forty-four zettabytes in 2020.¹⁴⁵ By 2025, it is projected that 0.463 zettabytes of data will be created every day.¹⁴⁶ Even though the collection and monetization of data was initially within the purview of online platforms and other tech companies, other industries are becoming increasingly aware of the value of customer data and incorporating this data awareness into their businesses.¹⁴⁷

Digital laborers create data in a variety of ways.¹⁴⁸ When a digital laborer uploads content, they create data. When a digital laborer inputs personal information into a website or runs an online search, they create data. They create data in their physical and virtual movements

142. See *About Tripadvisor*, TRIPADVISOR, <https://tripadvisor.mediaroom.com/us-about-us> [<https://perma.cc/FEG7-MQYX>]; *Fast Facts*, YELP, <https://www.yelp-press.com/company/fast-facts/default.aspx> [<https://perma.cc/CB8X-PXFG>].

143. TRIPADVISOR, *supra* note 142.

144. Linda Kinstler, *How TripAdvisor Changed Travel*, GUARDIAN (Aug. 17, 2018, 1:00 PM), <https://www.theguardian.com/news/2018/aug/17/how-tripadvisor-changed-travel> [<https://perma.cc/R5DU-WXWB>].

145. Desjardins, *supra* note 11. A zettabyte is one trillion gigabytes.

146. *Id.*

147. See generally DELOITTE, DATA VALUATION: UNDERSTANDING THE VALUE OF YOUR DATA ASSETS (2020), <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Finance/Valuation-Data-Digital.pdf> [<https://perma.cc/QG4Z-7RPF>] (providing a guide for businesses in various sectors to recognize and harness the value of their data).

148. See, e.g., OECD, INTERIM REPORT, *supra* note 77, at 55–56 (discussing various levels of user participation on digital platforms); WORLD ECON. F., PERSONAL DATA: THE EMERGENCE OF A NEW ASSET CLASS 7 (2011), https://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf [<https://perma.cc/BZK5-4DBJ>] (dividing data creation into data volunteered by people, observed based on their actions, and inferred through analysis of volunteered and observed data).

and in their interactions with objects, spaces, and one another. These multifarious forms of data creation are discussed in more detail below. Each of these forms is united by the fact that it can be viewed as an act of labor, creating an asset that companies then monetize.¹⁴⁹

When digital laborers create content, they also create data. This data is about both the producer of that content themselves as well as about the people with whom they interact. If, for example, a digital laborer posts photographs on a social media platform from a recent hiking trip with friends, that laborer has provided the platform with a variety of data, including their interest in the outdoors and physical activity, their geographic orbit, and their social interactions. Or, if digital laborers “share” news articles on political issues, their acts create data on their political leanings, particularly if they also post commentary on articles when sharing them.

When digital laborers write online reviews, they also produce data for the online platform. By writing reviews in an online marketplace through which they have made purchases, digital laborers supplement the data created by their purchase records by highlighting which products or services they are most interested in as well as their satisfaction or dissatisfaction with each. Online reviews also create data on the digital laborers’ interests. If, for example, digital laborers regularly post Amazon reviews on photography equipment they purchase but do not post reviews on household items they purchase, this creates data suggesting a particular interest in photography.

Digital laborers also create data for companies by directly inputting information about themselves or those around them—this occurs in the context of online platforms as well as other consumer-facing businesses. When new digital laborers join Facebook, for example, they are required to input their first and last names, phone numbers or email addresses, birthdays, and gender identities. Once digital laborers have created their new Facebook accounts, they can

149. Data that is volunteered or intentionally created by digital laborers, such as the input of personal information or uploading content, can perhaps more readily be viewed as their “work” than data that digital laborers create through their movements and interactions with the world and others. In the first instance, as discussed in more detail below, digital laborers create data for companies through active and targeted efforts. In contrast, digital laborers do not make any targeted efforts to produce data that stems from their movements and interactions. Digital laborers instead engage in routine activities and interactions, and those activities and interactions result in data. One could argue that, because there is not an intentional effort by the digital laborer to create something, digital laborers are not “working” in the case of this latter form of data creation. This Article disagrees with this view. For further discussions of the phenomenon of data as a product of labor, see *supra* notes 123–26 and accompanying text.

add a variety of additional information as part of their profiles—the places they have lived, the schools they have attended, their workplaces, their political views, et cetera. E-commerce purchases likewise require customers to provide various personal data to companies, in contrast to most brick-and-mortar purchases.

When digital laborers enter search terms into search engines, such as Google, or online marketplaces, such as Amazon or Airbnb, they are effectively creating a log of their interests, preferences, and characteristics through their active efforts. This log is a valuable source of data on the digital laborer for the company. Take, for example, a Google digital laborer who runs the following searches—“European vacation ideas,” “best website for flight and hotel deals,” and “sample European travel itineraries.” This log of activity produces data for Google indicating that the laborer is planning a vacation to Europe. The amount of data created on search engines is vast—3.5 billion searches are run on Google every day.¹⁵⁰

Digital laborers also produce data through activities and interactions that are observed and monitored by companies. The monitoring and observation of digital laborers can take many forms.¹⁵¹ First, digital laborers can be followed in their movements across digital spaces. The development of the quickly ubiquitous “cookie” in the 1990s opened the door for the tracking and collection of data produced by digital laborers as they move between various websites and platforms, leaving a trail of “digital breadcrumbs.”¹⁵² Surveillance technology has grown since that time, and companies are able to monitor a digital laborer’s scrolling, clicking, and hovering in a given session. Google, for example, can track which links digital laborers follow within their search results and which search result previews digital laborers pause to read rather than scroll past.¹⁵³ Companies can track the length of time that a digital laborer is engaged with the platform.¹⁵⁴ Facebook reported in 2016 that the average user spends

150. Marr, *supra* note 9.

151. For a thorough and critical analysis of corporate monitoring and observation of customers, see generally ZUBOFF, *supra* note 19.

152. COHEN, *supra* note 5, at 54–59.

153. See Chris Crum, *Google Eyes Mouse Movement as Possible Search Relevancy Signal*, WEBPRONews (July 13, 2010), <https://www.webpronews.com/google-eyes-mouse-movement-as-possible-search-relevancy-signal> [<https://perma.cc/4X3U-UZJF>].

154. See, e.g., *Facebook (FB) Mark Elliot Zuckerberg on Q1 2016 Results - Earnings Call Transcript*, SEEKING ALPHA (Apr. 27, 2016, 6:29 PM), <https://seekingalpha.com/article/3968783->

about fifty minutes per day on Facebook, Instagram, or Facebook's Messenger platforms.¹⁵⁵ Smartphone use has opened further opportunities for data creation as digital laborers create data not only through website browsing but also through texting and using apps to manage their personal finance, fitness goals, and more.¹⁵⁶

The rise of the Internet of Things ("IoT") is fueling a further expansion of this type of data creation.¹⁵⁷ Ranging from smart cars to wearable fitness trackers to smart refrigerators, sensors imbedded in various products are already expanding (and have the potential to even further expand) the level of data created by digital laborers.¹⁵⁸ Applications on smartphones, for example, can track a digital laborer's physical location—either at all times or while the digital laborer is using the application.¹⁵⁹ A smart refrigerator can track brand choice, food consumption patterns, and when items need replacing—interactions with one's refrigerator become an act of data creation.¹⁶⁰

C. *How Firms Monetize Digital Laborers' Work*

Firms translate the content and data created through the work of digital laborers into revenues in a variety of ways. This Section describes several of the most prominent ways that firms directly and currently monetize digital laborers' work¹⁶¹: (1) the sale and license of user data, (2) revenues from online advertising, (3) services fees paid

facebook-fb-mark-elliott-zuckerberg-on-q1-2016-results-earnings-call-transcript [<https://perma.cc/PZN3-ML22>] (reporting the average length of user sessions across platforms); *Facebook's (FB) CEO Mark Zuckerberg on Q3 2014 Results - Earnings Call Transcript*, SEEKING ALPHA (Oct. 28, 2014, 5:14 PM), <https://seekingalpha.com/article/2607755-facebooks-fb-ceo-mark-zuckerberg-on-q3-2014-results-earnings-call-transcript> [<https://perma.cc/6MG3-YKLD>] (reporting average length of user sessions on Instagram).

