On data protection, data taxation and data equity: balancing value, risks and obligations

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Abstract

This paper critically analyzes the persistent inadequacy of current tax regimes in capturing the economic value of data, despite its frequent characterization as "the new oil," "a new asset class," and "the most valuable resource." Contemporary digital services taxes (DSTs) focus mainly on revenues from services built on data processing, such as online advertising and digital intermediation, but these measures are largely ineffective and limited in scope. A significant concern is that the extraction and exploitation of vast data volumes from global majority countries by multinational technology corporations remain untaxed, even though such data—especially high-quality local datasets used for AI training—generate substantial value. This creates a large untaxed intangible asset class, undermining fair taxation and fiscal sovereignty. Moreover, innovations derived from data processing, often protected by intellectual property rights domiciled in low-tax jurisdictions, escape appropriate taxation.

The paper argues that tax authorities currently fail to tax both the raw data and the innovations it enables, focusing instead on limited end-user digital services, which contradicts fundamental principles of nexus and value creation in international tax law and facilitates base erosion and profit shifting. Additionally, current tax frameworks do not incentivize compliance with national data protection and information security laws, allowing large data-intensive firms to externalize social and regulatory costs while benefiting from a triple tax exemption. The paper concludes by calling for comprehensive reforms that recognize data as a taxable intangible asset and align taxation with the economic value and social costs of data extraction, emphasizing progressive measures targeting the largest data consolidators to ensure data equity and uphold tax system integrity. Lastly, the paper distills the ideas debated into a "Proposal for a Framework to Tax Data as an Intangible Asset for Large Extractive Tech Companies."

Introduction: The Untaxed Value of Data

This paper critically examines the persistent failure of current tax regimes to adequately capture the economic value of data, despite its widespread characterization as "the new oil"[1], "a new asset class" [2] and "the most valuable resource."[3] Personal data are not the only type of valuable data, especially from a geopolitical standpoint, but they have been frequently identified as the most valuable ones. In this perspective, this paper primarily focus on personal data, while acknowledging that similar considerations apply to other classes of relevant data. Attempting to adequately frame data taxation, contemporary digital services taxes (DSTs) have primarily targeted revenues derived from services delivered on top of data processing, such as online advertising and digital intermediation. These strategies are briefly explored in the first section of this paper, where we argue that these taxes have proven largely ineffective and limited in scope.

Crucially, the extraction and exploitation of vast amounts of data from global majority countries by foreign multinational technology corporations remain untaxed, notwithstanding the substantial value generated by such data assets, especially as regard training AI with local including data sets including high quality open data developed at cost by local statistics institute. This gap creates a significant untaxed intangible asset class that undermines equitable taxation and jeopardises (fiscal) sovereignty. Furthermore, innovation resulting from data processing — manifested in the creation of enhanced algorithms, machine learning tools, large language models, and other types of technology — is typically embedded within intellectual property (IP) rights domiciled in low-tax jurisdictions or tax havens, thus exacerbating even further the already existing base erosion and profit shifting phenomenon.

[1] The expression, famously coined by the British mathematician Clive Humby, was popularized by EU Commissioner Miglena Kuneva. Kuneva, M. (31 March 2009). Keynote Speech. Roundtable on Online Data Collection, Targeting and Profiling. Brussels, European Commission. http://europa.eu/rapid/press-release_SPEECH-09-156_en.htm

[2] World Economic Forum. (January 2011). Personal Data: The Emergence of a New Asset Class. http://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf

[3] The Economist. (6 May 2017). The world's most valuable resource is no longer oil, but data. https://www.economist.com/news/leaders/21721656-dataeconomy-demands-new-approach-antitrust-rules-worlds-most-valuableresource

Consequently, the second section of this paper argues that tax authorities fail to tax both the raw material (data) and the innovation derived therefrom, instead taxing only the limited digital services provided to end-users, once all extractive process leading to such innovation has been developed. This structural deficiency contravenes fundamental principles of nexus and value creation in international tax law, leading to base erosion and profit shifting, while disincentivising the respect of local legislation, as data processing happens in multiple foreign jurisdictions on which domestic regulators have scarce or no possibility to extend their oversight.

In this perspective, we emphasise that current tax frameworks do not incentivize compliance with national data protection and information security laws. On the one hand, there are no targeted tax credits or deductions for companies that invest in robust data governance practices, contributing to increase data security and informational self-determination. These practices are not incentivized from a fiscal perspective, even if they are essential to improve social welfare, as they reduce a wide range of risks linked to poor data processing practices such as data leakages, cybersecurity incidents, and the consequent use of personal data from wide range of illegal purposes spanning from frauds to targeted disinformation.

On the other hand, large data-intensive corporations extracting local data and processing them in multiple foreign jurisdictions, frequently adopt poor data governance practices that have led to a large number of high-profile incidents[4] causing multiple negative externalities on individuals and society at large, de facto receiving a triple tax exemption. The first one as regards their concentration of the profits derived from free extraction of "the most valuable resource"; the second one as regards their socialization of the costs of their poor compliance with data-related laws; and the third despite the competition-reduction impact of their data concentration, which can impede new entrants from developing competing data-intensive businesses. In this perspective, the third section of this paper stresses that this lack of connection and regulatory synergy between data governance and fiscal oversight compromises data privacy and security and distorts market incentives.

[4] Abi Tyas Tunugal. The 72 Biggest Data Breaches of All Time [Updated 2025]. Upguard. (29 June 2025). https://www.upguard.com/blog/biggest-data-breaches ; Aaron Drapkin. Data Breaches That Have Happened in 2022, 2023, 2024, and 2025 So Far. Tech.co. (10 June 2025) https://tech.co/news/data-breaches-updated-list

We conclude by underscoring the urgent need for comprehensive legal reforms that recognize data as a taxable intangible asset, align taxation of large data-extractive practices with the economic value these practices creates and the social costs that they might entail when strong data governance is not prioritised. Conspicuously, this paper argues that addressing these deficiencies in a proportional and progressive way – i.e. targeting only the largest consolidators of data that rely on extractive business models and fail to demonstrate strong data protection standards – is essential to ensure data equity, based on fair taxation in the digital economy and uphold the integrity of national and international tax systems.

Lastly, to conclude with a prepositive stance, this paper distills the ideas debated into a "Proposal for a Framework to Tax Data as an Intangible Asset for Large Extractive Tech Companies", annexed at the end of this text.

