US-China Law Review, February 2025, Vol. 22, No. 2, 89-94
doi:10.17265/1548-6605/2025.02.004

Toward a Legislative Framework for Data Taxation in the Digital Economy

LI Yi
University of International Business and Economics, Beijing, China

Against the backdrop of rapid digital economy development, data has emerged as a crucial new factor of production, raising both opportunities and challenges for existing tax systems. This paper analyzes the complexity of taxing data elements, identifying misaligned tax classifications, the integration of data with traditional production factors, and the unique characteristics of data as key obstacles. It further argues for the necessity of data taxation from the perspectives of tax equity, economic benefit, and risk prevention. To address these challenges, the paper proposes legislative recommendations including legal system innovation, improvement of tax frameworks, and clarification of guiding principles. Emphasizing prudence, fairness, and flexibility, the study advocates for a balanced approach to building a scientific and effective tax regime for data that supports the sustainable and high-quality development of the digital economy.

Keywords: digital economy, data elements, data taxation, tax law, legislative framework, tax equity, tax governance

With the widespread application of technologies such as big data, cloud computing, and artificial intelligence, the digital economy has emerged and become a key driver of high-quality global economic development. However, while promoting economic growth, the digital economy has also introduced a series of complex taxation challenges. It is therefore necessary to consider how to fully realize the value of data as a production factor, improve existing tax systems, promote social equity, and safeguard national fiscal interests.

Existing literature on the legal theory of data elements has primarily focused on recognizing data as a form of property and strengthening the legal framework for its regulation and protection. In the field of data taxation, scholars have explored issues such as taxability, ownership, and valuation, but relatively little attention has been paid to the design of tax regimes and tax administration mechanisms. At the level of tax governance, research has concentrated largely on the development of the platform economy, particularly on how data products are priced and taxed.

In light of these gaps, this paper examines the taxation of data elements with the aim of providing policy insights into the development of tax frameworks and legal improvements for data-related tax governance.

LI Yi, Ph.D. student, School of International Law, University of International Business and Economics, Beijing, China.

Manifestations of the Complexity in Taxing Data as a Production Factor

Misalignment Between Tax Classification Standards and Types of Social Resources Increases the Complexity of Factor Taxation

When analyzing the costs borne by users of production factors, it is essential to account for the taxes incurred during the processes of production and service provision. However, the current classification of tax types is not based on the categories of social resources required for economic activity, but rather on a range of considerations, including the purpose and function of taxation, administrative feasibility, wealth distribution structures, sources of income, and modes of transaction. Based on their respective tax bases, taxes are typically categorized into consumption taxes, income taxes, property taxes, resource taxes, and others.

As a result, in macroeconomic research, it is difficult to directly assess the tax burdens associated with different production factors by referring to existing tax categories. The absence of detailed, disaggregated tax revenue statistics further contributes to scholarly disagreement regarding the identification and characterization of tax bases. Data, as a new type of production factor, is similarly affected by this issue. Accurate assessment of its tax burden requires further research and a more refined classification framework.

The Integration of Data With Other Production Factors Obscures Value Attribution and Complicates Taxation

Data elements participate in social production in a wide variety of ways, and the integration of traditional industries with digital technologies continues to deepen. This has led to profound transformations in production methods, business models, management structures, and modes of thinking, while significantly enhancing the productivity of traditional production factors such as land and human capital. However, because it is difficult to clearly distinguish the value created by each individual factor, it remains challenging to impose taxes specifically on data elements. Even within core sectors of the digital economy, traditional production factors—such as labor and land—are still heavily involved. As a result, under a complex and multilayered tax system, taxing data elements involves multiple stages, entities, activities, and purposes across various tax categories, which greatly increases the complexity of implementation.

The Distinct Characteristics of Data Require New Approaches in Tax System Design

Traditional production factors such as land and capital are characterized by scarcity and exclusivity. Accordingly, tax systems targeting these factors typically operate by adjusting factor prices and profit levels to influence resource allocation and optimize returns. In contrast, data lacks both scarcity and exclusivity. It can be continuously generated, replicated at negligible cost, and used simultaneously and repeatedly by multiple parties. No single user can fully exclude others from benefiting from the same dataset.

As a result, the mechanisms by which taxation influences the movement and utilization of data differ fundamentally from those applicable to traditional factors. In practice, the “flow” of data is more accurately understood as “sharing”, and the value of data is often realized through processes of “co-creation”. These unique features of data demand innovative tax policies and system designs capable of accommodating non-traditional modes of value generation and distribution.