155. James B. Stewart, *Facebook Has 50 Minutes of Your Time Each Day. It Wants More.*, N.Y. TIMES (May 5, 2016), <https://www.nytimes.com/2016/05/06/business/facebook-bends-the-rules-of-audience-engagement-to-its-advantage.html> [<https://perma.cc/UPQ9-XZHW>].

156. COHEN, *supra* note 5, at 57.

157. The IoT refers to the connection via the internet of computing devices within objects, such as phones or cars, that allow those objects to send and receive data.

158. See COHEN, *supra* note 5, at 58.

159. *Id.* at 57–58.

160. Jathan Sadowski, *When Data Is Capital: Datafication, Accumulation, and Extraction*, 6 BIG DATA & SOC'Y 1, 6–7 (2019).

161. This Section is not intended to be an exhaustive description of the ways in which all firms monetize content and data creation of digital laborers, nor would it be possible to write such a description because firms' business practices and their exact means of revenue creation are not necessarily disclosed publicly.

by third-party vendors or hosts on online marketplace platforms, and (4) subscription services fees paid by platform users. As discussed above, this Article only considers ways in which digital firms' revenues can be directly traced to digital laborers' content and data creation. It does not address value created indirectly by digital laborers, such as value created through network effects or through a firm's internal use of digital laborers' data for purposes such as improving efficiency or developing new products.¹⁶²

1. *Direct Sale or License of User Data.* The most straightforward way that companies can monetize digital laborers' work is by directly selling or licensing digital-laborer-created data to third parties.¹⁶³ This practice is widespread, as indicated by a data brokerage industry that is estimated at \$200 billion.¹⁶⁴ For example, Yelp might be able to predict food trends based on data gathered from its digital laborers that it can then sell to data and analytics businesses that advise companies on business strategies.¹⁶⁵ Data generated by digital laborers can also be sold or licensed to third parties for purposes such as training machine learning systems and developing artificial intelligence technologies.¹⁶⁶ Digital laborers' creation of data, therefore, generates current revenues for companies by creating a product that the company can directly sell or license.

162. See *supra* note 115.

163. See, e.g., Michael Latzer, Katharina Hollnbuchner, Natascha Just & Florian Saurwein, *Chapter 19: The Economics of Algorithmic Selection on the Internet*, in HANDBOOK ON THE ECONOMICS OF THE INTERNET 395, 413 (Johannes M. Bauer & Michael Latzer eds., 2018) ("Today, personal data has become the new oil for the economy and [the] operators of algorithmic selection applications are major collectors of such data online. They use these data to customize services and monetize them (as an exchange for other/more data or by selling them directly)" (citations omitted)); Michael Luca, *Chapter 12: User-Generated Content and Social Media*, in HANDBOOK OF MEDIA ECONOMICS 564, 585 (Simon P. Anderson, David Strömberg & Joel Waldfogel eds., 2016) (explaining that the sale of analytics and data is a primary means of revenue generation from user-generated content); COLLIN & COLIN, *supra* note 62, at 2 (noting that digital companies are able to earn revenue through the licensing of free user-generated data to third parties).

164. Catherine Tucker & Nico Neumann, *Buying Consumer Data? Tread Carefully*, HARV. BUS. REV. (May 1, 2020), <https://hbr.org/2020/05/buying-consumer-data-tread-carefully> [<https://perma.cc/C4GK-YLB9>].

165. Luca, *supra* note 163, at 585.

166. POSNER & WEYL, *supra* note 21, at 220 (describing digital companies as "data collectors, delivering services that lure users into providing information on which they train AIs using ML").

2. *Online Advertising Revenues.* In the digital economy, social media platforms, as well as other digital businesses, rely heavily, and in some cases almost exclusively, on online advertising revenues. In its 2020 Form 10-K filing with the Securities and Exchange Commission, Facebook acknowledged, “We generate substantially all of our revenue from selling advertising placements to marketers.”¹⁶⁷ Indeed, 97.9 percent of Facebook’s revenue for 2020 came from advertising.¹⁶⁸ Other digital companies outside the social media space likewise rely heavily on advertising revenue. Tripadvisor also explained in its 2019 10-K filing, “We derive a substantial portion of our revenue from the sale of advertising”¹⁶⁹

Both content and data creation by digital laborers contribute to online advertising revenue. As discussed in Part II.A above, in many digital business models, digital laborers create entertainment and information content that the business then disseminates to consumers. This entertainment and information content draws “eyeballs” to the platform, and digital laborers’ work to create it contributes to the sale of online advertising. Because content generated by digital laborers draws users and enables companies to provide advertising services, the revenues earned by online platforms from advertising are attributable (at least partly) to the labor of digital laborers when they generate content.¹⁷⁰

In the case of targeted advertising, data creation is an essential component of the advertising service. It is an essential component because data created by digital laborers allows this advertising to be tailored and targeted toward individual users, rather than disseminated

167. Facebook 2020 Form 10-K, *supra* note 13, at 7.

168. *Id.* at 52.

169. Tripadvisor, Inc., Annual Report (Form 10-K) 11 (Feb. 22, 2019). Note that Tripadvisor does not disaggregate advertising revenue in its annual financial reporting so the exact percentage of Tripadvisor’s revenue that is derived from advertising is unknown.

170. The content created by digital laborers is an important factor in facilitating advertising services for many online platforms, but it is not the only factor. The design, creation, and maintenance of the platform itself, the activities of the digital company’s employees in soliciting and effecting the advertising contracts, and the equipment, such as servers, used to host the platform also contribute to creating advertising revenue. As is discussed in more detail in Part III.A below, U.S. tax law has recognized this in the context of advertising income and allows income from advertising, as well as services income more generally, to be allocated between multiple activities and factors. *See generally* Piedras Negras Broad. Co. v. Comm’r, 43 B.T.A. 297, 312 (1941), *aff’d*, 127 F.2d 260 (5th Cir. 1942) (“Certainly labor and personal services, both in the radio programs themselves and in the operation of the power station or broadcasting plant, contributed in a major degree to the dissemination of the advertising.”).

to a more general audience.¹⁷¹ In contrast, in traditional advertising, advertisements are targeted toward broad categories of people and might be tailored based on the overall characteristics, but not individual characteristics, of the audience. Commercials aired during a sports event, for example, might be for products more appealing to men because men constitute a disproportionate portion of the audience for sports events.¹⁷² Targeting advertisements toward individuals enables platforms to charge higher prices than can be charged for more traditional advertising.¹⁷³ A prime-time television advertisement might typically bring revenues of ten dollars per thousand impressions, but a targeted advertisement displayed following a search in a search engine might typically bring revenues closer to one hundred dollars per thousand impressions.¹⁷⁴

While online advertising is expected to grow at a compound annual growth rate of 16 percent from 2019 to 2024, offline advertising is expected to decline.¹⁷⁵ The data created by digital laborers is the essential component that allows online platforms to offer and generate revenues through targeted advertising,¹⁷⁶ and the importance of online

171. See Wenjuan Ma & Steven S. Wildman, *Online Advertising Economics*, in HANDBOOK ON THE ECONOMICS OF THE INTERNET, *supra* note 163, at 426, 430–32 (describing targeted advertising on online platforms).

172. For example, 68 percent of viewers for the 2012–13 National Hockey League regular season were men. NIELSEN CO., YEAR IN SPORTS MEDIA REPORT 13 (2013), <https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/year-in-sports-media-report-2013.pdf> [<https://perma.cc/5JG8-DA8B>].

173. See, e.g., HOWARD BEALES, NETWORK ADVER. INITIATIVE, THE VALUE OF BEHAVIORAL TARGETING 8 (2010) (finding that the price of behaviorally targeted advertising was 2.68 times more than traditional advertising); Jianqing Chen & Jan Stallaert, *An Economic Analysis of Online Advertising Using Behavioral Targeting*, 38 MGMT. INFO. SYS. Q. 429, 429 (2014) (finding that revenue from online advertising revenue can double with targeted behavioral advertising versus traditional advertising while also citing factors such as degree of competition that mitigates this effect). There is also evidence that the use of targeted advertising by online platforms is driving down the price that offline media is able to charge for advertising. Martin Peitz & Markus Reisinger, *The Economics of Internet Media*, in HANDBOOK OF MEDIA ECONOMICS, *supra* note 163, at 445, 499–503.