1. Setting the problem

1.1 The significance of personal data as an asset, and the role of taxation in redistributing wealth derived from it

With digitalization and the rise of a data-driven economy, a whole new ecosystem for value generation has emerged. The World Economic Forum identified a four-step value chain, consisting of (1) Personal data "creation" (i.e., collection), (2) storage and aggregation, (3) analysis and productization and (4) consumption[5]. Large technology companies can profitably operate at each level of the chain, although they often vertically integrate to benefit from internal efficiencies. When we talk about personal data as the oil that fuels the economic wealth of these companies, two parallel policy priorities arise in terms of what we could define as "data equity": first, securing the protection of personal data of individuals, in the sense of guaranteeing their right to informational self-determination; second, guaranteeing to those individuals a fair share in the value obtained through the use of their personal data.

[5] See World Economic Forum, 'Personal Data: The Emergence of a New Asset Class (2011), at https://www.weforum.org/reports/personal-data-emergence-new-asset-class, p. 15

Importantly, both the right to informational self-determination and the data value redistribution can be looked at form an individual or a collective perspective, and both perspectives constitute the basis of what we could call data sovereignty.[6] The former consist in allowing data subjects to exercise control over their personal data, fully enjoying their fundamental right to data protection, and being fairly remunerated for the commercial processing of such data. The latter consist in allowing nation state to have a clear understanding of how (personal) data are processed and by whom, being able to promote research and development on data intensive technologies, and regulate effectively the dynamics of data processing and value extraction.[7]

The data protection and valorisation conundrum provides a good example of the overlap between economic and social goals, which often underpins data regulation. Viewing the data value chain from a private law perspective, one could simply conceive of the data holders' ability to process personal data as but a consequence of the contractual relationship with data subjects. Under this narrow view, the value-generating data flow should be permitted as long as those documents are transparent and not misleading in disclosing their access to and use of individuals' personal data. However, a public law perspective draws attention to the limitations of individuals' consent and privacy self-management, about which much ink has been spilled over the last two decades[8].

Therefore, an alternative approach (followed on several occasions by data protection authorities) is to require the adoption of a range of safeguard measures to preserve the social value of informational self-determination: this includes, for instance, data pseudonymization; encryption and other privacy enhancing techniques; privacy by design and by default; increased transparency; and granting an unconditional right to object[9]. Social goals underlying data protection legislation also justify the correction of market forces to ensure that individuals receive a copy of their own

[6] Belli L.; Gaspar, W. B., Singh, S. Data sovereignty and data transfers as fundamental elements of digital transformation: Lessons from the BRICS countries. Computer Law & Security Review, v. 54. (2024). https://doi.org/10.1016/j.clsr.2024.106017

[7] *Idem.*

[8] See e.g. D. Solove, 'Introduction: Privacy self-management and the consent dilemma', 126 Harvard law review (2013), 1884; S. Barocas and H. Nissenbaum, 'On Notice: The Trouble with Notice and Consent', Proceedings of the Engaging Data Forum: The First International Forum on the Application and Management of Personal Electronic Information (2009); F. H. Cate and V. Mayer Schonberger, 'Notice and consent in a world of Big Data', International Data Privacy Law, 2013, Vol. 3, No. 2; R. Warner & R. Sloan, Beyond Notice and Choice: Privacy, Norms, and Consent, J. High Tech. L. (2013)

[9] See, for instance,

data, and get some sort of explanation to help them grasp automated decisions that have significant effects on them; while at the same time, when implemented effectiely both measures fulfil economic goals by reducing individuals' dependence on a particular actor, and increasing countervailing power against dominant companies.

However, the above-described overlaps do not exhaust the scope for regulatory intervention. In particular, to the extent that substantial long-term surplus derives to data collector from *de facto* control over data, creating a position of economic renting[10], further regulation may be needed to rebalance power and information asymmetry. One solution that is routinely advanced is the propertization of personal data: granting individuals a right to property to data about themselves is offered as an advancement for its alleged potential to inhibit undesirable collection and use, and to provide remedies for individuals in case of breach[11]. This approach has been repeatedly rejected over the last twenty years for several reasons, chief amongst which the limited alienability of personal data and the inability of individuals to appreciate the risks involved in transfers to third parties.[12]

Notwithstanding, proposals in the same direction have been advanced over the last few years. In the United States, the concern for the insufficient regulation of personal data protection has given rise to such proposals. For instance, the Own Your Own Data Act[13], a bill introduced into Congress on Mar 14, 2019, asserted that "Each individual owns and has an exclusive property right in the data that an individual generates on the internet"[14], and continues proposing among other things the right of each social media user "to easily export [that] user's data with any analysis of the

[10] Economic rent, in economics, refers to any payment received by the owner of a factor of production (like land, labor, or capital) that is greater than the minimum amount required to keep that factor in its current use. See Stratford, B. (2022). Rival definitions of economic rent: historical origins and normative implications. New Political Economy, 28(3), 347–362. https://doi.org/10.1080/13563467.2022.2109612; Mariana Mazzucato, Josh Ryan-Collins, Giorgos Gouzoulis, Mapping modern economic rents: the good, the bad, and the grey areas, Cambridge Journal of Economics, Volume 47, Issue 3, May 2023, Pages 507–534, https://doi.org/10.1093/cje/bead013.
[11] See e.g. A. Westin, *Privacy and Freedom* (Atheneum Press, 1967); L. Lessig, 'The Law of the Horse: What Cyberlaw Might Teach' 113 Harvard Law Review 501-549; p. 520; C. Priens, 'When personal data, behavior and virtual identities become a commodity: Would a property rights approach matter?' SCRIPT-ed Volume 3, Issue 4, June 2006; J. Lanier, *Who Owns the Future?* (Simon & Schuster, 2013). J. Ritter and A. Mayer, 'Regulating Data as Property: A New Construct for Moving Forward', 6 Duke L. & Tech. Rev. 220 (2017-2018);
[12] See e.g. P. Samuelson, 'Privacy as Intellectual Property', 52 Stan. L. Rev. 1125 (1999); N. Purtova, Property Rights in Personal Data: A European Perspective (Wolters Kluwer, 2011).
[13] S. 806 (116th), available at https://www.govtrack.us/congress/bills/116/s806/text
[14] Section 2 (a)

user's data performed by the social media company"[15]. This Act revealed a concern that goes beyond the rights to access and portability already provided by modern data protection laws: it created an individual entitlement to receive the "added-value" information that certain platforms (in particular social media companies) obtained by analyzing the essential input provided by user data, and forced these platforms to create a short (up to 500 words) and simple license agreement for the use of such data.

