

The Legal Structure of Structural Separation of Data Property Rights: Chinese Theory of Data Property Rights

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The data property rights system is based on the rise of data as a production factor. The construction of a data property rights system needs to conform to the characteristics of data and the way in which the value of data elements is realized, with the goal of promoting the compliant and efficient circulation and use of data, and empowering the real economy. The construction of data property rights also needs to handle the relationship between data processors and data sources, clarify the different levels of data property interests and other information interests, and adopt different adjustment measures accordingly. The data property rights system should, on this basis, confirm and protect the interests of data resource holders, clarify the permissions and legal boundaries of data processing behaviors such as processing and use, and construct a diversified revenue mechanism for data products.

Keywords: data property rights structural separation, data elements, data rights

Introduction

Data, as a novel factor of production, underpins digitization, networking, and intelligence. As the cornerstone of the digital economy, a well-defined property rights system facilitates its circulation, utilization, and value realization. However, China currently lacks systematic legal regulations for data property, which somewhat impedes data transactions and applications, exacerbates conflicts of interest among relevant entities, and hinders the high-quality development of China's digital economy.

To address this issue, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Building a Data Basic System to Better Play the Role of Data Elements" (hereinafter referred to as "Data Twenty Articles")¹ in December 2022. Inspired by the concept of ownership separation, it introduces the idea of structurally separating data property rights and explores the establishment of an independent property operation mechanism for data resource holding rights, data processing rights, and data product operating rights. This forms the basis for the circulation, transaction, and value realization of data elements.

This paper posits that achieving structural separation of data property rights hinges on clarifying the policy objectives of the data property rights system. These objectives should then be codified into law so that the legal

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¹ "Opinions of the Central Committee of the Communist Party of China and the State Council on Building a Data Infrastructure System to Better Utilize the Role of Data Elements", 2022, https://www.gov.cn/zhengce/2022-12/19/content_5732695.htm?ddtab=true (accessed on 1 November, 2022).

system can effectively respond to policy needs, address current practical issues, and truly facilitate high-quality data supply to empower the real economy.

Basic Route of Structural Disposition of Data Property Rights

Data possesses inherent characteristics such as non-exclusivity, non-competitiveness, non-consumability, reproducibility, and technological dependence. These attributes fundamentally differentiate it from physical entities. The traditional theory of property rights, primarily constructed around physical entities, emphasizes the rights of the subject to possess, use, benefit from, and dispose of property (Gao, 2019). Consequently, the traditional property rights theory encounters challenges in adequately addressing the practical requirements for constructing data property rights.

The “Data Twenty Articles” proposes to promote the structural disposition of data property rights, and to advance the classification and grading of data rights authorization and market circulation transactions. Specifically, the structural disposition of data property rights is divided into three aspects: confirmation of rights, authorization, and changes in rights and interests.

First, through the confirmation of data rights, the legal positioning of data property interests is clarified. The core of data rights confirmation is to define the property interests possessed by data in the legal system. Data, as the object of protection under the property rights system, is a resource with certain economic value produced by a specific subject. Therefore, it is necessary to confirm the economic benefits possessed by data in law.

The existing property rights system is based on the exclusive control of property by the right holder. For example, the characteristic of land is that it is owned by the state as a single subject; and the use of land is exclusive. Therefore, it is necessary to establish a land property rights separation model, derive contract rights, and operation rights from ownership, in order to promote the circulation and use of land resources (Zhang, 2023). However, data differs from general property in that it is non-exclusive and non-competitive. It does not need to establish traditional property rights separation to realize the repeated use of the same data among multiple subjects (Mei, 2020). Therefore, considering data as a shared resource and granting holders the right to claim compensation when infringed can achieve protection of data resources.

In addition, other rights and interests involved in data processing activities should be resolved through the establishment of a rights coordination mechanism. The reason is that these rights mainly reflect personality, privacy, intellectual property rights, public interest, and other information rights carried on information. There are already laws regulating the protection of these rights; while data confirmation is to confirm the property interests possessed by data, there are essential differences between them. Practice has also proved that the main difficulty at present is how to promote high-quality supply and large-scale utilization of data under strict compliance with data security and personal information related laws and regulations. For this purpose, on the premise of clarifying rights and interests relations, the lawmakers should explore various subjects’ rights coordination mechanism rather than reconfirming information interest.

