

Research on Tax Risk Regulation and Strategic Management in the Context of Big Data

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Abstract: With the rapid development of big data, big data has been more and more applied in all walks of life. Under the big data environment, massive big data provides convenience for regional tax risk control and strategic decision-making but also increases the difficulty of data supervision and management. By analyzing the status quo of big data and tax risk management, this paper finds many problems and puts forward effective countermeasures for tax risk supervision and strategic management by using big data.

Keywords: Big data; Tax risk; Strategic management

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1. Introduction

The State Administration of Taxation established the Tax Big Data and Risk Management Bureau in December 2019. Its primary task is to organize and implement strategic plans for tax big data and risk management through the construction of a tax cloud platform. Simultaneously, it aims to manage tax data to facilitate the exchange and sharing of tax-related information. The bureau also focuses on building, validating, and promoting a national and comprehensive database and analysis model for risk management characteristics. As digitalization and big data continue to advance, the multiplying effect of data on production efficiency becomes increasingly prominent. This evolution brings forth new production factors, posing significant challenges to China's tax collection, management, and risk management systems. Consequently, given the backdrop of big data, realizing the monitoring and strategizing of tax risks becomes an urgent issue requiring attention from both academic and practical circles.

2. The status quo of big data and tax risk supervision and management

Over time, big data has permeated every aspect of human life, marking a new era. Many large and medium-sized enterprises have made substantial investments in researching and developing big data technology. The application of this technology has notably propelled the advancement of enterprises. According to the “2021–2022 China

Big Data Industry Development Report,” China’s big data industry is projected to maintain a growth rate of approximately 12% over the next three years, reaching a scale of \$1,152.25 billion by 2023 ^[1]. In essence, big data has the capacity to unlock the potential of numerous industries while ensuring social stability and yielding substantial economic benefits. Concurrently, within the tax supervision landscape of our country, utilizing big data to identify tax risks and provide clear guidance for compliance with tax regulations is pivotal. This approach aims to reduce tax risks and represents a significant measure for tax authorities to further advance the reform of the tax administration system and implement the “decentralization service” policy.

2.1. Evolution of tax subjects and tax regulatory data

As factors of production, such as manpower, capital, and technology, spread outward across regions and borders with unprecedented scope, density, and speed, the economic landscape undergoes continuous expansion, leading to changes in economic structure, main players, and transaction modes. Particularly in economic activities driven by big data, the prominence of big data has never been more pronounced. Taxpayers constitute a significant form of economic activity, and their numbers, structures, management, and accounting methods are in constant evolution.

As of 2011, over 24 million individual taxpayers had undergone tax registration. Presently, this number has surged to 187 million, marking an increase of nearly 160 million. With the ongoing development of enterprise groups, the scale of enterprises continues to escalate, and enterprise diversification gradually transcends industry, national, and regional boundaries, highlighting the increasing significance of international taxation. Financial and tax management within enterprises tends towards computerization, specialization, and centralization. Consequently, a plethora of tax planning and tax avoidance methods emerge, while non-compliant taxpayer operations result in substantial tax losses, steadily amplifying the risks associated with tax supervision and management.

However, the current capacity of tax departments for collection and management is notably weak. The traditional mode of extensive tax source management, characterized by “territorial administration, tax management, individual combat,” struggles to meet the growing complexity and volume of tax sources, rendering it unfavorable in reducing tax risks ^[2].

2.2. The origin of tax risk supervision and management under the background of big data

With the gradual adoption of big data technology, tax supervision risks in this context pertain to challenges encountered in tax activities. These risks stem from internal system and management deficiencies within enterprises, leading to deteriorating business conditions for taxpayers, decreased tax revenues, and ultimately an inability to sustain normal government expenditures. These risks include issues arising from data verification, data collection, and improper data management.