The abovementioned proposal would therefore prohibit any uses which have not explicitly been consented to, even if this in practice would likely generate consent fatigue, broad consent purposes or the loss of some beneficial data activity. What was not clear in this proposal, however, was how it dealt with the relational aspect of data: would the entitlement allow users to export "added value" information that results from the learning with data of several users? If the answer is affirmative, the unrestricted ability to export such information could allow third party recipients to use this tool as a way to grasp much of the internal working of the social media's platform ecosystem, thereby generating a "free-riding" effect on data collection and analytics (stages 1 and 3 of the data collection value chain exposed above).

This could in turn have chilling effects for investment and innovation, potentially leading to less sophisticated social networks analysis as a byproduct. This is probably not in society's best interest given the need for scale and coordination to address a range of challenges relating to the governance of social media. At the same time, this approach does not address the other key challenge to the ability of consumers to switch to a competing social media provider, which is the existence of network effects: even if I receive a lower quality service from a particular provider, I am unlikely to switch to another unless my connections do that. Thus, rather than eliminating economic rents, this property-like approach would by and large retain them, and simultaneously increase risks in relation to data protection and expropriation of value by allowing the sharing of collective data and learning with competitors.

[15] Section 2 (b) (1) (B)

A similar approach was taken in Brazil with the proposed General Law on Data Empowerment, introduced in congress as complementary bill 234/2023[16], which explicitly refers among its objectives to guaranteeing full ownership over personal data to data subjects, and conditions the sharing of personal data of individuals with third parties to their consent. This bill would require internet applications to provide their users with a digital tool for monitoring, controlling, and managing the use and sharing of personal data or information or related to transactions of any nature in which the data subject participates; as well as the receipt, in the data subject's individual account, of a share of the revenues earned by controllers or operators as part of their data monetization, through the use of encryption/blockchain or technology that ensures the privacy and security of the control.

The Brazilian bill does not go as far as the broad interpretation of the aforementioned US bill, but contains the technical and legal foundations of an ecosystem for data monetization that would be likely suffer from some of the same shortcomings. Particularly, these could be the minimal value accrued from individual data points, the oversight of relational data that concern other individuals, and the possible jeopardizing of public interest uses of datasets.

A milder approach to "data propertisation" was recently taken in the European Union, with the adoption of Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data (the Data Act)[17], which among other objectives aims to make available data to the user of the connected product or related service, or a third party recipient. This law eschews a full-fledged propertization regime in favor of rules that grant access to data. In particular, it forces "data holders"[18] to make available free of charge, and where possible continuously and in real-time, data related to the use of a product or a related service[19].

[16] https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2401133
[17] https://eur-lex.europa.eu/eli/reg/2023/2854/oj/eng
[18] Defined in its article 2 as "legal or natural person who has the right or obligation, in accordance with this Regulation, applicable Union law or national legislation implementing Union law, or in the case of non-personal data and through control of the technical design of the product and related services, the ability, to make available certain data".
[19] Art. 4, para. 1.

At the same time, in order to assuage free-riding concerns, it obliges it to adopt measures to preserve the confidentiality of trade secrets and prohibits requests from users who aim to develop competing products or services[20]. It also creates a right to share such information with third parties (data recipients) under similar conditions[21], though excluding from this entitlement those undertakings that are designated as "gatekeepers" (entities with significant economic power) pursuant to the EU's Digital Markets Act regime. In other words, this approach recognizes the importance of enabling a wider appropriation of the economic value derived from data, whilst also the need to preserve incentives to invest in data collection and analysis for developing products and services, and draws an important line from a competitive standpoint by excluding powerful digital platforms from the ability to use in their favor the mechanisms that were designed precisely to redistribute benefits derived from economic assets.

Finally, another interesting proposal worth mentioning from the US side was the proposal of the Designing Accounting Safeguards to Help Broaden Oversight and Regulations on Data ('DASHBOARD') Act[22], a bill introduced into Congress on 25 June 2019 that seemingly aimed to tackle the problem of limited awareness of risks and benefits derived from personal data. It did so by requiring commercial data operators[23] to (1) provide each user on a routine basis, and not less frequently than once every 90 days, with "an assessment of the economic value that the commercial data operator places on the data of that user"; and (2) periodically disclose to the US Security Exchange Commission the aggregate value of user data held by any data operator[24].

[20] Art. 4, para. 3 and 4.
[21] Article 5. The important different is that, in this case, data holders can charge a fee, which must be reasonable. See art. 9.
[22] S. 1951, available at https://www.govtrack.us/congress/bills/116/s1951
[23] Such term is defined as "an entity acting in its capacity as a consumer online services provider or data broker that (1) generates a material amount of revenue from the use, collection, processing, sale or sharing of the user data; and (B) has more than 100,000,000 unique monthly visitors or users in the United States for a majority of months during the previous 1 year period. Id., Section 2 (1)
[24] Section 4 (a). This includes specifically, *inter alia*: an assessment of financial and legal risks associated with storing the type and quantity of user data held by the commercial data operator; each discrete revenue generating operation of the commercial data operator and any subsidiary or affiliate that relies on user data; the entry into any contract valued at more than $10,000,000 with a third party for the collection, licensing, or sharing by the third party pursuant to an agreement with the commercial data operator; the amount of revenue derived from obtaining, collecting, processing, selling, using or sharing user data during the reporting period. See Section 4 (b) for a complete list of items.

Thus, this bill is particularly interesting as it did not adopt the propertization approach, but nevertheless complemented it by forcing increased transparency over the financial value derived from consumers' data, which is an essential step to guarantee informational self-determination from both an individual or collective perspective. Even if this could be considered a positive sign towards greater awareness over the so-called surveillance economy[25], it can be futile and even misleading if it is meant to facilitate a fair exchange in a supposed market for personal data. This is because it misses the mark by underestimating the significance of the discrepancy between aggregate and individual value. The marginal value of an individual's data may be small, yet a much larger benefit may accrue to a data operator as a result of the aggregation of instances of multiple individuals.

Furthermore, one individual's personal data may reveal information of other individuals as well, which are unlikely to be taken into account when computing the 'fair' market price. As a result, the creation of a market-based solution would not necessarily reflect the optimal societal estimation of value. Rather, such solutions tend to increase the ability of economic players situated in a privileged position to exploit vulnerabilities and extract economic rents. In other words, it is unlikely that the introduction of a price for personal data would affect the dominance of digital platforms and other powerful economic actors, who may simply continue to provide a free service and shift costs of data acquisition onto advertisers and interested third parties. Furthermore, it is not hard to imagine that the commodification of personal data could pave the way for intermediaries specialized in short-selling and trafficking of personal data unbeknownst to data subjects, potentially leading to a multiplication of datasets and an increased data protection risks to individuals and society at large[26].