Second, the legality boundaries of data processing activities are clarified through data authorization. Based on the definition of data property interests, it is necessary to clarify the behavioral norms of data processing activities such as data processing and use, in order to protect the legitimate rights and interests of relevant subjects and promote the compliant and efficient circulation and use of data.

Data processing is closely related to information security: On the one hand, data, as a carrier of information, its rapid circulation and convergence make the risk of information leakage and misuse sharply increase (Mei, 2019). On the other hand, the development of data analysis technology can enable data processors to infer valuable information from originally meaningless and unrelated data. Therefore, data processors need to obtain effective authorization to carry out data processing activities such as processing and use. From the perspective of risk prevention, specific data processing activities may pose a risk of infringement on the rights and interests of relevant subjects or public interests, so these activities need to be restricted. When processing behavior may pose a risk to the interests of the subject, it is necessary to obtain the authorization of the subject, indicating that it agrees to the implementation of such risky behavior. In other words, the essence of authorization is to set different conditions for obtaining processing permissions according to the risks that may be caused by data processing behavior, so as to achieve control over their own risks by data sources (Ning, 2023).

Third, through the mechanism of rights change, the property interests of data are realized (Qi & Zhou, 2010). The “Data Twenty Articles” proposes to establish and improve mechanisms for transferring property rights related to data based on legal provisions or contractual agreements. This promotes the effective circulation of data property interests and maximizes the value of data. Specifically, there are two main ways for data rights to change: One is agreement change, that is, all parties decide on their own according to contract agreements or consensus on how and what content changes in data property rights, such as through transactions, gifts, and other legal acts to realize rights changes; the second is statutory change, that is, directly according to laws and regulations or effective judgments of judicial organs, changes in property rights related to data occur, such as due to legal facts such as mergers, splits, dissolutions, declarations of bankruptcy by data processors, leading to corresponding changes in ownership or content of data rights.

Specific Path of Structural Separation of Data Property Rights

Recognition and Protection of Data Resource Holding Interests

The “Data Twenty Articles” proposes the establishment of data resource holding rights, reasonably protecting the interests of data processors in autonomously controlling the data in accordance with laws and regulations. This autonomous control interest is based on the legal fact of data control and is not ownership or possession in the traditional sense. Legally, it should be interpreted as “the interest of the holder in legally controlling data resources and being free from illegal interference and destruction”, that is, the interest in holding data resources. This can be understood from the following aspects:

First, the interest in holding data resources is not a right with dominion. The protection mode of property in civil law can be divided into two types: right protection and interest protection. The object of right protection must meet the requirements of independence, disposability, and value, which are different from the characteristics of data. The control and use of data resources are non-exclusive, and the holder can share them with multiple parties without diminishing the value of the data. At the same time, data resources do not have a fixed form and boundary, and their value depends on the processing method and application scenario. Therefore, it is not appropriate to protect the interest in holding data resources as an independent property right.

Interest protection is a passive protection. Only when interests are infringed can the infringer be required to compensate for losses through tort law (Zhou, 2023). Due to the vague boundaries of data rights and difficulties

in defining them through exclusivity, it is more appropriate to use interest protection rules to hold those who infringe on data rights accountable after the fact through tort law. This arrangement is more in line with the characteristics of data, and it also helps to increase the circulation efficiency and usage range of data resources, maximizing the release of data value.

Second, the interest in holding data resources manifests as defensive power. The interest in holding data resources is based on data confidentiality control and depends on self-protection by the holder. The holder can choose whether to share and use data autonomously, but once the control state is destroyed causing data leakage, it cannot restore its original confidentiality. Because once data enters circulation, all entities that actually control the data become an equal node on the chain of data circulation. Therefore, it is difficult to require the perpetrator to bear responsibility by returning property or restoring it to its original state. In this regard, the interest in holding data resources only has a passive defense function. When facing infringement risks, preventive requests can be used to require potential perpetrators to stop infringement, eliminate obstacles, and eliminate dangers. In cases where actual losses have already occurred, perpetrators can only be required to compensate for losses by applying general provisions of tort law.

