

The Nature and Rule Construction of Data Transaction Activities

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The juridical logic and structural system of existing institutional norms are insufficient to respond to the realistic demands of the development of the data economy. It is necessary to thoroughly deconstruct the civil-law attribute of data to ensure the effective determination of the legal nature of data transaction activities. Data transaction activities should not be included in the traditional regime of contract rules for adjustment constrained by the existing contract types and contract rules. Instead, such activities should be defined as data transaction contracts with consideration of the characteristics of data, and the contract rules that conform to the laws of data transaction should be established on that basis. Moreover, the determination of the nature of data transaction contracts should be analyzed in combination with the actual circumstances of the transactions, which may be either a civil contract or an administrative contract. Its nature itself is a collective concept, not an absolute one. In addition, the construction of the data transaction regime should be carried out in a holistic manner from the perspectives of data right affirmation system, data transaction system, and supporting systems for data transaction.

Keywords: data, legal attributes, transaction, legal nature, rules

The Requirements of the Transaction Regime for the Development of the Data Factor Market

From the agricultural to the industrial era, basic factors of human activities for economic and social development are all based on realistic and tangible physical existence. Even physical forms that cannot be directly observed, such as electricity and magnetism, are also counted as objective physical existence, while tools for recording and expressing information based on human subjective cognition and consensus, such as words and pictures, have never been the source of direct factors of production and life. However, the arrival of the new economy is having a profound impact on this and is bringing about tremendous transformation. Data is exactly the core factor in this new economic revolution. It is not objective existence in the physical sense, but an artificial representation realized by binary means. However, it is this non-physical factor that has become an inexhaustible source of power for the development of the new economy. The factor value of data itself has been greatly explored in modern information society. It is an important factor for the accumulation of wealth and the realization of the wealth effect in modern society and has become a focus of attention of all stakeholders in economic and commercial activities, and a key resource in new economic and industrial development. Data is even listed as one of the new production factors in the “Opinions of the State Council of the CPC Central Committee on Further Optimizing Regime and Mechanism for the Market-Oriented Allocation of Factors” released in April 2020.

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Nevertheless, the flourishing of the new economy did not leave us enough time to contemplate data-related issues, especially ones concerning how to view the existence of data factors from the legal perspective and how to effectively adjust the circulation of data factors by legal means. The data economy has broken away from the trading rules and customs of the traditional commodity economy and raised considerable challenges to the institutional regime based on the traditional commodity economy. Although some of the rules and principles of the existing institutional norms are universal to some extent, it is difficult to apply such rules and principles to effectively adjust and penetrate into all aspects of the data economy, because the data economy, with its unique characteristics, has severed the institutional links between rules and principles, giving rise to great limitations of those rules and principles in regulating data transactions. Therefore, how to build a data transaction regime to promote the development of the data economy has become an important question of our times. Accordingly, in the “Opinions of the State Council of the CPC Central Committee on Building a Fundamental Data Regime to Better Develop the Role of Data Factors” issued in December 2022, the CPC Central Committee explicitly proposed the idea of establishing a compliant and efficient data factor circulation and transaction regime for both floor and over-the-counter transactions.

The basic precondition for the construction of the regime is to clearly define the legal attributes of data and the legal nature of data transaction activities. There is a logical relationship between the two: The former is the basic normative attribute of data, which determines the form and mode of data transaction and circulation, thus affecting the legal nature of data transaction activities. That being the case, issues related to the legal attributes of data have been the focus of the entire civil law academia in recent years. Given the differences in their theoretical perspectives, existing studies hold various theoretical views on the legal attributes of data, focusing on whether data can be recognized as a right, and if so, how to develop the right-based regime of data. This paper will study and sort out existing studies on the legal attributes of data and analyze its impact on the realization of data transaction and the legal nature and mode of adjustment of data transaction activities.

Legal Attributes of Data and Definition of the Legal Nature of Data Transaction Activities

Feasibility and Methods of Right-Based Protection of Data

The majority in the theoretical circle are supportive of the view that data can be recognized as a right, while other scholars take the opposite attitude from the perspectives of the characteristics of data and the concept of sharing economy. Both views are convincing with reliable processes and sound bases of argumentation. However, as it requires a stable and predictable institutional regime, to promote the healthy and orderly development of data transaction, one cannot always hover between various theoretical views. It is, therefore, critical to determine the theoretical basis and choose the right path. From the view of theoretical development and exploration at the current stage, voices that data can be protected as a right prevail are more in line with the reality of economic and social development. The National Development and Reform Commission (2023) has explicitly called for establishing a data property right regime, casting off the stereotype of ownership, and promoting the structural separation of data property rights. In essence, it calls for protecting and regulating data-related interests by recognizing data as a right. In this regard, if data is recognized as a right, how to define such a right? What powers should be included? How to allocate these powers? These are tough problems. Paths for right-based protection of data in existing research are mainly designed in two directions: One is to incorporate data-related property

interests under the framework of traditional property rights to be regulated and protected; the other one is to recognize data-related property interests as a new type of property right (Mei & Wang, 2021).

