The Issues and Countermeasures of Tax Governance in the Digital Economy

Yulin Chen*1

1Chongqing College of Humanities, Science & Technology, Department of Accounting, China

ABSTRACT

With the rapid development of information technologies, particularly artificial intelligence, human society has entered a new era characterized by digitization. The digital economy is rapidly reshaping the global economic landscape, emerging as a new engine for global growth. Innovations in technologies such as big data, blockchain, and cloud computing are not only transforming business operations but also revolutionizing value creation models. These technological advancements are making it easier for businesses to reach global markets, streamline operations, and introduce novel business models. However, the digital economy also brings significant challenges, particularly in the area of tax governance. The diversification of business models, the virtualization of economic activities, and the globalization of transactions create complexities that existing tax systems were not designed to address. Traditional tax systems are generally based on physical goods and services and are therefore ill-equipped to handle the intangible nature of digital products and services. Additionally, the cross-border flow of digital data and transactions complicates the ability of national governments to track and tax these activities. Moreover, the digital economy has given rise to new business practices, including the dominance of global tech giants and the widespread use of digital platforms, which further complicate the enforcement of tax policies. As a result, there is an urgent need for tax policies that can effectively address the challenges posed by the digital economy while ensuring fairness and equity. This paper explores the key issues related to tax governance in the digital age and offers policy recommendations to help overcome these challenges.

1. INTRODUCTION

The digital economy is an important development trend in today's global economy. With the rapid growth of the digital economy, the global economic system is undergoing profound changes. It has not only had a revolutionary impact on industrial structure and business models but has also driven the enhancement of global productivity, while posing unprecedented challenges to traditional economic governance systems, especially tax governance systems. On one hand, the rapid development of emerging business forms (such as cross-border e-commerce, platform economy, sharing economy, etc.), the complexity of cross-border transactions, and the intangibility of digital products and services have made tax jurisdiction unclear, tax sources difficult to monitor, and tax bases hard to define, leading to potential tax loss [1]. On the other hand, the emergence of new economic forms (such as digital currencies, digital assets, etc.) has made it difficult to effectively track transactions, further increasing the risk of tax evasion [2]. These challenges make the existing tax system inadequate to address the characteristics of the digital economy. Therefore, in this context, how to implement effective tax governance in an environment where globalization and digitalization are deeply integrated has become an urgent problem for China's tax authorities to solve.

2. Connotations, Characteristics, and Development Status of the Digital Economy

The digital economy is an economic form based on digital technology, a product of the deep integration of information technology and economic activities. By applying technologies such as big data, cloud computing, and artificial intelligence, the digital economy can promote the optimal allocation of resources and improve

*Corresponding author

*e-mail: 447626851@qq.com
ORCID ID: 0009-0009-4750-0612

overall social economic efficiency. The core of the digital economy lies in the process of "digitalization," which breaks through the traditional economic limitations where capital and labor are the main production factors. It redefines the ways of production and consumption, making knowledge, information, and technology the primary economic resources [1].

Compared to the traditional economy, the digital economy has several significant characteristics. The first is intangibility. Many of the products and services offered in the digital economy, such as internet social services and online education courses, are not physical goods in the traditional sense. Instead, value exchange is achieved through the flow of digital information. Secondly, there is the network effect. The network effect allows digital platforms to rapidly gain a large number of users and market share in a short period, not only increasing the platform's value but also expanding the entire commercial ecosystem, thereby forming powerful market control. Thirdly, the digital economy is characterized by innovation. The widespread use of digital technologies has changed the operation models of traditional industries, improving the efficiency of economic operations and constantly giving birth to new industrial forms and business models. Finally, there is globalization. Digital technology transcends geographical boundaries, allowing many digital platforms and enterprises, such as Alibaba and Amazon, to operate globally and provide cross-border services.

Globally, the digital economy has become a new engine for economic growth. According to the Digital Economy Development and Cooperation Report (2023), the total global digital economy exceeded 50 trillion U.S. dollars in 2022, accounting for more than 45% of global GDP. This trend is particularly evident in China, where the digital economy exceeded 50 trillion yuan in 2022, making up over 40% of the country's GDP, and became an important driver of high-quality economic development. In recent years, the Chinese government has strongly promoted the development of the digital economy, introducing a series of policies to support digital transformation and innovation. The 19th National Congress report of the Communist Party of China proposed building a Digital China and developing the digital economy. The 20th National Congress report emphasized accelerating the development of the digital economy and deepening the integration of the digital economy with the real economy. The digital economy is not limited to fields such as e-commerce, digital payments, and cloud services; it also involves the deep transformation of various

industries driven by internet technologies, especially in traditional sectors such as manufacturing, finance, healthcare, and education. China has made significant progress in areas such as mobile payments, digital finance, smart logistics, and online education, and the digital economy has become an important driver of China's economic growth.