174. Hal R. Varian, *The Economics of Internet Search*, in HANDBOOK ON THE ECONOMICS OF THE INTERNET, *supra* note 163, at 385, 385.

175. *How Has the U.S. Online Advertising Market Grown, and What's the Forecast over the Next 5 Years?*, FORBES (June 11, 2019, 10:45 AM) [hereinafter *How Has the U.S. Online Advertising Market Grown*], <https://www.forbes.com/sites/greatspeculations/2019/06/11/how-has-the-u-s-online-advertising-market-grown-and-whats-the-forecast-over-the-next-5-years/#4167ea166607> [<https://perma.cc/WU6S-37KV>].

176. See, e.g., Ma & Wildman, *supra* note 171, at 426, 430–32 (describing how information from the tracking of individual users is used to develop targeted advertising); *How Has the U.S.*

advertising is only expected to grow. Revenues from targeted advertising services are at least partly attributable to digital laborers' work creating data. The sale of advertising services, particularly targeted advertising services, is a key way in which digital enterprises monetize digital laborers' work.

3. *Services Fees on Online Marketplaces.* One way in which online marketplace platforms, such as Amazon, Apple's AppStore, and Airbnb, produce revenues is through fees that the firms charge third-party sellers, application developers, and property owners for the ability to list or provide their products or services via the platform. As discussed in more detail in the examples below, these fees are related to the firm's provision of a range of services to third parties. One of these services is the sales force role that digital laborers play when posting reviews and ratings and answering questions about the listed products and services.

Amazon, for example, charges third-party vendors fees in exchange for various services that Amazon provides to facilitate the vendors' sales of products to customers—these fees typically range from 8 percent to 15 percent of sales revenue but can reach percentages as high as 50.¹⁷⁷ Amazon provides sellers with a myriad of services—from being able to list their products on the Amazon website to processing orders and payments to handling shipping and refunds.¹⁷⁸ Part of the services that Amazon provides are the reviews and questions and answers content created by Amazon's digital laborers. A portion of the revenue Amazon receives from third-party vendors, therefore, is attributable to the work of these digital laborers.

Likewise, Airbnb charges hosts a fee equal to a percentage of revenues to list their properties on the platform.¹⁷⁹ A component of the services that these hosts are paying Airbnb for, in addition to services like payment processing, are digital laborers' reviews and ratings that

Online Advertising Market Grown, supra note 175 (predicting an increase in the online advertising market).

177. Angus Loten & Adam Janofsky, *Sellers Need Amazon, but at What Cost?*, WALL ST. J. (Jan. 14, 2011, 6:30 PM), <https://www.wsj.com/articles/sellers-need-amazon-but-at-what-cost-1421278220> [<https://perma.cc/M2TY-N4S5>].

178. *Amazon Services Business Solutions Agreement*, AMAZON, <https://sellercentral.amazon.com/gp/help/external/G1791> [<https://perma.cc/F4JP-36J7>].

179. *Airbnb Service Fees*, AIRBNB, <https://www.airbnb.com/help/article/1857/airbnb-service-fees> [<https://perma.cc/7FBL-ZVA9>].

legitimize their listings and thereby increase bookings. Apple similarly monetizes the value created by the reviews and ratings of its digital laborers by charging developers a fee to distribute their applications via the App Store.¹⁸⁰ This fee, which is either 15 or 30 percent of the sales revenue that the developer receives through the App Store, is paid in exchange for access to and various distribution and sales services through the App Store—these services include the reviews and ratings created by Apple’s digital laborers.¹⁸¹ These services fees are another way in which digital enterprises monetize digital laborers’ work.

4. *Subscription Services Fees.* Digital companies also earn revenue through subscription fees paid either by all users or by certain users to access a premium level of service or a premium product. YouTube, for example, offers users YouTube Premium. YouTube Premium is a subscription service that allows YouTube viewers to watch videos offline, play videos in the background, and watch videos without advertisements for a monthly fee.¹⁸² YouTube users pay for this premium service to more easily and conveniently access the content created by YouTube’s digital laborers. Spotify likewise offers a premium service that allows subscribers easier access to music content through offline listening, ad-free listening, and other features for a monthly fee.¹⁸³ A portion of the content that Spotify subscribers pay a monthly fee to access more easily is playlists created by digital laborers. In both of these cases, a portion of the revenues from subscription services fees is attributable to digital laborers’ work creating content that premium subscribers are paying to access more easily.

D. *Digital Laborers Compared to a Traditional Workforce*

Digital laborers perform an equivalent function to a traditional workforce—they are people producing goods and performing services that companies then monetize. But a digital laborer’s relationship with the companies for whom they produce data and content is not identical to the traditional relationship between companies and members of their workforces. These differences, however, do not outweigh the

180. *Membership Details*, APPLE DEV. PROGRAM, <https://developer.apple.com/programs/whats-included> [<https://perma.cc/T86M-AQ4X>].

181. *Id.*

182. *YouTube Premium*, YOUTUBE, <https://www.youtube.com/premium> [<https://perma.cc/DRX3-QMRV>].

183. *Premium*, SPOTIFY, <https://www.spotify.com/us/premium> [<https://perma.cc/VE89-DU5E>].

similarities in the function that digital laborers and traditional workforces play for companies. Nor do they negate the conceptual legitimacy and necessity of treating them in the same way when allocating taxing authority amongst jurisdictions.

Unlike a traditional employee or dependent agent of a firm, a digital laborer is under no obligation to perform services or create products for the firm. Digital laborers are typically not compensated by the company (other than through the receipt of free services or products). The firm has no management, supervision, or control over the digital laborers' work. These factors make the relationship between digital laborers and firms distinct from the type that characterizes an employer-employee or principal-agent relationship under current concepts within U.S. and international tax law.¹⁸⁴

While it is true that digital laborers do not match U.S. tax law's technical definition of an employee or an agent of a firm, these digital laborers are serving the same economic function as a traditional workforce.¹⁸⁵ In their role as digital laborers, they are creating the products and services that the firm then monetizes in its business. This economic function makes their role more akin to that of a worker than a customer, even taking into account the absence of obligations, payments, and control. The increasing digitalization of the economy and economic activities of digital laborers warrants stakeholders revisiting the existing doctrine specifying that only persons who fall under current limited definitions of employee or agent should be considered members of a firm's workforce for tax purposes. The question should not be whether digital laborers meet a narrow, traditional definition of employee or agent but whether they are closer

184. See, e.g., *Taisei Fire & Marine Ins. Co. v. Comm'r*, 104 T.C. 535, 553–55 (1995) (identifying external control as an important factor in determining whether an agent was dependent or independent for purposes of the United States-Japan tax treaty); Rev. Rul. 87-41, 1981-1 C.B. 296 (identifying twenty common law factors that can be used to determine whether an employer-employee relationship exists for employment tax purposes, including ability to control and provide instructions, set hours of work, and regular payment based on time worked); Rev. Rul. 74-330, 1974-2 C.B. 278 (explaining that control, contract, regular business activity, and responsibility for performance are all factors indicating whether an employer-employee relationship exists under the United States-United Kingdom tax treaty); I.R.S. Field Serv. Adv., 1992 WL 1466020 (Mar. 20, 1992) (emphasizing the importance of the employer having a right to control or direct the individual providing services in order to establish an employer-employee relationship).

185. The social relationship between a company and a digital laborer is also of the same type as the social relationship between a company and a traditional employee. See *supra* note 122 and accompanying text.

to a workforce than to a customer base. This new approach is an important step in adapting the tax system to a changing economic environment.

An argument against this new approach is that outside parties, including customers, have historically produced value for companies in similar ways to digital laborers and have not been treated as members of companies' workforces.¹⁸⁶ Treating digital laborers in the same way as a workforce while not recognizing similar relationships in other industries would inappropriately treat the digital economy differently from other segments of the economy.