[25] Soshana Zubhoff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (Public Affairs, 2019).

[26] In this regard, it is worth noting that the Italian data protection authority (Garante) referred a question to the European Data Protection Board regarding the legitimacy of a business model involving the delegation by data subjects to a private company for the exercise of data portability requests. In this case, the Garante expressed a specific concern with the "non-remote risk of possible duplication of the databases subject to the portability". See Communication of 1 August 2019, 'Lettera del Presidente del Garante al Presidente dell'EDPB - Richiesta di parere in tema di commercializzazione dei dati personali e diritto alla portabilità', at https://www.garanteprivacy.it/web/guest/home/docweb/-/docweb-display/docweb/9126725#ENGLISH

All in all, it is clear that a more comprehensive regulatory framework is needed that takes into account both economic and social goals and which duly recognizes the aforementioned risks, driving economic actors to produce better results. In this context, we suggest data taxation with possible tax benefits for companies that adopt responsible data protection practices, as illustrated below. However, we also acknowledge that no proposed method has, so far, delivered an ideal solution and the identification of the most appropriate method for a given country is a deeply political choice that, ultimately, must reflect and be grounded in the national interest.

1.2 Legal and Fiscal Challenges in Digital Economy Taxation

As we presented in the previous section, while data is typically praised for the value it can generate in the contemporary digital economy, we contend that this "new asset class" remains fundamentally untaxed under prevailing tax regimes. Indeed, this critical discrepancy undermines the fairness and effectiveness of digital taxation frameworks and, in our view, calls for urgent legal and policy reforms.

Importantly, the exemption of data from direct taxation is fundamentally underpinned by the World Trade Organization's (WTO) longstanding moratorium on customs duties for "electronic transmissions." Since 1998, WTO members have agreed to refrain from imposing tariffs on digital goods and services transmitted electronically, including data flows, to foster the growth of global e-commerce and maintain an open internet environment. This moratorium, extended most recently until 2026, reflects broad multilateral consensus that taxing electronic transmissions would create substantial legal and administrative complexities, given the intangible and borderless nature of data.

We understand and concur with the rationale of the *moratorium* and we acknowledge that attempting to impose tariffs or direct levies on data flows would not only be a bureaucratic nightmare but also risk fragmenting the global digital economy, undermining trade liberalization principles and digital innovation. However, we are also conscious that the moratorium has primarily privileged a small number of very large data-intensive businesses, reaping the benefits of data collected locally and externalising the costs due to their frequently loose data protection

practices. Hence, while acknowledging that free and secure data flows must be promoted as they play an essential role supporting thriving digital economies[27], we also emphasise that the current redistribution of data-related costs and benefits is far from equitable or fair.

Digital services taxes (DSTs) that have emerged as a workaround to capture value from digital multinationals primarily target advertising revenues or other services delivered on top of data, rather than the data itself. These taxes attempt have found renewed impetus since the Covid-19 pandemic, with the goal to address profit shifting by tech firms that extract value from data and book earnings in low-tax jurisdictions, but they do so imperfectly.[28] Economic studies, such as those by Langenmayr and Muddasani, demonstrate that DSTs often lead to cost pass-through effects, where increased fees charged by platforms like Amazon are ultimately borne by consumers rather than the multinational corporations.[29] Thus, DSTs neither effectively tax the underlying data extraction nor the innovation embedded in digital services but instead impose indirect burdens on end-users, highlighting the limitations of current tax approaches.

Furthermore, the failure to tax data and the value derived from its processing is compounded by the frequent practice of localizing in tax havens the intellectual property (IP) rights attributed to the innovation consequent from the data processing, thus sheltering the economic value created from fair taxation.[30] This means that tax authorities do not capture revenues from either the raw data—extracted untaxed by large foreign technology firms — or the IP rights generated from it. Compounding this fiscal gap, current tax systems do not reward compliance with national data protection and security laws through tax benefits. Instead, by failing to tax non-compliant tech firms, these regimes effectively grant *de facto* tax breaks, undermining regulatory enforcement and weakening incentives for robust data governance. This confluence of legal, economic, and

[27] Belli, Gaspar & Singh (2024), *supra*, n (6); Belli et al. Transferência internacional de dados pessoais na América Latina. Lumen Juris. (2024). https://hdl.handle.net/10438/36141; Belli L. and Gaspar W.B. Personal Data Architectures in the BRICS Countries. Oxford University Press. (2025).
[28] Christie. R. Digital services taxes take shape in the shadow of the pandemic. In De Mooij, Ruud, Alexander Klemm, and Victoria Perry, eds. 2021. Corporate Income Taxes under Pressure: Why Reform Is Needed and How It Could Be Designed. Washington, DC: International Monetary Fund.
[29] Dominika Langenmayr Rohit Reddy Muddasani. Navigating the Amazon: The Incidence of Digital Service Taxes. (2025)
[30] *Idem.*

regulatory factors sustains the effective tax exemption of data despite its recognized economic significance.

2. Taxation Limited to Services Rendered on Data, Not Data Itself

As argued above, current digital services taxes (DSTs) predominantly target revenues derived from services delivered *on top* of data—such as digital advertising, online marketplaces, and certain cloud services—rather than the data itself. These DSTs, generally imposed at rates between 1% and 5%, have thus far proven to be limited in scope and effectiveness, generating only a fraction of the potential tax revenue from the digital economy. Crucially, the massive extraction and exploitation of personal and behavioral data by multinational technology companies remain outside the taxable base, despite the immense economic value these data assets represent. This creates a significant untaxed asset class, enabling few large technology companies to capture value without corresponding tax contributions.

As we will illustrate in the following sections, DSTs, have been recently enacted by various jurisdictions including European States such as Italy, France, Austria, Spain, and the United Kingdom, as well as non-European States including Turkey and India. These initiatives represent fiscal measures aimed at capturing tax revenue derived from the economic value generated by large digital multinational enterprises (MNEs). Importantly, the enterprises targeted by DSTs typically engage in activities leveraging user participation—often without explicit user awareness—such as online advertising, digital intermediation, and notably, the collection, processing, and commercialization of personal data.