Firstly, there’s the risk of taxpayer indulgence. This occurs when taxpayers, either due to ignorance or negligence of legal provisions, fail to fulfill their tax obligations according to regulations, resulting in reduced tax revenues for government departments ^[3]. Secondly, there are purposeful tax evaders who falsify financial accounts and documents or submit fraudulent tax returns to evade tax payments. Thirdly, there is the challenge of “reverse selection” and “moral hazard” stemming from asymmetric information. During the tax declaration process, government agencies often find themselves at a disadvantage, encountering discrepancies between the financial information provided by many companies and reality. Furthermore, government departments are unable to fully monitor the daily operations of every enterprise. Instead, they rely on sifted-through enterprise information, often limited in usefulness. Consequently, taxpayer behavior in such scenarios can lead to reduced

tax revenues, posing tax risks to the government ^[4].

3. Problems in supervision and management of big data and tax risks

With the rapid global development of big data and the corresponding technological advancements, its utilization has become increasingly widespread, particularly in tax risk control. The application of big data technology in tax risk management has garnered significant attention, with tax departments seeking to draw lessons from successful practices in certain Western developed countries. Nonetheless, substantial disparities persist between our country and some Western nations, and our big data technology remains in the exploratory stage. Consequently, in the realm of big data and tax risk management, numerous challenges persist, as observed in practical experiences.

3.1. The allocation of tax personnel is unreasonable

3.1.1. Fault occurs in the age structure of employees

The age structure of employees serves as a significant indicator for measuring the productivity of a unit. In certain tax industries within the country, older employees constitute a relatively high proportion of the workforce, resulting in an increasing workload in terms of tax revenue. Moreover, due to frequent travel and engagements in rural areas, there is a lack of fresh talent influx, consequently diminishing work efficiency. Furthermore, as the utilization of big data in tax risk management becomes increasingly prevalent, older enterprises exhibit a weaker capacity to adopt and embrace such technology. This, in turn, contributes to a decline in the overall departmental efficiency.

3.1.2. Lack of professional and interdisciplinary talents

In the country, taxes represent the most crucial economic resource, consequently placing tax personnel under immense work pressure. Utilizing big data technology to enhance work efficiency and mitigate tax management risks is of paramount importance ^[5]. Apart from job-specific knowledge, the expertise of employees within this department primarily revolves around finance, financial management, accounting, and other economy-related fields. There exists a significant deficiency in multidisciplinary talents encompassing computer science and law, preventing the establishment of a comprehensive and complementary system within this department.

3.2. Big data technology exacerbates the phenomenon of information asymmetry

Currently, there exist significant issues of information asymmetry in tax collection and management within our country. Taxpayers possess a much deeper understanding of their enterprise's operational conditions and financial information compared to the tax authorities. The tax authorities can only sift through the information gathered from various sources. However, constrained by limited staff numbers and the slow pace of management technology innovation, tax authorities cannot promptly and effectively capture all the genuine information from enterprises, placing government departments at a significant disadvantage in this regard ^[6].

Before the adoption of big data in tax risk management, tax authorities heavily relied on the identification of claimants' identities. However, with the widespread integration of big data into the tax system and the proliferation of internet concealment tactics, an upsurge in illicit activities related to tax evasion has emerged. This has compounded the challenge of information oversight, exacerbating the issue of information inconsistency between tax authorities and tax claimants ^[7].

3.3. Lack of innovation capacity of big data technology

Although China's big data industry is advancing rapidly, there still exists a substantial gap when compared with the international industry as a whole. This is primarily attributed to the insufficient capacity for independent innovation in the realm of big data ^[8]. Many years ago, developed countries such as Europe and the United States initiated research and development in big data and applied it to tax risk management. With the continuous progression of science and technology, numerous innovative ideas regarding tax risks have emerged, exemplified by Australia's 11 kinds of taxpayer identification ^[9].

Presently, China's independent research and development in the field of big data encounter several challenges. Much of the focus lies on research that is primarily based on advanced countries like Europe and the United States, often resulting in methodologies that are not entirely suited to China's unique circumstances. Given China's broad tax base and distinct legal environment compared to developed countries, the process of implementing big data into tax risk management becomes more intricate. Hence, it is imperative to refrain from merely replicating foreign risk management models ^[10].