It is true that customers and other third parties have historically created economic gains for companies in various business models outside the digital economy. For instance, Professor Itai Grinberg describes the example of participants in a clinical trial who are given drugs in exchange for the provision of personal health data to the company, which is then monetized by the company through the sale of products.¹⁸⁷ These participants are not treated in the same way as employees of the company for tax purposes. He argues that "it does not seem intellectually defensible to suggest that users only meaningfully contribute to value creation in the context of certain digital platforms" and rejects the concept of taxing value created by users generally.¹⁸⁸ Other examples of outside parties producing value for firms exist across various industries. A customer at a clothing store could function in the role that is traditionally filled by a salesperson if they tell another customer that they found a pair of shoes to be particularly comfortable, in the same way that an Amazon user fulfills this salesperson role through online reviews.

The observation that customers have historically created value for companies outside of payment for products and services does not invalidate the conceptual legitimacy of recognizing the similar function that digital laborers play to a workforce and treating them as such when sourcing income attributable to their work. The economy is complex, and the nature of economic activities is multifarious. Because of this complexity, the treatment of economic activities under our tax systems inevitably contains "holes" in which certain types of economic

186. Itai Grinberg, *International Taxation in an Era of Digital Disruption: Analyzing the Current Debate*, 45 INT'L TAX J. 39, 47–49 (2019) (arguing that users create value in contexts other than digital platforms, thus making user participation programs theoretically weak).

187. *Id.* at 48.

188. *Id.* at 49.

activities are unaccounted for or mischaracterized. This failure to take into account customers' roles as producers, both in the context of the data and content creation of digital laborers and in the types of business activities discussed above, is such a hole. With the increasing digitalization of the economy and the accompanying importance of digital laborers' production, this hole has grown larger, prompting a need to reevaluate the role that these value-producing customers and third parties play for firms and to revise the doctrine surrounding the categorization of labor for tax purposes. This reevaluation should not necessarily be limited only to the role of producer occupied by digital laborers creating content and data. For example, participants in clinical trials could also be treated in the same manner as traditional members of pharmaceutical companies' workforces when sourcing income.

Another difference between digital laborers and traditional members of firms' workforces is the *de minimis* nature of the economic gains created by any single digital laborer. As compared to the economic contributions that a traditional worker makes to a company, the contribution of any single digital laborer is small. For example, Facebook earned an average of only \$9.27 in revenues per user in the first quarter of 2021.¹⁸⁹ In the case of Facebook, a relatively high proportion of Facebook's revenues can be attributed to the labor of digital workers because of the extent to which digital laborers' content and data creation facilitate advertising revenue, which makes up the vast majority of Facebook's total revenues.¹⁹⁰ In business models like that of Amazon or Spotify, a smaller proportion of the company's economic gains are attributable to digital laborers' work because the services such laborers provide are a smaller component of the package of services the company offers to consumers.¹⁹¹ It is, therefore, true that the economic value produced by any single digital laborer in both of these business models is often *de minimis*. However, when the economic contributions of all digital laborers in a given country are aggregated together, these contributions are not *de minimis*. When considering whether digital laborers serve a similar role to a workforce, the aggregate value that digital laborers add, not the value added by individual laborers, is the appropriate measure to consider. The *de*

189. FACEBOOK, *supra* note 6, at 4.

190. See Facebook 2020 Form 10-K, *supra* note 13, at 7 (reporting that 97.9 percent of Facebook's revenue was derived from advertising); Ma & Wildman, *supra* note 171, at 426, 430–32 (describing how user data facilitates targeted advertising).

191. See *supra* notes 177–78 and accompanying text (describing the services offered by Amazon); *supra* notes 135, 183 and accompanying text (describing services offered by Spotify).

minimis nature of any individual digital laborers' contribution does not invalidate treating digital laborers in the same way as an enterprise's workforce when sourcing income associated with their work.

The above discussion demonstrates that, while digital labor and the relationship between digital laborers and companies possess unique features, digital laborers fulfill a similar role to a traditional workforce when creating content and data for companies. Treating them in the same way as a traditional workforce for purposes of allocating taxing authority over income attributable to their work is appropriate to maintain coherence in the international tax system. If digital laborers are not treated in the same way as a workforce, tax law ring-fences certain types of digital business models by taxing equivalent economic activities differently. Part III applies this framework of digital laborers as a type of workforce to current U.S. international tax law.

III. DIGITAL LABORERS' WORK AND U.S. INTERNATIONAL TAXATION

As Part II demonstrates, digital laborers fulfill a similar function as a traditional workforce but do so in a novel and unfamiliar way. As with any novel economic activity, the rise of digital laborers presents challenges when trying to situate income attributable to digital laborers' activities into existing tax law. U.S. tax law has historically dealt with the issue of novel economic activities or transactions by analogizing such activities or transactions to those established activities and transactions that most closely mirror those that have recently developed.¹⁹² By analogizing to the old, the preexisting case law and administrative analyses can guide the appropriate treatment of the novel. For example, in August of 2019, the Internal Revenue Service ("IRS") issued proposed regulations to address the tax treatment of transfers of digital content, such as books or movies in digital format, a type of economic transaction that has become increasingly prevalent in recent years.¹⁹³ The IRS chose to address these transactions in the

192. See PHILIP F. POSTLEWAITE, DAVID L. CAMERON & THOMAS KITTLE-KAMP, *FEDERAL INCOME TAXATION OF INTELLECTUAL PROPERTIES & INTANGIBLE ASSETS* ¶ 14.02[1] (2019) ("Categories of income not expressly addressed by a particular sourcing rule are sourced administratively or judicially, often with reference to the statutory rule that is most congruous with the transaction or income type under consideration.").

193. Prop. Treas. Reg. § 1.861-18, 84 Fed. Reg. 40,317 (Aug. 14, 2019).

proposed regulations by incorporating the standards of preexisting regulations that apply to the tax treatment of transfers of computer programs.¹⁹⁴

It is, therefore, consistent with past practice to treat the activities of digital laborers in the same manner as the work of traditional employees to determine the source of a firm's income. This Part demonstrates that, once digital laborers are treated in the same way as a traditional workforce, their home countries are in most instances the source countries for income attributable to their work under the current approach of U.S. international tax law.

This Part first applies the U.S. statutory source rules to income stemming from digital laborers' work using the framework of digital laborers as a type of workforce. It demonstrates that these rules dictate that, in most circumstances, the income stemming from the digital laborers' activities should be sourced to their home countries. These source rules express the United States' view of when the source principle applies to grant a jurisdiction taxing authority over gains from certain economic activities. This outcome demonstrates that allocating taxing authority to digital laborers' home countries is a natural and appropriate extension of the existing U.S. approach to source-based taxation into a new economic environment. This Part then applies this framework to U.S. bilateral tax treaties. It demonstrates that, once digital laborers' jurisdictions are considered the source jurisdictions with respect to income attributable to their work, taxing authority can be granted to such jurisdictions through a rebalancing of the claims of the source and residence jurisdictions. If tax law reforms the doctrine surrounding the distinction between workers and customers and the meaning of a workforce, it becomes unnecessary to upend the source principle and structure of the international tax system in order to grant taxing authority to digital laborers' jurisdictions.

A. Income from Services

Several categories of income that stem, at least partly, from the work of digital laborers are services income under U.S. domestic tax law. As explained below, once digital laborers are treated in the same way as a firm's workforce, the digital laborers' home countries are the source countries of the services income attributable to their work

¹⁹⁴ Notice of Proposed Rulemaking, Preamble to Proposed Regulations, 84 Fed. Reg. 40,317 (Aug. 14, 2019).

under the U.S. statutory approach to determining source. These categories include income from online advertising, income from fees charged for access to online marketplaces, and subscription services fees for online platforms, each of which are discussed in turn below.¹⁹⁵

Income derived from the performance of services is generally sourced to the place of performance of that service.¹⁹⁶ The place of performance is the place where people or capital are deployed to perform the service.¹⁹⁷ Neither the residence of the service provider, the place where the contract for services is negotiated and executed, nor the place where payment occurs or is directed is relevant for determining the place of performance.¹⁹⁸ This same scheme applies to services performed by individuals and services performed by firms through the activities of their employees or agents.¹⁹⁹ For services performed by multinational firms, it is often the case that payment for services may be attributable to the work of people in multiple jurisdictions. For example, an online platform might receive a single payment from a third-party vendor in exchange for processing orders. One component of order processing—managing payments—is performed by members of the firm’s labor force located in the United States while another component of order processing—fielding customer service inquiries—is performed by members of the firm’s labor force located in the Philippines. In these circumstances, the services income from the third-party vendor’s payment would be allocated partly to the United States and partly to the Philippines,

195. This list is not intended to be exhaustive but instead represents three major means by which enterprises earn services income attributable in part to the work of digital laborers. The analysis applied to these three categories of services income may apply to other ways in which enterprises monetize digital laborers’ work.