On the path of recognizing data as a right, there are also two different propositions: the continuation of traditional property rights and the creation of a new property right. The former suggests that data-related interests can be regulated within the framework of real rights, intellectual property rights, or creditor's rights (Yi, 2022; Liu & Zhang, 2022; Sima, 2019; Xu, 2018), while the latter believes that the theory of traditional property rights, with partial failure and application obstacles in the field of data, is difficult to match the practical needs of the development of the data industry, and also difficult to keep logical consistency in theory. In particular, in some widely-discussed thoughts of incorporating data into the theoretical framework of real rights, there are practical contradictions that are difficult to be reconciled. Data, which is virtual rather than physical existence, cannot be qualified as an object of real right. In addition, it is difficult to effectively explain the rights and interests of data based on the separation of powers of ownership and exclusive theories of various real rights arising therefrom (Wang, 2022). As for views of protecting data-related interests under the framework of intellectual property rights, it is reasonable to some extent, especially in consideration of some similarities between commercial data and intellectual property objects (Suo & Pan, 2022). It is potentially proper to apply the intellectual property regime to data with relatively compatible theoretical groundwork and consistent institutional objectives (Feng, 2022). Yet in fact, significant differences exist between the objects of data and intellectual property. The similarities between certain types of data and intellectual property objects cannot be analogized to data as a whole. Therefore, the limitations of such views are obvious.

Since the traditional theory of property rights is difficult to form an effective control over the protection of data-related interests, is it possible to get rid of the restrictions of existing theories and institutional regimes and create new rights to protect data-related interests? This is another path of right-based data protection, which suggests that a new type of right should be created in line with internal laws of data based on its characteristics. However, due to the cognitive differences of the essence and relevant laws of data, ideas of how to devise the right greatly diverge as well, there are not only ideas referring to the thoughts of traditional property rights (such as data usufruct) (Shen, 2020), but also completely new attempts at right creation that are distinct from the traditional theory of property rights (Long, 2017; Xu, 2018; Qian, 2021),¹ with detailed discussions on powers of property rights of data (Li & Xia, 2022). Yet a widely-recognized framework for the new data rights regime remains absent. Under the view of not recognizing data as a right, the way to recognize and protect data-related property interests is mainly attempts through pure economic interests. Whatever ideas have many theoretical defects and hurdles to realize, and are difficult to become effective theoretical guidance that can be tested repetitively.

The Impact of Paths of Regulating Data-Related Rights and Interests on Data Transaction

On the whole, in studies on the paths of regulating data-related interests, views that recognize data as a right are constantly challenged by the conflicts of property rights structure, while opposite views are facing difficulties in fully responding to interest-related claims raised by relevant stakeholders in practices of data economy. Even

¹ There are many theoretical attempts to protect data related interests by creating new rights. As far as the discussion at the present stage is concerned, the idea of creating data property rights that are different from traditional property rights is relatively common.

though supplementary theories from the view of controlling-interests provide a possible point cut for the protection of data-related interests under circumstances where data is not recognized as a right (Ren, 2021), they fail to positively promote the data economy because they can only attempt to regulate data-related interests in a dynamic state, but hardly play a role in interests related to static data. If these fundamental theoretical problems are left not solved, or not decided, it will be an insurmountable obstacle for the legislation in the field of data economy, and a serious handicap to policy-making in the national data industry. It will also make it difficult to give full play to data factors in industrial restructuring and upgrade and economic and social development. Therefore, from the perspectives of both theoretical development and the reality of practices, the choice of path for fundamental legal theories and legislation of data has become a practical problem faced by theoretical researchers, legislators, and judicial practitioners, testing the wisdom of researchers and legislators.

Combined with the discussion on the civil-law attribute of data, the legal nature of data transaction activities becomes more complicated. As a matter of fact, the latter is an application of the theory of the civil-law attribute of data, which determines and affects the judgment of the legal nature of data transaction activities, and the judgment of the legal nature or the contract nature touches on the allocation of rights and duties among all parties in data transaction, as well as the rule design of contract terms, and affects the effectiveness of contract performance. Particularly in circumstances where a dispute arises from the transaction and it is not explicitly agreed in the contract, it becomes a tough judicial problem in practice for practitioners in the data transaction industry to decide which contractual rule should be adopted to resolve the dispute. For example, if data cannot be recognized as a right, a data transaction contract can be defined as a service contract by nature based on controlling interests (Mei, 2022). Then it does not involve the process of property transfer and naturally does not involve the rules and norms of property transfer. By contrast, if data is recognized as a right, a data transaction contract should be deemed as a sale contract or other types of property transaction contract, and then it should follow the general characteristics of the sale contract and involve the transfer and delivery of property and even other problems such as publicity and credibility. If the data transaction activity is defined as a contract of another nature, the legal rules that should be followed in the process of transaction vary. This paper argues the understanding of the nature of data transaction activities should refer to the research experience of the path which recognizes data as a right. Since the data transaction activities cannot be included in existing or traditional types of contracts to be regulated, then the most appropriate way is to respect the customs and features of the data transaction activities and avoid including the data transaction activities in traditional types of contracts for comprehension. Such activities are suggested to be separately defined as data transaction contracts, with corresponding transaction rules being established.