Third, transfer of holding interests is carried out through sharing control rights. The transfer of interests in holding data resources essentially means that transferees have obtained access or control rights to relevant data. This manifests as original holders sharing their controlled data with other entities through APIs (Application Programming Interface), dataset transmission etcetera, with transaction parties agreeing whether original holders continue to retain control over data. The transfer of holding interests does not involve changes in ownership rights but rather that recipients have legally obtained control rights over data with consent from transferors.

Fourth, interests in holding data resources do not have exclusivity or monopoly characteristics. Interests in holding data resources do not exclude other entities from sharing or using the same set of data resources nor exclude other entities from legally collecting identical datasets from same sources (Zhang, 2023). This reflects non-scarcity and reproducibility of data resources as well as social value and public nature of these resources.

Innovative Authorization Methods to Regulate Data Processing Behavior

The right to use data processing refers to the qualifications and permissions for data processing activities such as processing and use. When carrying out data processing activities, it is necessary to comply with the rules on data processing and information protection in regulations such as the Data Security Law and the Personal Information Protection Law. In order to solve the problem of the qualifications and permissions of data processors for data processing and use, and at the same time protect the information rights and interests of data sources, it is necessary to regulate data processing behavior through an authorization mechanism (Zheng, 2022).

Existing governance ideas mainly start from the data itself, assess risks according to the association between data and subjects, and ignore the dynamic process of data processing. This idea focuses on the classification of data itself and the regulation of data collection links, but lacks effective supervision in links such as data analysis and application. Due to the use of large-scale, high-dimensional analysis technology, information such as personal privacy and corporate operating conditions can be restored from originally unrelated data. Therefore, the focus of governance should be shifted from data itself to data processing behavior, a classification and grading authorization system facing data analysis risks should be constructed, and a matching supervision mode should

be determined accordingly. At the same time, with the circulation and use of data as the focus, new ways of data authorization are explored.

At present, there are two primary challenges in facilitating the supply of data elements. First, the Personal Information Protection Law has implemented a stringent authorization mechanism to ensure data security and personal privacy. This creates a complex task of balancing the efficient circulation and use of personal information with compliant protection. Second, the limited openness of public data has resulted in a significant amount of high-quality public data being underutilized. Consequently, the construction of a data property rights system should focus on promoting orderly data circulation (Van, 2020). This can be achieved by recognizing and protecting data rights and interests, transforming isolated “data islands” into integrated “data warehouses”, and providing institutional guarantees to guide data circulation transactions and unlock the value of data elements.

Firstly, in terms of personal information authorization and use, according to the need for multi-subject circulation and reuse of personal information data, new types of authorization methods should be explored to open up authorization chains (Reidenberg, 1997). In the next step, in order to protect the rights and interests of personal information subjects and promote the reasonable circulation and use of personal data, several points should be achieved: (1) optimize personal information anonymization standards, establish relative anonymization mechanisms, and improve the efficiency of personal information data circulation and use. Different scenarios are distinguished, technical standards for anonymization processing and compliant authorization methods are clarified, and identification degree and associativity are reduced at all stages without affecting data value and function, avoiding leakage of personal privacy; (2) explore the establishment of a personal data authorization exemption mechanism and clarify legal authorization usage standards for personal data. In specific fields such as public health and social governance, consent requirements can be exempted within legal limits to solve problems with large-scale supply of personal information data.

Secondly, in terms of public data opening up, in order to promote public data resources to open up to society and improve their circulation and utilization efficiency, several points should be achieved (Wang & Huang, 2022): (1) establish a public data authorization opening mechanism and clarify the division of rights and responsibilities between governments at all levels and industry competent departments in terms of public data management, services, benefits; promote graded classification opening of public data according to sensitivity and relevance of data, adopt different opening conditions and methods, and realize multi-level opening utilization; unconditionally open unrelated data, conditionally open related data, and open sensitive data in forms such as models or verification; (2) explore a system for authorized operation of data; standardize standards for development utilization of data; admission policies; allow qualified subjects to use public data for a fee. The income obtained is first used to compensate for input costs in public data operation; stimulate openness enthusiasm; remaining funds are coordinated by finance.