196. I.R.C. § 861(a)(3).

197. See *Piedras Negras Broad. Co. v. Comm’r*, 43 B.T.A. 297, 312–13 (1941), *aff’d*, 127 F.2d 260 (5th Cir. 1942) (sourcing income from advertising services based on the locations of the equipment and personnel used to perform the service).

198. Treas. Reg. § 1.861-4(a)(1) (1957).

199. *Comm’r v. Hawaiian Philippine Co.*, 100 F.2d 988, 991 (9th Cir. 1939) (discussing a prior codification of I.R.C. § 861(a)(3) and concluding that “[t]he Commissioner has cited no authority for the proposition . . . that a corporation cannot perform labor or personal services; and no reason . . . why § 119(c)(3) was not intended to apply to corporations. Clearly the section . . . is applicable to corporations. The 1928 act itself defines the term ‘person’ as including corporations” (internal citations omitted)).

based on the relative value of the services performed in each jurisdiction.²⁰⁰

As discussed above, online advertising is a large revenue generator for most digital companies. Advertising income is considered services income under U.S. domestic tax law.²⁰¹ Online advertising income has been analogized to advertising income from broadcast media, and the case law and administrative decisions addressing the tax treatment of broadcast media's advertising income has been applied to online advertising.²⁰²

Case law and administrative decisions addressing the source of broadcast advertising income focus on the location of the income-producing activity, not the location of the listeners or viewers who are the audience for the advertisements or the location of the purchasers of the advertisements. The seminal case in this area is *Piedras Negras Broadcasting Co. v. Commissioner*.²⁰³ The taxpayer in *Piedras Negras* was a radio station located in Mexico near the U.S. border; it had a large number of listeners based in the United States and received the vast majority of advertising revenue from U.S. advertisers.²⁰⁴ The court considered whether the United States was the source of the station's advertising income and, thus, should have taxing authority over such income under the U.S. source rules.²⁰⁵ The court held that Mexico, not the United States, was the source of the advertising income.²⁰⁶ The court focused on the location of the property and activities that facilitated the advertising, including the location where employees created the station's programming and the locations of the station's broadcasting equipment and other property necessary to air the advertisements.²⁰⁷ The case law and rulings addressing which country

200. Treas. Reg. § 1.861-4(b)(1)(i) (as amended in 1975). This relative value is assessed using a facts and circumstances test. *Id.*

201. DAVID E. HARDESTY, ELECTRONIC COMMERCE: TAXATION AND PLANNING ¶ 11B.03[5] (2019).

202. *Id.* ¶ 11B.03[5][b].

203. *Piedras Negras Broad. Co. v. Comm'r*, 43 B.T.A. 297 (1941), *aff'd*, 127 F.2d 260 (5th Cir. 1942).

204. *Id.* at 303.

205. *Id.* at 303–04.

206. *Id.* at 313.

207. *Id.* at 312 (“Certainly labor and personal services, both in the radio programs themselves and in the operation of the power station or broadcasting plant, contributed in a major degree to the dissemination of the advertising. Such labor and personal services were wholly without the United States.”).

is the source jurisdiction for advertising income have continued to follow the principle articulated in *Piedras Negras* that the locations of the labor and property that are necessary to produce or facilitate the production of advertising services are the dispositive factors in determining source.²⁰⁸

If digital laborers are only considered in their role as a firm's consumers, their locations would be irrelevant for determining the source of advertising income, like the listeners of the *Piedras Negras* radio station. However, if digital laborers are considered in their role as producers and treated in the same way as members of a firm's workforce, their home countries are the source countries for the portion of the advertising income that is attributable to the relative value of their activities in creating the revenue. These activities include both their data and content creation.

As discussed above, online advertising is frequently targeted advertising—advertising directed at specific viewers that is often sold at higher prices than general advertising services.²⁰⁹ A digital enterprise must undertake a variety of activities, such as soliciting and managing contracts with advertisers, and employ various items of enterprise's property, such as servers, to provide advertising services, both targeted and otherwise. Many of these activities are performed by the enterprise's traditional workforce. But digital laborers facilitate a key component of targeted advertising services by creating the data that is necessary to appropriately target the advertisements.

In some business models, such as social media firms, digital laborers' content production also facilitates the sale of online advertising in the same way as *Piedras Negras*'s employees' creation of programming facilitated its sale of broadcast advertising. Digital laborers' content production serves the same function because their content is the entertainment and essential product that draws the

208. For example, in *British Timken Ltd. v. Commissioner*, 12 T.C. 880 (1949), the Tax Court, citing *Piedras Negras*, held that a foreign corporation's income from sales activities was foreign source because the situs of the corporation's agents' activities was outside the United States. *British Timken*, 12 T.C. at 888. In a private letter ruling, the IRS considered a situation in which a foreign corporation published and distributed a magazine outside the United States but received advertising income from U.S. advertisers. The IRS ruled that the income from the U.S. advertisers should be sourced to the foreign jurisdiction because the capital and labor used to publish and distribute the magazine were located outside the United States. I.R.S. Priv. Ltr. Rul. 620305590A (Mar. 5, 1962).

209. See *supra* notes 171–74 and accompanying text.

audience to the platform. Under the standards of the U.S. statutory source rules and case law, the services income from online advertising should be allocated amongst the jurisdictions in which each component of the advertising services is performed based on their relative values. The location of digital laborers is one of these jurisdictions of performance.

Online marketplaces, such as Amazon and Airbnb, earn revenue both through online advertising and by providing online services to third-party vendors.²¹⁰ As discussed above,²¹¹ online marketplaces charge third-party vendors, both companies and individuals, fees in exchange for services provided to the vendors in order to facilitate their sales of products to customers. One of these services is the sales function provided by digital laborers when writing reviews, answering questions, and directing buyers to certain products. Income from facilitating sales or promoting another party's products is typically services income.²¹² Therefore, fees paid to online platforms create services income, and the source of that services income is the place of performance of those services. To the extent that this fee income is attributable to the vendor's payment for the sales or promotion services of digital laborers, the source of that income should be the digital laborers' home countries, which is the location from which they perform this sales function.

210. Online services can broadly be defined as services in which "a customer gains access to some type of online functionality." HARDESTY, *supra* note 201, ¶ 11B.02[5].

211. *See supra* Part II.C.3.

212. Characterizing these activities as services and sourcing the income to the place of performance of these services is consistent with the U.S. statutory scheme as well as prior case law. *See, e.g.*, I.R.C. § 861(a)(3); *British Timken*, 12 T.C. at 888 (sourcing sales commission income to the jurisdiction in which the sales force provided services); Rev. Rul. 60-55, 1960-1 C.B. 270 (ruling that commissions received by a foreign corporation from a U.S. corporation for promotion of products outside the United States was foreign-source income for services); KUNTZ & PERONI, *supra* note 36, ¶ A2.03[6][e][i].

Recent administrative guidance also points toward classifying online marketplace fees as services income. On August 14, 2019, the Department of the Treasury proposed new regulations addressing the classification of cloud transactions. Prop. Treas. Reg. § 1.861-19, 84 Fed. Reg. 40,317, 40,319 (Aug. 14, 2019). The proposed regulations incorporate the factors listed in § 7701(e)(1) to guide the determination of whether a cloud transaction should be characterized as a services transaction or a lease and include various examples of cloud computing transactions, all of which are classified as services contracts rather than leases. Prop. Treas. Reg. § 1.861-19(c)(2), (d), 84 Fed. Reg. 40,317, 40,326-29 (Aug. 14, 2019). Although fees charged by online marketplaces were not incorporated into the regulations, the proposed regulations' trend toward classifying cloud transactions as services further supports the conclusion that online marketplace fee income is services income.