Crucially, in most Global South countries, such concentration of user engagement is paradoxically promoted by allowing zero-rating practices, consisting in defining a limited monthly data volume for users and not counting the data consumption of a few applications selected by the mobile internet operators – typically the Meta family of social media apps and few others – from the existing data cap.[31] Brazil provide an interesting example of such distortion, considering that more

[31] A large number of studies on this matter as well as a map of the existing models can be found at www.zerorating.info.

than 70% of the connected population, and around 85% of the lower income population does not enjoy meaningful connectivity due to its high cost and, instead, has access primarily to a reduced set of apps included in so-called zero-rating plans.[32]

From a legal and fiscal perspective, it is imperative to recognize that data, as a distinct intangible asset, currently remains outside the scope of traditional taxation frameworks. Despite its critical role in value creation within the digital economy, personal data and related data-driven revenues have not been explicitly subjected to direct taxation, thereby constituting an untaxed asset class. This lacuna presents significant challenges for equitable tax policy and the effective allocation of taxing rights among States.

2.1 The Brazilian case

In order to address the challenges of taxation in the digital economy—particularly regarding the capture of economic value generated by data and digital services provided by major technology platforms—several bills are currently under consideration in the National Congress. In this context, notable proposals include, in the Chamber of Deputies, bills No. 2,358/2020 and 640/2021, complementary bills No. 218/2020 and 241/2020, and, in the Federal Senate, complementary bill No. 131/2020.

Bill No. 2,358/2020 proposes the creation of a Contribution for Intervention in the Economic Domain (CIDE-Digital), with a rate ranging from 1% to 5%, levied on the gross revenue earned by companies offering digital services in Brazil, whose economic groups have global revenue exceeding R$ 3 billion and domestic revenue over R$ 100 million. The taxable events include, among others, targeted advertising to users located in Brazil, the provision of digital platforms enabling user interaction for the sale of goods and services, and the transmission of data collected from Brazilian users during their digital activities. The bill's stated goal is to allocate all collected funds to the National Fund for Scientific and Technological Development (FNDCT). It is currently

[32] NIC.br (Núcleo de Informação e Coordenação do Ponto BR). Conectividade Significativa: Propostas para medição e o retrato da população no Brasil. (2024). https://cetic.br/pt/publicacao/conectividade-significativa-propostas-para-medicao-e-o-retrato-da-populacao-no-brasil/ ; IDEC. Barreiras e limitações no acesso à internet e hábitos de uso e navegação na rede nas classes C, D e E. 2021. Available at: <https://idec.org.br/sites/default/files/pesquisa_locomotiva_relatorio.pdf>.

awaiting review by the Committees on Communication, Finance and Taxation, and Constitution, Justice and Citizenship.

Bill No. 640/2021, which is attached to bill No. 2,358/2020, proposes the creation of an Internet CIDE, with a 3% rate levied on gross revenue derived from the economic exploitation of activities targeting users located in Brazil—even if the revenue is earned abroad. It covers the provision and dissemination of digital content (texts, videos, audios, and other formats via the internet), as well as the collection, distribution, or processing of user data. The aim is to tax economic agents that operate intensively in the digital environment. Under this proposal, the tax base would be proportional to the number of users located in Brazil, regardless of where the revenue is received.

Complementary Bill No. 218/2020 proposes the creation of a Social Contribution on Digital Services (CSSD), with a 3% rate, payable by large tech companies offering digital services in Brazil and with high global revenue. The revenue collected would be allocated to basic income programs. The bill is pending review by the Finance and Taxation Committee of the Chamber of Deputies. Complementary Bill No. 241/2020, attached to Bill No. 218/2020, seeks to establish a Special Social Contribution on Digital Services (CSESD), with a 10% rate on gross revenue from digital services, including online gambling platforms. It is also pending review by the Finance and Taxation Committee.

In the Federal Senate, Complementary Bill No. 131/2020 proposes a differentiated COFINS rate of 10.6% on the monthly gross revenue of digital platforms that earn more than R$ 6.5 million in Brazil or US$ 20 million globally, either individually or as part of an economic group. The bill aims to adapt the national tax system to the new digital economy reality, increasing revenue from companies that intensively exploit the digital environment. It is currently under review by the Committee on Communication and Digital Law.

A joint analysis of these bills reveals the three main trends: First, existing efforts to tax data remain largely centered on the taxation of digital services, with only bill No. 640/2021 proposing a contribution specifically tied to the economic exploitation of user data; second, bill No. 640/2021 explicitly seeks to address the issue of profit shifting from Brazil to other jurisdictions by

establishing a calculation basis proportional to the number of users located in Brazil; and third the fact that scarce legislative consensus has hindered progress, suggesting that the definition of a comprehensive tax model for data and digital services in Brazil remains unresolved.

Lastly, it is important to emphasize that, despite notable advancements in the debate on how to effectively tax digital products, services and, particularly, data-intensive business models, no ideal solution has been identified yet. Moreover, as we will illustrate in the following sections, the abovementioned initiatives must be considered within a broader internal and external political context, to understand the extent to which the proposed solutions are likely to be adopted and, even more crucially, be implemented.

2.2 The Brazilian Tax Reform

The enactment of complementary law No. 214/2025, which regulates the tax aspects of the consumption tax reform introduced by Constitutional Amendment No. 132/2023, marks a milestone in the reorganization of Brazil's consumption tax system. In this context, Articles 3 and 4 of the law introduce significant innovations by redefining the material scope of the Tax on Goods and Services (IBS) and the Contribution on Goods and Services (CBS), which will replace the existing ICMS and ISS, and the federal contributions PIS and COFINS, respectively.

Article 3 of LC 214/2025 broadly establishes that the taxable event for IBS and CBS consists of transactions involving tangible and intangible goods, including rights, as well as the provision of services, regardless of their form or delivery method. This provision has the practical effect of eliminating the long-standing jurisdictional conflict between States and Municipalities over the taxation of digital data transactions. The traditional dichotomy between "goods" and "services," which fueled disputes over ICMS versus ISS, tends to lose relevance. With the unification of the consumption tax base, the interpretative divergences that previously fed legal uncertainty are substantially reduced.

The new consumption tax framework, by adopting a broad and inclusive definition of taxable events under IBS and CBS, appears to encompass transactions involving digital data. The legal provision that taxation applies to intangible goods and rights allows the conclusion that the

assignment, sharing, provision, or any form of availability of such assets constitutes a taxable event.

Furthermore, Article 4 explicitly includes non-remunerated transactions within the scope of taxation, potentially subjecting to tax the assignment, provision, or availability of content, information, data, and digital goods, even when such transactions are free of charge. This aligns with the global trend of recognizing the use and transfer of data as relevant forms of consumption in the digital economy, even when no monetary payment is involved. The following section, however, will highlight that proposed solutions have limits, especial when they meet increasingly harsh geopolitical realities.