The Importance of Taxing Data as a Production Factor

As a vital component of the means of production, data elements are capable of generating substantial economic returns. However, they also pose a potential risk of tax base erosion. Therefore, data elements should be incorporated into the modern tax system as an integral part of the taxation process. The importance of taxing data elements is reflected in the following three aspects.

The Principle of Tax Fairness Requires the Taxation of Data

Tax fairness is one of the core principles of modern tax systems. It is reflected in the redistributive function of taxation, which aims to achieve a relatively balanced tax burden among different taxpayers. Tax fairness primarily includes two dimensions: horizontal equity, which requires taxpayers with similar economic capacities to bear similar tax burdens, and vertical equity, which requires those with greater economic capacity to shoulder a proportionally higher tax obligation.

Within this framework, as data elements increasingly generate significant economic value, market participants that collect, control, and utilize data have gained substantial financial benefits. If data elements are excluded from the tax base, it will inevitably lead to an imbalance in tax burdens between traditional production factor holders and data-dominant actors, thereby violating the fundamental principle of tax fairness.

Therefore, to achieve a more equitable distribution of tax burdens, data elements should be incorporated into the tax system and treated equally with other production factors. Doing so would help bridge the tax gap between traditional industries and the digital economy, and would strengthen the fairness and sustainability of the overall tax system.

The Economic Benefits Derived From Data Justify Its Taxation

First, as an emerging form of property, data has been widely recognized in legal theory as possessing proprietary attributes (Lessig, 2002).

Second, with the rapid development of data as a production factor, market participants have increasingly gained substantial economic benefits through the possession and use of data. At the same time, this trend has, to some extent, eroded the interests of traditional offline market actors.

Finally, the generation, processing, and circulation of data are inseparable from the public goods and services provided by the state. Therefore, the state holds a legitimate right to impose taxes on data-related economic activities based on the principle of sharing public costs (Cai & Jiao, 2024, p. 3).

The Unique Characteristics of Data Increase the Risk of Tax Base Erosion

On digital platforms, most transactions involving data elements concern digital or virtual products. These transactions blur the lines between intangible services, tangible goods, and licensing rights, making it difficult under current tax regimes to determine whether the income derived should be classified as service income, sales income, or royalty income. Inconsistencies in whether or not such activities are taxed, as well as discrepancies in tax rates and thresholds, further hinder full and effective tax collection.

At present, there is no global consensus on how to measure and value data as a taxable asset. The implementation of the Organization for Economic Co-operation and Development (OECD)'s "Two-Pillar" framework remains uncertain (Yang, Zeng, & Zhu, 2024). In particular, the differences among countries in terms

of data taxation policies—including tax rates and exemption thresholds—have exacerbated the risk of international tax base erosion and profit shifting.

Legislative Recommendations for the Taxation of Data as a Production Factor

Promoting Innovation in the Legal Framework for Data Taxation

From the perspective of institutional design, legislation on the taxation of data elements should serve a dual purpose: preventing tax avoidance and promoting the healthy development of data as a production factor. At the same time, it must be grounded in practical realities and guided by a principle of *prudence* throughout the entire legislative process. On the one hand, it is important to recognize the rapid development and growing economic significance of data elements. On the other hand, it must also be acknowledged that data cannot fully replace traditional production factors such as labor, land, technology, and capital. If new taxes are introduced too aggressively or if a separate tax system is established solely for data, it may lead to disproportionate tax burdens and create opportunities for regulatory arbitrage, ultimately undermining the objectives of fairness and efficiency.

Improving the Taxation System From the Perspective of Institutional Design

The legislative framework for taxing data elements should adhere to the principle of equity, ensuring that all types of enterprises are treated equally during the taxation process. Policymakers must pay close attention to the issue of the digital divide and avoid further exacerbating regional imbalances in the development of the digital economy or deepening existing digital disparities, which could in turn intensify broader social inequalities (Hilbert, 2011).

The protection of data rights is also essential in the legislation of data taxation. Lawmakers must establish stringent regulations on data security and privacy to safeguard the rights and interests of individuals and enterprises during the taxation process. While pursuing economic gains, enterprises should also assume social responsibility by declaring and paying taxes on data elements in a lawful and compliant manner. Government agencies can guide enterprises in developing proper tax awareness through public education, training, and outreach initiatives.