Subscription services fees are another category of income which digital platforms receive in exchange for services provided to their consumers; these services might include the ability to stream music or videos and or to have access to crafted playlists.²¹³ A component of these services is often provided by the work of platforms' users in their role as digital laborers. For example, digital laborers often provide the content for media hosting platforms or craft playlists that other users can access on music streaming services. Digital laborers perform a portion of the services that subscribers pay for. As a result, the portion of the subscription services fees that are attributable to the digital laborers' services should be sourced to their home countries under the principles of U.S. statutory source rules once they are treated in the same way as members of a company's workforce, rather than merely as consumers.

B. Income from the Sale or License of Data

One of the ways that companies monetize digital laborers' data is through the sale of data to third parties. A digital laborer's production of that data for eventual sale by the company is analogous to a traditional manufacturing worker creating a product or a component of a product. The difference between production of a physical product and data production is the setting. In traditional manufacturing, the work occurs in a discrete physical space. A worker enters a firm's factory and creates a widget through their labor, which is then sold to a consumer (or creates a component of a widget which is combined with other components to create a final product that is sold to a consumer). In data manufacturing, there is no discrete physical space in which the digital laborer must be to work. All of a digital laborers' movements, activities, and interactions, both in the world and through online platforms, have the potential to create data for the company. The factory is wherever the digital laborer is located. This raw data may be the final product sold to the consumer, or the company may analyze

213. See *supra* Part II.C.4. In certain circumstances, subscription services fees might more properly be categorized as a sale or license of a digital product rather than as a service. For example, the proposed cloud computing regulations differentiate between subscription fees paid for the ability to stream digital content without the right to download, which are categorized as services income, and fees paid for the ability to stream and download digital content, which are categorized as sales or leases depending on the terms of the subscription. Prop. Treas. Reg. § 1.861-19(d)(9), (11), 84 Fed. Reg. 40,317, 40,328–29 (Aug. 14, 2019). This analysis focuses on subscription services fees that constitute services income.

and package the data prior to sale to a consumer.²¹⁴ As is explained below, once data production by a digital laborer is properly treated as a step in the manufacturing process that leads to the sale of inventory property, it follows under U.S. source rules that a portion of the sales income should be sourced to the “place of production” of the raw data by the digital laborer, the location from which the digital laborer performed the activities that created the data. This location will most commonly be the digital laborer’s home country.²¹⁵

Under the U.S. statutory source rules, the source of income from the sale of inventory that is produced by a taxpayer is the place of production of the inventory property.²¹⁶ Allocating income from the

214. Some might argue that raw data created by the digital laborer is valueless until it is analyzed by a firm’s algorithm, and, therefore, digital laborers create nothing of value to tax. This argument has a couple of key weaknesses. First, raw user data can be sold to third parties, who then process and analyze the data, demonstrating that user data alone does have independent value. Second, under this argument, many components of final products that are created at intermediate stages of the manufacturing process can be said to lack value. But current U.S. tax law acknowledges the value of intermediate products. BORIS I. BITTKER & LAWRENCE LOKKEN, *FEDERAL TAXATION OF INCOME, ESTATES, AND GIFTS* ¶ 47.2.1 (2019) (ebook) (“[A] manufacturer’s raw materials and work in process are inventory property, even though not held for sale to customers.”). Under the U.S. transfer pricing rules, if an intermediate component created in the manufacturing process is transferred from one affiliate to another, the transfer is treated as an arm’s length transaction between unrelated parties, and value is assigned to the intermediate component. *See* Treas. Reg. § 1.482-1(d)(3)(iii)(C) (example 3) (1994) (providing an example in which small motors manufactured by one affiliate were sold to the parent company and incorporated into a final product for sale to consumers and value was allocated to the component motors).

215. Although this author believes that data sold to third parties should properly be characterized as inventory property for tax purposes, this characterization is not completely clear under current law. This ambiguity derives from the unique nature of data as an asset—in particular, its nonrivalrous nature. The same piece of data can be used by different parties for different purposes without reducing its value. This stands in contrast to a widget, which can only be used by one party at a time. Because it can be used by multiple parties, a company could both sell data to a third party and use that same data internally to develop new products and services. The Code defines inventory property as “property held by the taxpayer *primarily* for sale to customers in the ordinary course of his trade or business.” I.R.C. § 1221(a)(1) (emphasis added); *see* I.R.C. § 865(i)(1) (defining inventory property by referencing § 1221(a)(1)). Because it is used for multiple purposes, it could be argued that data is not held primarily for the sale to customers when the company uses it internally in addition to selling it. This uncertainty highlights the challenges that data as an asset presents to tax law’s system of categorizing income and property and is a rich topic for future research.

216. I.R.C. § 863(b) (sourcing inventory property produced by taxpayer to the place of production); *id.* § 865(b) (exempting inventory property from the general rule that gains from the sale of personal property are sourced to the jurisdiction of the taxpayer); *id.* § 865(i)(1) (defining inventory property for purposes of § 865 by reference to § 1221(a)(1)); *id.* § 1221(a)(1) (defining inventory property as “property of a kind which would properly be included in the inventory of the taxpayer if on hand at the close of the taxable year, or property held by the taxpayer primarily

sale of taxpayer-produced inventory property solely to the place of production is a legislative change that was part of the Tax Cuts and Jobs Act of 2017.²¹⁷ Under prior law, income was divided between the place of production and the place of sale.²¹⁸ Congress's determination that the place of production should be the sole basis on which this type of income should be allocated indicates congressional belief that place of production is a key factor in allocating income between jurisdictions.

The place of production is determined based on the location of "production assets," meaning the taxpayer's tangible and intangible assets that are used to produce the relevant inventory.²¹⁹ The place of production of digital laborers' data is, therefore, determined based on the location of the production assets that digital laborers use to create the data. In the case of digital laborers, these data production assets could include the physical vehicles through which laborers conduct the activities that produce data, such as mobile devices, tablets, and computers; the IoT devices that monitor their interactions and activities, such as smart cars; and the virtual platforms on which they work. Assets such as computers, mobile devices, and smart objects are not technically owned by the taxpayer (the company)—they are owned by the digital laborers themselves.

This is a circumstance, however, in which the recognition of the role of customers and users as both consumers and producers leads to the need to reframe and adapt current law to accommodate new economic circumstances and make the tax treatment of new business models congruous with tax treatment of traditional business models. To the extent that customers and users function as producers and exist *inside* the firm for tax purposes, it is a logical step that the devices through which they produce data for the company should be considered property of the company when determining the place of production. This reframing leads to the result that the digital laborers'

for sale to customers in the ordinary course of his trade or business"); see BITTKER & LOKKEN, *supra* note 214, ¶ 47.2.1.

217. See Tax Cuts and Jobs Act of 2017, Pub. L. No. 115-97, § 14303, 131 Stat. 2054, 2225 (adding to § 863(b) that income from the sale or exchange of inventory property shall be allocated solely on the basis of production activities).

218. I.R.C. § 863(b) (2012) (amended 2017).

219. Treas. Reg. § 1.863-3(c)(1)(i) (2020). When production activities occur both inside and outside the United States, the source rules allocate income based on the relative value of the production assets located inside and outside the United States. Treas. Reg. § 1.863-3(c)(1)(ii) (2020).

home countries should be the source of a portion of the sales income from the sale of data they create under the existing principles of U.S. tax law because they are the places of production of that property.