3. Possible ways forward and geopolitical obstacles

In response to the challenges posed by the digital economy—particularly tax evasion and avoidance practices by large multinational groups—the OECD launched the BEPS (Base Erosion and Profit Shifting) Action Plan. The plan proposed 15 actions to address distortions in international tax systems, with Action 1 specifically dedicated to the taxation of the digital economy and, consequently, the data economy.

Action 1 identified gaps in international tax legislation, notably the difficulty of taxing digital companies operating across multiple countries without physical presence, while leveraging data and users as core value-generating assets. The OECD acknowledged that the traditional tax model no longer aligned with the realities of the digital economy, especially in the context of intangible-based businesses, online platforms, and the monetization of personal data. As the debate evolved under the so-called BEPS 2.0 framework[33], two pillars were developed:

(i) Pillar 1 proposes a new paradigm for tax allocation, recognizing the active participation of users as a relevant factor in attributing taxable profits to market jurisdictions. It suggests *taxing a portion of the residual profits of digital companies in*

[33] OECD. Base erosion and profit shifting (BEPS). (s.d.) https://www.oecd.org/en/topics/base-erosion-and-profit-shifting-beps.html

the countries where their users are located, even in the absence of physical presence. Among the approaches discussed, the concept of "**User Value Creation**" stands out, acknowledging the value generated by user interaction as a criterion for revenue allocation.

Regarding User Value Creation, it is observed that by providing data and interacting with digital platforms, users directly contribute to revenue generation within the corresponding digital enterprise. In this context, the user is conceived as a structural component of the value chain in digital business models.

(ii) Pillar 2 proposes the: (1) ***establishment of a global minimum tax on multinational profits, aiming to reduce tax competition among countries and prevent the artificial shifting of profits to low-tax jurisdictions; (2)*** In terms of indirect taxation, the OECD also developed guidelines to harmonize VAT/GST collection in international transactions. ***The International VAT/GST Guidelines advocate for the application of the destination principle***, focusing on tax neutrality and the elimination of double taxation or double non-taxation. In this context, concerns arise over the growing volume of transactions involving digital and intangible goods—such as apps, streaming services, and cloud computing—which still lack conceptual and regulatory uniformity in their tax treatment.

The set of measures proposed under BEPS and BEPS 2.0 reflects an attempt to redefine the contours of international taxation in light of digital business models, with particular attention to data monetization through direct taxation on revenue. The measures appointed by OCDE do not lie on the taxation of the generation, transfer and alienation of the data or the User Value Creation.

The core challenge lies in adapting traditional concepts of nexus, income, and permanent establishment to the new digital economy, characterized by the ubiquity of operations, the mobility of intangibles, and the centrality of personal data as an economic asset. In this sense, OCDE continues to recognize the challenges involving the taxation of data directly, highlighting:

(i) **the inherent limitations in measuring the value of data flows based on volume proxies, since the value of data depends on the informational content and its actual or potential use; and**

(ii) **the fact that a large portion of data traffic occurs within data centers, making it difficult to trace using international bandwidth and IP traffic metrics**34.

3.1. Possible Solutions for Brazil

The OECD-led discussions, illustrated in the previous section, have been integrated in three main approached put forward by Brazilian policymakers. Each of them presents both advantages and shortcomings, as discussed below.

i. Internet CIDE and GloBE

In terms of direct taxation, it is evident that Brazil has been trying to take steps to prevent the shifting of profits earned in the country to other jurisdictions. In addition to legislative initiatives under discussion in the National Congress—particularly the Internet CIDE proposal, which focuses on the number of Brazilian users generating data for large digital companies—there is also the enactment of Law No. 15,079 of December 27, 2024.

This law, aligned with Pillar 2 of the OECD, aims to adapt Brazilian legislation to the Global Anti-Base Erosion Rules (GloBE Rules) by establishing an Additional Social Contribution on Net Profit (CSLL) to multinational enterprise (MNE) groups with annual consolidated revenue of at least €750 million in at least two of the four fiscal years preceding the assessment year[35]. The purpose is to ensure that such entities are subject to a minimum effective tax rate of 15% on their profits in Brazil. If their actual tax burden falls below that threshold, they must pay the difference as a top-up tax.

34 OECD (2022), "Measuring the value of data and data flows", OECD Digital Economy Papers, No. 345, OECD Publishing, Paris, https://doi.org/10.1787/923230a6-en.

35 https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2024/lei/L15079.htm#art43

ii. Capital Gain or EBIT

Another possible solution—more specifically regarding the appreciation of data resulting from its generation, processing, and transfer by digital companies—would be to adopt a taxation model based on capital gains/ EBIT (Earnings Before Interest and Taxes). The capital gain is currently regulated by Article 21 of Law No. 8,981 of January 20, 1995, as amended by Law No. 13,259 of March 16, 2016.

However, for this approach to be viable, several significant challenges must be addressed—chief among them the reliable valuation of such intangible assets and the legal certification of ownership. In this regard, we believe it is essential to establish a more consistent framework for the recognition and enforcement of data-related ownership rights.

Under accounting standards, such assets would be classified as intangible assets according to the provisions of CPC 04 (R1)[36]. As such, they could be grouped under non-current assets, pursuant to Law No. 11,638 of 2007. To date, the Revenue Authorities have not yet issued any specific guidance or official position on the matter.

iii. Indirect Taxation

As demonstrated by the recent tax reform, Brazil has already taken steps to adapt its consumption tax legislation to the realities of intangible asset consumption and the data-driven economy. Nevertheless, while Complementary Law No. 214/2025 represents a significant advance by expanding the scope of consumption taxes to cover intangible goods and data, its effective enforcement still hinges on the issuance of detailed regulations.

Specific normative acts will be necessary to establish valuation methods, calculation procedures, ancillary obligations, and technical criteria for applying the IBS and CBS to transactions involving

[36] https://s3.sa-east-1.amazonaws.com/static.cpc.aatb.com.br/Documentos/187_CPC_04_R1_rev%2021.pdf

digital data. In the absence of such regulatory clarity, the law's practical ability to address the complexities of digital economy taxation remains limited.

Here, by way of contribution, we offer some initial suggestions regarding the possible methodology to assess the value of data. This is a discussion that started at the beginning of 2010, with a seminal paper by the OECD[37], but was never settled in favor of one specific model, including in Brazil, nor was that done in any jurisdiction adopting data-centred taxation.