The digital economy has deeply integrated into consumers' daily lives, changing people's work, consumption, and entertainment patterns. In the e-commerce sector, the global e-commerce market is growing rapidly. In China, e-commerce platforms such as Alibaba, JD.com, Pinduoduo, and Vipshop have become important representatives of the global internet economy. The widespread use of big data and artificial intelligence allows businesses to precisely analyze consumer needs and offer personalized product recommendations and services through internet platforms. In the financial sector, digital finance is booming. With the help of artificial intelligence and big data, fintech is disrupting traditional financial services through innovative payment methods, digital currencies, and more. Nowadays, mobile payment tools such as Alipay and WeChat Pay have become a part of daily life. Additionally, digital finance can offer more personalized and precise financial services, such as credit assessments, significantly enhancing the efficiency and inclusiveness of financial services.

3. Issues and Challenges in Tax Governance in the Digital Economy

The rapid development of the digital economy has not only brought tremendous economic benefits but also driven industrial upgrades and profound transformations across various sectors. However, with these opportunities come challenges. The rise of the digital economy has put the traditional tax system to the test.

3.1. Ambiguity in Tax Jurisdiction

Due to the virtual and global characteristics of digital products and services, many large multinational internet platform companies rely heavily on cross-border networks and virtual transactions. This has led to the blurring of tax jurisdiction boundaries, making it difficult for traditional tax systems to adapt. Traditional tax systems are based on physical goods and services and typically determine tax jurisdiction based on a company's physical presence and the location of its operations. However, in the digital economy, many

companies can offer services to global consumers through virtual platforms without the need to operate or produce in a specific geographic region. The absence of a physical presence means that tax authorities often face complex legal and technical issues when determining the "tax residency" of these companies and the amount of tax they should pay.

3.2. Difficulty in Accurately Valuing Data as an Economic Factor

The value creation in the digital economy primarily relies on converting data into knowledge and information. Data, as a new production factor, has multiple ways of creating value, making it difficult to measure directly. It can not only participate independently in various economic activities to create value but also interact with other traditional factors to improve overall productivity. Moreover, the value created during the production process is difficult to separate, and it cannot be accurately reflected in financial statements. In addition, the value of data may change over time and be influenced by market conditions, technology, and other external factors. Some data may be highly valuable in the short term, but its value could diminish or disappear over time. Conversely, some data may initially seem of little value but could increase significantly in value as technology develops and data accumulates. Therefore, this diversity and uncertainty in value make it challenging to accurately assess the value of data within the tax system.

3.3. Tax Collection and Administration Issues in Cross-border E-commerce and Digital Platforms

In the digital economy, transactions of digital goods and services are typically conducted through online platforms, especially in cross-border e-commerce and digital platform transactions, which often involve multiple countries and regions. Consumers can directly purchase products or services from anywhere in the world, which presents a significant challenge to traditional tax collection and administration systems [3]. Many cross-border e-commerce platforms use global online payment systems, such as PayPal and Stripe, for transactions, making it difficult to trace the identity of consumers and merchants [4]. The intangibility and high anonymity of the transactions further complicate traditional tax methods, making it difficult to identify and track the transaction amounts and the sources of merchant income, leading to incomplete tax

collection. Furthermore, the growth of cross-border digital businesses has made tax jurisdiction and collection more complicated, as there are differences in tax systems between countries and regions. This enables some companies to shift most of their income to countries or regions with lighter tax burdens, potentially causing tax base erosion, profit shifting, and tax evasion, which complicates tax governance [1]. To address these cross-border tax issues, differences in tax systems, rates, economic development levels, and policy orientations across countries further hinder international tax coordination and cooperation [5].

3.4. Tax Governance Challenges Posed by Digital Currencies

In recent years, digital currencies, such as Bitcoin and Ethereum, have gained widespread use globally. Due to the decentralized nature of digital currencies, their transactions are highly anonymous and conducted rapidly, making it difficult for traditional tax systems to monitor, trace transactions, and identify tax subjects in real-time. It is also challenging to determine transaction amounts, transaction times, and transaction nature, which makes tax evasion, money laundering, and other illegal activities easier. This anonymity presents a significant challenge to tax administration. Furthermore, because the circulation of digital currencies is not restricted by national or regional laws, transactions often cross borders, making international tax regulation cooperation particularly complex.

4. Strategies for Addressing the Challenges of Tax Governance in the Digital Economy

In the digital economy era, how traditional tax systems can remain fair and transparent while adapting to the demands of digital technologies is an urgent issue for tax authorities worldwide. To address the various challenges posed by tax governance in the digital economy, several strategies can be employed:

4.1. Improving the Existing Tax System and Promoting Data-Driven Taxation

First, establishing a new value-added tax (VAT) system. Many companies in the digital economy operate globally through internet platforms. Given the virtual and global nature of digital products and services, tax authorities need to expand the scope of VAT collection to include specific digital transactions. China can learn from Western countries that require foreign e-commerce platforms to register locally and collect VAT. This approach ensures that taxes on digital

products and services can be fairly collected [6]. Regarding the issue of traditional tax systems relying on physical presence and territorial jurisdiction, tax authorities should strengthen VAT governance for new online business models. This could involve implementing an e-commerce registration system and sharing information with third-party platforms, clarifying platform data ownership, and enhancing the regulation of online transactions.