Depending on the terms of the transaction transferring data from a company to a third party, the transaction might be treated as a license of the data rather than a sale.²²⁰ For example, the transfer of an exclusive right to use and exploit an asset comprises a sale for tax purposes while a transfer of a limited right comprises a license.²²¹ Information on the exact terms of transactions relating to data sales is not generally publicly available, and it is possible that many of these “sales” are actually licenses under U.S. tax law. If a transfer of data is treated as a license rather than a sale, the source of the income from the license is the jurisdiction in which the data is or can be used by the licensee.²²² In the circumstance of a license of data produced by digital laborers, the digital laborers’ home countries are not the source of income from the license even if digital laborers are treated in the same way as members of a company’s workforce. Granting the digital laborer’s home country taxing rights over income from licensing data would be a departure from the current application of the source principle in the U.S. statutory source rules.²²³

C. U.S. Bilateral Treaties and Digital Laborers’ Work

The discussion above demonstrates that granting digital laborers’ home countries’ taxing authority would not be a departure from the existing application of the source principle under U.S. domestic tax law once they are treated in the same way as a firm’s workforce. But the U.S. international tax system consists not only of domestic law but also of a series of bilateral treaties.²²⁴ These bilateral treaties aim to avoid double taxation by balancing the taxing rights of residence and source countries. In balancing the source and residence country’s taxing rights,

220. For a discussion of how to distinguish between a sale and a lease or license for tax purposes, see KUNTZ & PERONI, *supra* note 36, ¶ A2.03[7][d].

221. See, e.g., Rev. Rul. 64-56, 1964-1 C.B. 133 (transfer of exclusive right to use secret formula treated as sale).

222. I.R.C. §§ 861(a)(4), 862(a)(4).

223. Given the increasing importance of the data economy, the unique nature of data as an asset, and the essential role of digital laborers in producing data, whether the source rules for royalty income from data should be revised is a rich topic for debate.

224. Mason, *supra* note 36, at 355 (describing international tax regimes as a combination of “domestic tax regimes and an extensive network of bilateral tax treaties to connect them”).

tax treaties may grant a taxpayer's residence country exclusive rights to tax a particular item of income even if the other country is the source country with respect to that income.²²⁵ Therefore, a digital laborer's home country being the source of income attributable to their work only results in that country having taxing authority if a tax treaty does not prevent the source-based taxation of that income.

Most tax treaties allow the source country to tax any business profits that arise from activities within its jurisdiction but only to the extent such activities are linked to a permanent establishment in the country.²²⁶ This permanent establishment requirement is a mechanism through which treaties limit the taxing rights of the source jurisdiction with respect to business profits.²²⁷ Although the exact contours of the permanent establishment requirement vary from treaty to treaty, creating a permanent establishment typically requires the presence of a place of management, a branch, an office, a factory, a workshop, a mine, a well or quarry, or any other fixed place of business through which the enterprise's business is carried on.²²⁸ The presence of dependent agents of the company can also create a permanent establishment.²²⁹ A dependent agent is a person acting on behalf of the company that habitually concludes contracts on behalf of the enterprise.²³⁰ Merely having a workforce in a country, therefore, does not create a permanent establishment unless the workforce carries on work in one of the establishments described above or another fixed place of business or they are functioning as dependent agents who

225. See RICHARD E. ANDERSEN, ANALYSIS OF UNITED STATES INCOME TAX TREATIES ¶ 1.01[1][a](1) (2021) (ebook) (noting circumstances in which treaty provisions prevail over domestic tax law, including domestic source rules).

226. OECD, MODEL TAX CONVENTION, *supra* note 38, at art. 7, ¶ 1. This discussion is based on the specific requirements of the OECD Model Tax Convention, which is the most common model followed by U.S. income tax treaties. See *supra* notes 48–49 and accompanying text. For a thorough analysis of the permanent establishment clause over all U.S. income tax treaties, see generally J. Ross Macdonald, “Songs of Innocence and Experience”: *Changes to the Scope and Interpretation of the Permanent Establishment Article in U.S. Income Tax Treaties, 1950–2010*, 63 TAX LAW. 285 (2010).

227. ANDERSEN, *supra* note 225, ¶ 3.01[1] (explaining that business profits derived from economic activities in the source country cannot be taxed by that country unless those activities are attributable to a permanent establishment).

228. OECD, MODEL TAX CONVENTION, *supra* note 38, at art. 5, ¶¶ 1–2.

229. See *id.* at art. 5, ¶¶ 5–6.

230. See *id.*

habitually conclude contracts on behalf of the enterprise.²³¹ The permanent establishment requirement is a legacy of the 1920s League of Nations model tax treaty negotiations.²³² At that time, there was both intense concern about double taxation and instances of countries trying to assert taxing authority when only minimal economic activities were seen in the jurisdiction.²³³ The permanent establishment requirement provided a backstop against those practices.

Therefore, even if digital laborers are treated in the same way as members of a company's workforce, their home countries would not be able to tax business profits associated with their work under the U.S. international tax system if the permanent establishment clause remains a feature of U.S. bilateral treaties and continues to be interpreted in the same fashion. This is because the permanent establishment requirement mandates a distinct physical space in which a workforce gathers to perform economic activities on behalf of the company, such as a factory or office,²³⁴ and digital laborers do not work in a distinct physical space. U.S. bilateral treaties would need to be revised, therefore, to provide that the presence of a workforce alone creates a permanent establishment even in the absence of a physical establishment, such as a factory or office.²³⁵ This reform would constitute a rebalancing of the taxing rights of the source and residence jurisdictions, rather than the creation of a new taxing right for the market jurisdiction, and would represent a smaller and more incremental reform than existing proposals. It would also lend uniformity to the U.S. international tax system by treating similar types of production in the same manner under U.S. international tax law regardless of the setting in which the production occurs.

Recognizing the role that digital laborers play for companies and treating them in the same way as members of a company's workforce

231. See ANDERSEN, *supra* note 225, ¶ 3.02[3][b][i] (explaining that the presence of employees who are not dependent agents will only result in the creation of a permanent establishment if they work at a fixed place of business).

232. See Graetz & O'Hear, *supra* note 37, at 1088–89.

233. *Id.* at 1087–88.

234. Or the presence of dependent agents in the jurisdiction who habitually conclude contracts on behalf of the company.

235. Alternatively, in the same way that U.S. stakeholders should reconceive the nature of manufacturing activities and the meaning of production assets under U.S. domestic law in order to bring that law in line with the modern economy, U.S. and international stakeholders could consider revising their interpretations of the permanent establishment clause to adjust to the changing nature of economic activities and view any location in which a digital laborer is performing “work” for a company through content or data creation to be an office or factory.

allows their jurisdictions to tax income attributable to their work under the source principle as it is currently applied. This paves the way for these jurisdictions to tax companies for whom digital laborers work through much smaller changes to the U.S. international tax system, thus providing taxpayers with more continuity and certainty than more radical overhauls. The following Part addresses questions of administrability and implementation.

IV. ADMINISTRABILITY AND IMPLEMENTATION

This Article focuses on the conceptual legitimacy of treating digital laborers in the same way as a traditional workforce for tax purposes and allowing digital laborers' home countries to tax income associated with their work. In order for a tax system to be fair and equitable, it must be administrable as well as theoretically coherent.²³⁶ This Part discusses potential barriers to administration of the reforms proposed by this Article. All of these barriers stem from the question of how companies and taxing authorities quantify the relative contribution of digital laborers' content and data creation to the creation of an item of income as compared to the relative contribution of other business activities and assets of the company. It concludes that none of these barriers is an insurmountable hurdle to effective implementation. It further concludes that the more incremental reform advocated by this Article is superior to other proposed reforms because it provides consistency and continuity for taxpayers and taxing authorities and applies uniformly across all multinational companies.

This proposal requires quantifying the aggregate contribution of the data and content creation of all digital laborers within a given jurisdiction to the creation of company income over the period of a year.²³⁷ It is, therefore, not necessary to assess the relative contribution of each individual digital laborer to the creation of income. The fact that digital laborers' contributions are aggregated tempers many of the perceived barriers to accurate quantification. These include the varied nature and extent of each digital laborer's contribution, the de minimis value of an individual digital laborer's contribution to an item of income, and the possibility of digital laborers creating data or content across jurisdictional lines.

236. See Hammerl & Zechner, *supra* note 108, at 4 (discussing the potential inequities that arise when a tax system is not administrable).

237. See I.R.C. § 6072(a) (requiring filing of income tax returns on an annual basis).

Digital laborers' contributions to an enterprise often vary. The extent of content and data creation and associated revenues and income produced by digital laborers' activities can differ substantially from one digital laborer to another. One digital laborer might create daily content posts for a social media platform, provide detailed reviews on each product they purchase through online marketplaces, or run dozens of searches on a search engine per day. Another digital laborer might never write a social media post or online review and might infrequently use search engines. The amount and value of work of a single digital laborer might also vary over time—the digital laborer might cycle through phases of frequent content and data creation and phases of limited creation.