There are three traditional methods for assessing the value of economic goods: cost-based, market-based, and income-based approaches. The first one focuses on the costs that are incurred by economic actors who derive value from data, such as those of data centers, skills and computation. This measure reveals the willingness of those actors to sustain those costs, which implicitly says something about how much are worth, but the relationship between these two is not always clear: for instance, this measure does not differentiate between an actor which merely incurs these costs as a byproduct of its main activity and another one that has greater know-how and complementarities in the ecosystems to ensure that those data are being used appropriately.

The second measurement is the one that is most commonly used for other types of goods, which refer to the comparable price that can be found in the market for the acquisition of a specific item. However, in the context of personal information, we are talking about non-fungible goods and about very different levels of propensity to disclosure, which inevitably complicate the operationalization of this approach as a valuation benchmark.

The third method looks more wholistically at the value generated by each user, while discounting operational expenses and assets that are not attributable to personal data. This method appears to be more accurate but requires a solid and consistent set of criteria to distinguish data from other intangibles such as intellectual property and customer relationships.

Considering these challenges, one possible method that would move us from these imperfect measurements would focus on the role of data acquired in a specific setting, with the aim to assess its necessity for the product or service that is being sought. Following this approach, the valuation

[37] See https://www.oecd.org/en/publications/exploring-the-economics-of-personal-data_5k486qtxldmq-en.html.

would only focus on the so-called "behavioral surplus"[38] and tax companies for their accumulation of data as a valuable asset for further use, including the creation of new products or services.

Concretely, this could be achieved by requiring companies to disclose as part of their earnings the data-related assets they have cumulated and provide an estimate of its value in light of these possible uses. The considerable challenge in this respect, however, would be to provide a metric to quantify the expected value of the data towards those uses. Yet this is something that is not completely foreign to the estimates made to investors and in financial planning. Ultimately, this is a call to more transparency in projections of companies' valuation and its more consistent use for taxation, particularly when it comes to players that make of data a central asset in their business model.

3.2 When proposed solutions meet a volatile geopolitical reality

On top of this developments, in January 2025, a presidential memorandum of the United States revoked prior commitments under the Biden administration concerning the implementation of the OECD-G20 agreed Global Minimum Tax (GMT) regime. This revocation started to signal a strategic withdrawal from multilateral tax cooperation, further accompanied by threats of retaliatory measures against States adopting so-called "extraterritorial" or discriminatory tax measures that disproportionately impact U.S.-based digital MNEs. Needless to say: this developments represent a considerable obstacle for the achievement of a fair and well-functioning taxation system.

Indeed, this policy shift effectively terminates the advancement of the GMT initiative, which had seen adoption primarily among EU Member States, Japan, and South Korea, but not in major emerging economies such as China and India. The U.S. administration's stance undermines international efforts to harmonize digital taxation and address the untaxed value embedded in data-driven business models.

[38] Zubhoff, supra note 25.

Subsequently, on February 21, a further memorandum targeted taxation policies directed at digital multinationals predominantly headquartered in the U.S.—including Meta, Google, Amazon, and Apple. According to recent economic analyses, American digital MNEs constitute a dominant share of global digital revenues, underscoring their pivotal role in the digital economy and the consequential fiscal implications of their untaxed data assets.

The U.S. has previously threatened trade sanctions against countries implementing DSTs, although such disputes were temporarily suspended pending the anticipated implementation of the OECD's Pillar One framework, designed to supersede unilateral digital taxes. Clearly, the renewed U.S. memorandum has reignited tensions, highlighting the fragility of unilateral tax measures in the absence of a comprehensive multilateral agreement addressing the taxation of data-derived value.

Importantly, from a trade and economic law standpoint, most countries experience a significant deficit in services trade with the U.S., largely attributable to intangible services and intellectual property rights transactions controlled by U.S.-based digital MNEs. This imbalance underscores the necessity of addressing the untaxed nature of data assets within the digital services taxation regime. Potential legislative approaches to digital services taxation include: (i) existing DST models and tax framework; or (ii) instituting novel taxes, specifically targeting either digital service imports or data exports, or both. It is critical, however, that such taxation measures be carefully calibrated to apply solely to large technology companies with extractive business models services, thereby respecting jurisdictional tax principles and avoiding undue burdens on SMEs and domestic digital enterprises that duly comply with legislation.

Importantly, the deployment of digital services taxes as instruments of trade policy raises concerns under international trade law, particularly regarding non-discrimination and proportionality principles. Furthermore, given the relatively inelastic demand for digital services, DSTs are likely to be passed through to consumers, potentially undermining their intended fiscal impact. Moreover, to function effectively as countermeasures, such taxes may require rates exceeding those currently applied, which could exacerbate trade tensions and provoke retaliatory measures.

4. Failure to Tax Intellectual Property generated processing extracted data

Beyond the untaxed raw data, the innovation generated through data processing—such as algorithms, machine learning models, and software—is typically encapsulated within intellectual property (IP) rights. These IP assets are often localized in low-tax or no-tax jurisdictions ("tax havens"), thereby escaping effective taxation in the jurisdictions where the data originates or where value is created. Consequently, tax authorities end up taxing neither the raw material (data) nor the resultant innovation (IP), but only the limited subset of digital services delivered to end-users. This structural gap undermines the principle of taxing economic substance and value creation where it occurs, eroding national tax bases and distorting fair competition.

In Brazil, the situation is no different. Although there is a robust legal framework aimed at promoting innovation and intellectual property—such as Law No. 10,973/2004 (the Innovation Law), regulated by Decree No. 9,283/2018, and the subsequent National Intellectual Property Strategy (ENPI), established by Decree No. 10,886/2021—there are still no concrete mechanisms that link data protection compliance to the tax system[39].

One possible exception is bill No. 4/2022,[40] which proposes tax benefits through the discount of credits related to amounts spent on investments in activities to adapt to and implement the General Data Protection Law, Law No. 13,709, of August 14, 2018 (LGPD), from the calculation basis of: (i) Contribution to the Social Integration Programs (PIS) and the Public Servant's Asset Formation Program (PASEP); (ii) Contribution to the Financing of Social Security (COFINS); (iii) Contribution to the Social Integration Programs and the Public Servant's Asset Formation Program levied on the Import of Products or Services (PIS/PASEP-Import); and (iv) Social Contribution to the Financing of Social Security levied on the Import of Products or Services (COFINS-Import).

However, this proposal would not differentiate between types of expenditures, which can be very diverse in nature. For instance, it includes educational and technical expenses[41], as well as the acquisition or production of goods and services aimed at ensuring compliance with the LGPD[42].