Second, adjusting corporate income tax (CIT) standards.Traditional CIT standards are typically based on physical presence. To address the challenges of virtual presence and cross-border traffic in the digital economy, tax authorities can establish tax standards based on "economic substance" rather than mere physical presence. This would also require redefining the concept of permanent establishments, taking into account not only physical presence but also websites, platforms, and servers.

Third, promoting the implementation of digital services taxes.To tackle issues such as profit shifting by multinational internet companies taking advantage of tax system differences between countries and regions, China's tax authorities can adopt a digital services tax (DST) like those in other countries. The tax could be based on factors like the number of users in the Chinese market, advertising revenue, etc., gradually improving the tax system for the digital economy [7].

4.2. Promoting Tax Digitalization and Technological Innovation

The issues of data value creation, tax administration for cross-border e-commerce and digital platforms, and digital currency governance ultimately need reliable tools and solutions derived from digital technologies. Tax authorities must strengthen digitalization in tax administration by leveraging emerging technologies like big data and artificial intelligence (AI) to improve efficiency, transparency, and accuracy.

First, building a tax regulatory platform based on big data.Tax authorities can use big data technology to accurately monitor tax activities in sectors like cross-border e-commerce and virtual currencies. By collecting, analyzing, and tracking transactional data related to consumers and merchants, such as transaction behavior and fund flows, tax authorities can ensure accurate tax collection and identify potential tax risks for targeted intervention.

Second, promoting blockchain technology.In digital currency transactions, tax authorities can use blockchain technology to trace transaction records and track the movement of digital assets in real time. This can help reduce money laundering, tax evasion, and other issues, ensuring tax fairness and transparency. Moreover, blockchain technology's applications in supply chain management and digital payments can also help tax authorities improve tax administration and compliance [2].

Third, promoting the application of AI technology.Tax authorities can use AI technology to automate data processing, conduct automatic report reviews, and identify and resolve potential tax issues, thereby improving efficiency. Additionally, AI can assist in intelligent decision-making by predicting trends based on historical data and market trends, helping authorities develop more scientifically informed tax policies [8].

4.3. Implementing Global Digital Governance Concepts and Strengthening International Cooperation

The global nature of the digital economy means that tax issues are becoming transnational governance challenges. Tax authorities face considerable difficulties due to differences in tax systems, rates, and policies across countries. Therefore, international cooperation is crucial in addressing cross-border tax issues.

To tackle issues of tax avoidance by multinational corporations, the OECD (Organisation for Economic Co-operation and Development) has proposed the "Base Erosion and Profit Shifting" (BEPS) action plan, and further efforts should be made to promote policy alignment among countries in the tax domain and to establish unified international tax rules to prevent profit shifting. Additionally, countries can share tax information, collaborate on governance, and combat money laundering and tax evasion.

4.4. Enhancing Public Tax Awareness and Compliance Education

Beyond institutional and technological reforms, improving public tax awareness and enhancing compliance education are key measures for addressing the challenges of tax governance in the digital economy and improving tax compliance and fairness. The unique nature of the digital economy means that many businesses and individuals may lack sufficient understanding and capacity to navigate complex tax policies, potentially leading to tax evasion or underreporting.

Therefore, tax authorities should require cross-border e-commerce and internet platform

enterprises to proactively disclose tax information to ensure transparency. At the same time, tax authorities should strengthen oversight of business tax behavior, conduct regular tax audits, and ensure that businesses fulfill their tax obligations according to the law.

Moreover, tax authorities can provide tax compliance training through online courses, seminars, and workshops, helping businesses and individuals understand tax laws, fulfill their tax obligations, and raise awareness of tax self-regulation. At the educational level, schools can incorporate tax education into curricula, offering dedicated courses or integrating it into existing social studies programs to raise students' awareness of tax compliance, thereby fostering a healthier tax environment for the digital economy.

4. Conclusion

In the era of the digital economy, the global economic landscape has undergone profound changes, and traditional tax governance systems are facing unprecedented challenges. In response to the disruptions caused by the digital economy, we must adopt an inclusive, open, and innovative mindset, proactively addressing the various issues that arise in the process of economic development. China's tax reform is being realized through continuous experimentation and innovation. Through institutional innovation, technological applications, and international cooperation, we believe that these challenges can be effectively addressed, ensuring both fairness and efficiency in tax governance. This, in turn, will provide strong support for the sustainable development of the digital economy.

Conflict of Interest

No conflict of interest is declared by tehe authors. In addition, no financial support was received.

Author Contributions

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