Additionally, the amount of income that is attributable to the data and content creation of an individual digital laborer is de minimis in the context of a company's total income.²³⁸ Digital laborers are likely contributing to the income production of hundreds of companies in a given year, particularly with respect to data creation. And the jurisdiction in which a digital laborer initially creates data and content might not match the jurisdiction in which the data and content are uploaded, and thus can be measured, by a company. For example, an Airbnb user on vacation in France might write a review of their lodgings while still in France but not upload that content until returning home to the United States. France is to a large extent the place of performance of the digital laborers' services, but it is not possible for Airbnb or the French taxing authorities to discern that.

Each of these features of digital labor would a present major administrative burden if treating digital laborers in the same way as a traditional workforce required specifically measuring the relative contribution of each act of data and content creation of each individual laborer to an item of company income. Asking Google to determine how much the data stemming from a single search of a single digital laborer contributed to the creation of its targeted advertising income would be an overly burdensome task. But because treating digital laborers in the same way as a traditional workforce only requires discerning the aggregate contribution of all digital laborers within a given jurisdiction, the impact of these variations is limited. Google would instead be asked to determine how much the data stemming from all of the searches of all digital laborers in Country A contributed to the creation of targeted advertising income relative to other

238. See *supra* notes 189–91 and accompanying text.

company activities and assets. As discussed in more detail below, companies and taxing authorities should be able to create reasonably accurate assessments of the digital laborers' contribution under current transfer pricing practices.

Even when measured in the aggregate across an entire jurisdiction, assessing the relative value that digital laborers' content and data creation contributes to the creation of different categories of income versus the value contributed by a firm's traditional workforce and assets is the key implementation challenge of this proposal. But, while this challenge is significant, it is one that the international tax system addresses regularly and with respect to which an abundance of regulations, international guidelines, administrative decisions, and case law exist. For example, in the context of the U.S. statutory source rules, the rules allocate services income between U.S. and foreign jurisdictions based on the relative value of the services performed in the United States and abroad using a facts and circumstances test.²³⁹ The U.S. source rules determine that the place of production of inventory property requires an assessment of the relative value of production assets in U.S. and foreign jurisdictions.²⁴⁰ On both the domestic and international levels, transfer pricing methodology has developed over the course of decades.²⁴¹ The U.S. transfer pricing rules under § 482 of the Code,²⁴² as well as the OECD transfer pricing guidelines,²⁴³ outline detailed methodologies for determining the relative contribution of economic activities in different jurisdictions to the production of items of income.

The rise of the digital economy has put a great amount of pressure on the current transfer pricing system, and these difficulties have been

239. Treas. Reg. § 1.861-4(b)(1)(i) (1975).

240. Treas. Reg. § 1.863-3(c)(1)(ii) (2020) (allocating income from the sale of inventory property between U.S. and foreign jurisdictions based on the relative value of production assets).

241. See I.R.S. Notice 88-123, 1988-2 C.B. 458 (containing an overview of the development of transfer pricing regulations under § 482 and its predecessors dating back to the 1920s); OECD, TRANSFER PRICING AND MULTINATIONAL ENTERPRISES (1979) (containing initial transfer pricing guidelines put forward by the OECD in 1979).

242. I.R.C. § 482 and accompanying regulations.

243. OECD, TRANSFER PRICING GUIDELINES FOR MULTINATIONAL ENTERPRISES AND TAX ADMINISTRATIONS (2017), <https://www.oecd-ilibrary.org/docserver/tpg-2017-en.pdf?expires=1626115140&id=id&accname=ocid177456&checksum> [<https://perma.cc/4MKS-2S44>] (containing most recent revision of the OECD transfer pricing guidelines that were originally released in 1979).

documented thoroughly by both academics and practitioners.²⁴⁴ The centrality of intangible assets, including data, to the digital economy presents a particularly strong challenge because these assets are often hard to value.²⁴⁵ However, these weaknesses are ones that the international tax system must grapple with whether or not digital laborers are treated in the same way as a workforce when allocating taxing authority amongst jurisdictions. This is because the Pillar One Blueprint, as well as other reform proposals, are built on top of the current transfer pricing system.²⁴⁶

In recognition of the need to strengthen the transfer pricing system, Actions 8–10 of the OECD/BEPS Project have aimed to address the current system's weaknesses and provide guidance on transfer pricing issues relating to controlled transactions involving intangibles, contractual allocation of risk, and other difficult-to-value transactions.²⁴⁷ With respect to intangibles, the guidance requires that the entity that owns an intangible asset must compensate related entities that contributed to the value of the intangibles²⁴⁸; this compensation could potentially include a share of the profits that the owner entity derives from exploiting the intangibles.²⁴⁹ The guidelines also allow for the possibility of using financial results following the transfer of an intangible between related entities to revalue the intangible's price on the date of transfer.²⁵⁰ These guidelines should mitigate some of the weaknesses of the current transfer pricing system and facilitate more accurate valuation of the relative value added by digital laborers' data and content to the creation of an item of income. Furthermore, because transfer pricing relies on taxing authorities' ability to determine the arm's length price for a transaction,²⁵¹ transfer

244. See, e.g., Andrus & Oosterhuis, *supra* note 60, at 90 (outlining the flexibility of transfer pricing rules in the context of the digital economy); Kleinbard, *supra* note 56, at 705 (identifying weaknesses of transfer pricing rules in the context of intangible assets).

245. See, e.g., Kleinbard, *supra* note 56, at 705; OECD, ACTION PLAN, *supra* note 60, at 19–20 (noting the challenges presented by hard to value assets).

246. OECD, PILLAR ONE BLUEPRINT, *supra* note 40, at 12.

247. OECD, Action 8-10: Transfer Pricing, <https://www.oecd.org/tax/beps/beps-actions/actions8-10> [<https://perma.cc/MUT7-NPAF>] (summarizing the recommendations stemming from Actions 8–10).

248. OECD, ALIGNING TRANSFER PRICING OUTCOMES WITH VALUE CREATION 78–80 (2015), <https://www.oecd-ilibrary.org/docserver/9789264241244-en.pdf?expires=1647121619&id=id&acname=guest&checksum> [<https://perma.cc/Q92M-K2QG>].

249. *Id.* at 79–80.

250. *Id.* at 109–12.

251. See *id.* at 9 (“The arm's length principle is used by countries as the cornerstone of transfer pricing rules.”).

pricing with respect to data will improve in accuracy as the data economy matures and more comparable transactions, as well as third-party valuations, occur.

Additionally, applying the transfer pricing system to allocate taxing authority over income from digital laborers' content and data creation has the advantage over other proposed reforms of continuity. Taxpayers as well as taxing authorities have decades of experience applying the transfer pricing system. Shifting to a system based on residual profit allocation would be administratively burdensome to taxpayers and taxing authorities alike and would bring with it its own challenges of determining the relative contribution of different economic activities to income creation.

Treating digital laborers in the same way as a traditional workforce when allocating taxing authority over income that is directly attributable to their content and data creation is a theoretically coherent and equitable approach to international taxation. It allows equivalent business activities to be taxed in the same manner. Although implementation of this reform implicates the difficult task of accurately measuring the relative contribution of digital laborers to a company's income, this task is one that the current international tax system is already addressing. Because this reform can be accomplished under the same transfer pricing rules under which companies currently operate, it provides the advantage of continuity and can be a truly global reform, not one that only applies to a subset of companies. The combination of theoretical coherence, administrative viability, and comprehensiveness makes this reform a promising path forward for international tax law.

CONCLUSION

The increasing importance of digital laborers across all industries in the global economy calls for a reevaluation of when and how their home countries should be able to tax income attributable to their work. As this Article has demonstrated, digital laborers serve a similar function as a traditional workforce when producing content and data for companies. To maintain coherence in the international tax system, digital laborers should be treated in the same way as a traditional workforce when allocating taxing authority amongst jurisdictions. Once digital laborers are treated in the same way as a traditional workforce, their home countries can be allocated taxing authority over income directly attributable to their work under the current application

of the source principle and with more incremental structural changes to the international tax system than those proposed by competing reforms.