[39] https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/decreto/d10886.htm
[40] https://www25.senado.leg.br/web/atividade/materias/-/materia/151507
[41] Art. 1 and 2.
[42] Art. 3.

This creates a valuable incentive for activities designed to ensure compliance with the LGPD, but which, without proper procedural limitations, could also easily be claimed for a wide range of expenses that only loosely related to this purpose (such as the acquisition of software and hardware, the general education of employees, etc.).

It also appears to stimulate the growth of a market for providers of products and services that can benefit from the tax benefit independently of their own compliance practices, to the extent that it would cover compliance activities by their customers. Clearly, this would go much beyond the purpose of addressing the appropriation of value through the personal data value chain, especially by large technology providers. Therefore, we believe that more thinking needs to be done with regard to the types of practices that ought to be encouraged with these tax benefits, as well as how to operationalize this regime through a system of declarations, conformity assessments and audits that benefit from the expert opinion of data protection specialists. Ultimately, the aim of these incentives would be to push these providers above and beyond the legal requirements in minimizing to minimize the data protection risks of their operations and stimulating a culture of data protection within the firm and its collaborators.

Lastly it is important to emphasize that, while the above-mentioned ENPI does foresee, within its scope, the modernization and expansion of fiscal instruments for companies investing in innovation and IP assets—as reflected in Action 3.6[43] and Guideline 5.1.4 of Axis 6 ("Foresight and Strategic Intelligence")[44]—these measures remain largely programmatic. The ENPI's implementation structure, which includes biennial action plans and coordination by the Interministerial Group on Intellectual Property (GIPI), highlights the need for specific regulatory and budgetary provisions to enable the application of tax benefits, incentives, and compensatory mechanisms aimed at the data and innovation ecosystem[45].

[43] 3.6. Modernize, adapt, or expand incentive and tax benefit instruments for companies that invest in innovation and the generation of intellectual property (IP) assets, with the goal of significantly increasing the number of companies able to make use of these instruments.
[44] 5.1.4. Consider models for the recognition and provision of tax incentives or benefits through counterpart mechanisms in ENPI programs for resident companies that are intensive in intellectual property (IP).
[45] V - Carry out, for each action detailed in the action plans, financial planning and funding mechanisms for the implementation of the actions provided for under the ENPI, and allocate budgetary resources for transfers, application of benefits, tax incentives, compensatory measures, and vouchers for specific actions outlined in the ENPI, in synergy with the existing legal framework or other new legal instruments.

As a result, a normative gap persists in integrating personal data protection policies with tax incentives—limiting the State's ability to promote strong data governance and information security practices through fiscal policy.

5. Conclusions

The current digital tax landscape reflects a fragmented and inadequate approach that taxes only the surface-level services built on data, while leaving untaxed the fundamental assets—data itself and the innovation it generates. This situation perpetuates significant revenue losses for States and fails to align taxation with economic realities.

We argue that addressing these challenges requires comprehensive legal reforms that:

- Recognize data as a taxable intangible asset with clear valuation and allocation rules;
- Ensure that innovation embedded in data-driven IP is appropriately taxed in jurisdictions of value creation;
- Introduce tax incentives to promote meaningful and effective compliance with data protection and security standards.

Such measures are instrumental to make sure that tax systems capture the full economic value of the digital economy, ensure fair contributions from multinational tech firms, and uphold the integrity of both national tax and data-related regulatory frameworks. To facilitate this effort, in the Annex to this paper, we propose a skeleton of how such framework could be shaped.

By treating data as a taxable intangible asset, taxing data processing only where concentrated value is created, and incentivizing strong data governance, the framework we propose in the following annex aims at ensuring that only the largest data-extractive tech companies contribute fairly to public revenues. Such reforms would close key loopholes, align taxation with digital economic realities, and strengthen both fiscal sovereignty and data protection standards.

Annex I

Proposal for a Framework to Tax Data as an Intangible Asset for Large Extractive Tech Companies

To address the shortcomings of the current digital tax landscape, a targeted and comprehensive approach is needed—one that taxes not just digital services, but the underlying assets and innovation: data itself and the intellectual property (IP) it generates. The following proposal outlines a concrete framework for taxing large, data-intensive technology firms with extractive business models, ensuring both fairness and alignment with economic realities.

1. Recognizing Data as a Taxable Intangible Asset

Definition and Scope:

- Data should be recognized in tax law as a distinct intangible asset, separate from the services built upon it.
- The scope should target only companies exceeding a high threshold of data collection, processing, and monetization—measured by metrics such as volume of user data processed, revenue derived from data-driven activities, or market share in data-intensive sectors.

Valuation Rules:

- Develop standardized methodologies for valuing data assets, considering factors like:
    - Cost of data acquisition and processing.
    - Market value of comparable datasets.
    - Revenue generated from data-driven products and services.
    - Financial projections of data surplus.
- Require annual reporting of data assets' value and location in financial statements.

Allocation Rules:

- Allocate taxable value based on the jurisdiction where data is collected and where users reside, not where the company is headquartered or IP is registered.
- Implement formulary apportionment based on user base, data generation, and local economic contribution.

2. Taxing Innovation Embedded in Data-Driven IP

Jurisdiction of Value Creation:

- Taxation rights should be assigned to jurisdictions where data is sourced and innovation occurs, not merely where IP is owned or registered.
- Require companies to disclose the location of data collection and the contribution of local data to the development of algorithms, models, and other IP.

Mechanisms:

- Introduce a "Data-Derived IP Surtax" on profits attributable to IP developed using data extracted from a jurisdiction, regardless of where the IP is ultimately held.
- Apply transfer pricing rules that reflect the true economic contribution of local data to the value of global IP portfolios.

3. Incentivizing Data Protection and Security Compliance

Tax Incentives:

- Offer targeted tax credits or deductions for investments in robust data governance, privacy-enhancing technologies, and compliance with local data protection laws.
- Set eligibility criteria based on independent audits or certifications of data protection practices.

Penalties for Non-Compliance:

- Impose surtaxes or deny deductions to companies found in violation of data protection and security regulations.
- Publicly disclose companies' data governance ratings to increase accountability.

4. Implementation and Enforcement

Thresholds and Targeting:

- Limit application to multinational tech companies surpassing defined thresholds in revenue, data volume, or market dominance, thereby excluding SMEs and startups.
- Require comprehensive transparency and country-by-country reporting on data assets, flows, and related revenues.

International Coordination:

- Harmonize rules through multilateral agreements to prevent double taxation and regulatory arbitrage.
- Encourage adoption of common standards for data valuation and allocation at the UN level or within regional organizations.