Throughout the legislative process, it is also important to foster citizens' ethical awareness. Governments, businesses, and individuals should all adhere to the principles of integrity, fairness, and transparency, working together to uphold the order and stability of the digital economy. By addressing these issues of social responsibility and ethical governance, legislation on data taxation can become more comprehensive and reasonable, thereby contributing to the healthy and sustainable development of the digital economy

Establishing Guiding Principles for Data Taxation

The taxation of data elements should emphasize principle-based rather than rule-based legislation. Given the rapid evolution of technological applications and business models associated with data, rigid legal rules are often unable to respond effectively to ongoing developments. In the face of emerging and still-evolving business models in the data sector, legislative efforts should focus on clarifying overarching principles rather than prescribing overly specific regulatory rules.

Accordingly, the formulation of data taxation laws should begin with a thorough study of the relevant legal principles. By continuously refining the content and application mechanisms of these principles, the legal

framework can maintain necessary flexibility while enhancing its ability to guide and regulate the healthy development of data as a production factor.

In addressing challenges arising from the development of data elements, it is essential to fully consider the characteristics of internet-based applications and online activities. Tax legislation should adopt a problem-oriented approach that targets the root causes of these issues. For online-related problems, lawmakers should apply internet-based thinking and leverage technologies such as big data. For issues originating in offline contexts, greater emphasis should be placed on coordinated legal design that integrates both online and offline regulatory dimensions in the data governance framework.

Furthermore, in terms of legislative techniques for data taxation, particular attention should be paid to the precision, coordination, and timeliness of institutional design. First, it is crucial to accurately define the core position and objectives of data taxation legislation in order to avoid ambiguity or disputes during the drafting process. Second, given the rapid pace of data development, the taxation system must be updated in a timely manner to remain responsive to changes in the data landscape. Third, the legislation must ensure effective coordination and integration with existing legal frameworks.

Finally, with respect to the legislative mechanism, the state should mobilize multi-stakeholder participation, including all relevant parties involved in the data ecosystem. As data-driven industries are still emerging, highly specialized, and far-reaching, relying solely on the capacity of current legislative personnel may be insufficient. Therefore, an internet-based, collaborative approach should be adopted to improve the legislative process for data taxation—such as building open legislative platforms for data taxation that can aggregate collective expertise and enhance legislative efficiency.

In conclusion, the construction of a tax regime for data elements must go beyond the formulation of basic taxation rules and elements. It should also emphasize the development and refinement of systems for data usage standards, data management methods, and data exchange mechanisms. Only by aligning the tax system with the unique characteristics of data elements can it effectively support the role of tax-related big data in serving the broader goals of socioeconomic development.

Strengthening International Cooperation on Data Taxation

In the context of globalization and digitalization, tax administration should not operate in isolation but instead rely on strengthened multilateral dialogue and cooperation. Countries should actively participate in international tax reforms involving data elements and proactively voice their interests in this domain. It is crucial to closely follow global developments in data taxation and to restructure cross-border tax administration models for data flows. Nations must take a forward-looking approach, accurately assess the direction of international reforms related to data taxation, and timely update their domestic administrative measures for data-related transactions. Proactive strategies will help avoid being caught unprepared in the face of global policy shifts.

It is also necessary to redefine certain tax concepts related to data elements within the framework of international taxation. New conceptual frameworks should aim to comprehensively cover transactions involving data, redefine the allocation of taxing rights among countries, and clarify jurisdictional authority over data-related taxation. To avoid double taxation, efforts should be made to standardize definitions and allocation rules as much

as possible. Countries must understand both their domestic tax environments and international legal frameworks in order to assert appropriate tax sovereignty and prevent revenue losses.

Legislative improvements in data taxation should also be informed by current global efforts. To address issues such as tax evasion associated with "data-derived income", OECD member countries are seeking legislative solutions to reallocate taxing rights and curb base erosion. Accordingly, countries should consider reforming their tax systems to include provisions specifically targeting data-related transactions, assets, and cross-border flows. This would help address tax avoidance and ensure that revenues from data are properly captured.

Furthermore, international cooperation in data taxation must be enhanced through the establishment of tax information exchange mechanisms, and through the optimization of treaty provisions related to data. Constructive international dialogue should also be encouraged to resolve tax disputes concerning data elements in a fair and timely manner.

References

Cai, C., & Jiao, R. J. (2024). *Blue book of taxation: China's digital economy taxation development report (2024)*. Beijing: Social Sciences Academic Press.

Hilbert, M. (2011). The end justifies the definition: The manifold outlooks on the digital divide and their practical usefulness for policy-making. *Telecommunications Policy, 35*, 715-736.

Lessig, L. (2002). Privacy as property. *Social Research: An International Quarterly, 89*(1), 247-269.

Yang, M. R., Zeng, J. T., & Zhu, Y. Y. (2024). The impact of the digital economy on local governments' tax effort: An empirical study from the perspective of government competition. *Taxation Research, 40*(5), 63-71.