Thirdly, in terms of enterprise data authorization: promote cooperation between enterprises through promoting cooperation between enterprises; establish a mechanism for interoperability between enterprises; enhance innovation ability competitiveness between enterprises; at the same time prevent monopolies unfair competition between enterprises and maintain market fairness order; for this reason: establish an enterprise-data-authorization-agreement mechanism, clarify rights obligations responsibilities between parties when exchanging between enterprises, and protect legal rights interests between parties; through contract agreements or industry

standards, standardize exchange agreements formats interfaces and realize safe interconnection efficient intercommunication between enterprise-data.

Constructing Diversified Data Product Revenue Mechanisms

The “Data Twenty Articles” proposes to respect the contributions of data processors, fully guarantee their right to profit, and protect the operating rights of data products. Currently, it is customary in theory to define data products as derivative data formed by processing original data. However, in fact, data is always in the process of processing, and processed data may be further processed as original data again. There is no strict boundary between original data and derivative data, and data products can also become raw materials for other data products. Therefore, the distinction between data resources and data products only has theoretical significance.

In terms of institutional choice, for data products that form independent value or application scenarios through processing, analysis and mining, application services, if the products meet the requirements of existing laws for property rights such as intellectual property rights and trade secrets, it can be protected and managed according to existing legal rules (Li, 2022). If the products do not meet the requirements of existing laws for property rights such as intellectual property rights and trade secrets, it can adopt flexible and diverse protection modes and methods based on the practice of China’s data element market. At the same time, the current contract law rules have provided a sufficient legal framework for this, without the need to introduce new theories of data property rights (Jin, 2020).

From a business perspective, anything that can be exchanged in the market can be regarded as a “commodity”. Data products are essentially the ultimate realization of data value. The scope of data products includes datasets that can be exchanged in the market as well as goods or services derived from processing data resources (Zhu & Zhang, 2023). In order to encourage data processors to create more valuable data products, a diversified operating income mechanism should be established. According to different types and forms of data products, different transaction methods and protection modes can be adopted (Tian & Liu, 2020), including:

Firstly, providing data services: Data processors can carry out data analysis and calculation using the data they hold according to the needs of the trading counterparties. After forming specific results, data processors can provide them to the trading counterparties to obtain income. This method is suitable for intelligent analysis results—knowledge, answers, solution scenarios and their service assistance according to demand. Secondly, licensing others to access: Data processors can license others to access their own data under certain conditions and terms to obtain continuous income. This method is suitable for highly reusable and universal data products. Thirdly, buying and selling data products: Data processors can sell their own data products at a certain price to other entities to obtain one-time income. This method is suitable for highly exclusive and scarce data products such as patents and trade secrets.

Conclusion

The construction of a data property rights system should be carried out on the premise of clarifying existing rights and interests relationships. Firstly, it is necessary to distinguish the relationship between the property interests of data processors and the information rights and interests of data sources. The confirmation and protection of information rights and interests such as personal information, trade secrets, and intellectual property rights are completed by existing relevant laws. In terms of data rights and interests: Firstly, holding data is a civil

interest rather than a right. The holding status itself and its transfer are legal facts. The interest model should be used to protect the holding status of data resources, and relief should be sought through tort law when it is infringed. Secondly, respect for prior rights above data is needed when carrying out data processing activities. When data processing activities involve the rights and interests of data sources, effective authorization is needed to carry out data processing activities such as processing and use. Finally, to encourage data processors to create data products, a diversified operating income mechanism should be established. Data that can generate operating income and its derivatives is all data products, and existing systems have provided sufficient legal resources for market innovation. According to the specific form of data products, relevant laws such as intellectual property law and contract law can be applied respectively; different transaction methods can be adopted to maximize the value of data.

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