As the era of big data unfolds, the tax system confronts numerous challenges, necessitating urgent enhancements in China's independent research and development capabilities in big data. It is crucial to construct a risk control model tailored to China's specific big data environment ^[11].

4. The use of big data to regulate tax risks for strategic management countermeasures

Tax risk monitoring relies on the collection, correlation analysis, and intelligent generation of data from all aspects. By gathering data and conducting comprehensive evaluations, hidden risks can be identified. This information stems from the processing of data, involving sorting, analysis, and integration ^[12]. Strengthening data and information management is pivotal in information-based tax administration, enhancing the ability to control tax risks. Utilizing big data for tax risk monitoring is inevitable in this context.

4.1. Optimize the staff structure of the department and improve the ability of tax authorities to supervise tax risks

Big data represents a novel form of advanced technology capable of identifying tax risks within vast datasets, thus effectively mitigating such risks. However, the local tax bureau currently lacks the internal capacity to effectively leverage big data. Therefore, to integrate big data technology into tax risk management, each department must make appropriate adjustments to its internal personnel composition to enhance its capabilities for monitoring tax risks ^[13].

Firstly, there should be a rationalization and restructuring of the company's staffing composition. Utilizing big data for supervision is a demanding task that necessitates employees with a high level of acceptance and self-study ability, as well as proficiency in computer programming. Thus, positions in this field should be predominantly filled by younger employees who can fully utilize their strengths.

Secondly, there is a need to introduce high-level, multi-disciplinary talents. Currently, the recruitment focus of the tax department is primarily on professionals in economics and finance. However, if employees possess solely financial expertise, they may not be able to fully exploit big data technology, resulting in significant technological inefficiencies. Therefore, to effectively apply big data technology to tax risk management, individuals with knowledge spanning finance, computer science, and law are essential. This diverse skill set will enable the tax department to more effectively oversee taxation processes ^[14].

4.2. Improve the level of data analysis to reduce the risk of tax loss

In an era marked by relatively underdeveloped science and technology such as networking and big data, the tax department encounters challenges in collecting sufficient data, with the authenticity of available data not fully guaranteed. However, in China, rapid economic and social development coupled with the advent of the networked environment has rendered tax data collection more convenient while facilitating more thorough analysis.

Against the backdrop of big data, the focus of tax authorities has shifted from mere data collection to in-depth data analysis. By analyzing a vast array of tax data, valuable insights into the financial status of enterprises can be gleaned, enabling a genuine understanding of their operational status. This, in turn, serves to mitigate the risk of tax loss and elevate the level of tax risk management^[14]. However, currently, the degree of correlation among various data in China remains relatively low, highlighting the critical role of data analysis in leveraging big data as an effective tool for enhancing tax regulation and risk management.

Therefore, as tax departments leverage big data technology to gather information, it is imperative to enhance their data analysis capabilities, delve deeper into the data, and thereby reduce the risk of tax loss^[15].

4.3. Proactively gather third-party data under the background of big data

In an era preceding the widespread development of the internet, taxpayer information was primarily submitted in paper form, leading tax authorities to adopt a more relaxed approach to verifying the authenticity of accounting information, resulting in relatively low tax risks. However, with advancements in social science and technology, coupled with the widespread adoption of online platforms for tax declaration and financial reporting, detecting individuals employing illicit means to evade taxes has become increasingly challenging. Moreover, supervising and auditing the authenticity of financial information provided, such as balance sheets and net profit statements, has become more complex, consequently escalating tax risks.

By collaborating with third-party organizations, enterprises' tax risk monitoring can be strengthened, thereby reducing their tax exposure. Auditing an enterprise's financial situation should not solely rely on information provided by the enterprise and subjective judgment. Leveraging big data technology, tax authorities should capitalize on their technical advantages to collect and organize as much third-party information related to the enterprise as possible. Subsequently, this information should be processed and analyzed to comprehensively assess the actual financial standing of the enterprise from various perspectives, ultimately mitigating tax risks.

Disclosure statement

The author declares no conflict of interest.

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