Assumptions for the Establishment of Data Transaction Rules

With a clear understanding of the legal dilemma and institutional gap in the realization of data transaction, the next problem that needs to be contemplated is how to design a science-based and reasonable regime for data transaction. From the comprehensive analysis of practices of data transaction, specifically, a data transaction regime should include but not be limited to the following aspects. First, data right affirmation. The system of data right affirmation is integrated with the theory of the legal attributes of data. Similar to the fundamental status of the theory of the legal attributes of data, the system of data right affirmation can be considered as an underlying

system in the whole process of data transaction. Which thought is adopted in the system of data right affirmation not only has a stake in the mode and path of allocation of economic interests and other relevant interests of data, but also affects the realization of the wealth effect of data. Second, data transaction. The system of data transaction mentioned here refers to the transaction system established after a clear determination of the legal nature of data transaction or a reasonable identification of theoretical tendencies, which is a set of specific norms for data transaction activities. Such norms include the allocation of rights and duties among the parties to data transaction, rules for performance and remedies of the data transaction contract, etc. Generally speaking, the basic contractual activities in the process of data transaction can be regulated effectively to a certain extent through the basic rules in the Contracts in the Civil Code. Nonetheless, given the innovative features of the data economy, which give rise to quite a few problematic areas that cannot be covered by the original system, it is necessary for us to establish a detailed and targeted transaction regime with consideration of features of data transaction to meet specific institutional requirements in practices of data transaction, in a bid to enhance the efficiency and standardization of data transaction. Third, supporting systems for data transaction, including systems for personal information protection, data security protection, cross-border data circulation, and criminal law structure that may be involved in data transaction. These supporting systems also play a critical role in securing the effective operation of the data economy, which can effectively make up for the deficiencies of the private law in regulating improper or illegal activities in the field of data transaction.

When designing the data transaction regime, we should not only consider the legal attributes of data but also pay attention to the subject and actual circumstances of data transaction, which will affect the legal nature and specific rules of data transaction activities. Data transaction between equal civil subjects is a civil contract, but it becomes more complicated when the government opens the data transaction circulation. First, the openness of government data itself is constrained by the legal attributes of data and the scope of opening and other basic theoretical issues (Sun, 2022). Second, there are diverse modes and types of government data opening, including operations authorized by the government and self-operation by government data administrative organs (Wu, 2023). If the openness of government data is operated by third-party commercial institutions and other non-public authorities authorized by the government, the legal nature of such data transaction activities is relatively clear, which should be deemed as general civil contracts. If the openness of government data is operated by relevant administrative organs themselves, actual circumstances of the openness should be taken into account to comprehensively judge whether the data transaction behavior belongs to the scope of the administrative contract or the scope of the civil contract before analyzing the allocation of rights and duties and composition of the legal relationship of the contractual parties and applying the law accurately. In addition, whether the openness of government data is paid or free service also affects the legal nature of government data transaction activities and the reasonable design of specific rules. When the openness of government data is operated by a data administrative organ, whether the data recipient can claim relevant rights to the data administrative organ due to flaws in the data or infringement on others' privacy, rights, or interests, etc., hinges on whether the openness is paid or free, and the recipient shall bear differentiated liabilities accordingly. Hence, the determination of the nature of the data transaction activity and the establishment of corresponding rules is a complex structure and process. The final legislative decision of the legal nature of data will affect the construction of rules for data circulation and adjustment of relevant interests. The subject, type, and form of data transaction will exert an

impact on whether transaction activities should be regulated by public law or private law. In a nutshell, the nature of the data transaction activity is by no means an absolute concept, but a collective concept in essence. Analysis of the nature of the data transaction activity should be based on its circumstances and condition.

In view of the current legal regime of data transaction in China, the structure of institutional norms cannot be said to be mature, but the overall idea is quite clear. Generally speaking, the regime is built firstly from the perspective of public law norms of data transaction, and then improved with a focus on supporting systems and rules for data transaction. But is it going in the right direction? In fact, there are many problems that need to be considered, and it is absolutely necessary to transform many ideas and concepts. However, as far as the current situation is concerned, the reform and science-based development of the legal regime for data transaction is facing a number of dilemmas in addition to theoretical and technical aspects. First and foremost is the influence of the overall landscape of economic and social development of the country. The overall landscape of economic and social development determines the direction of national macro development. Especially in China, a country of socialism with Chinese characteristics, the development goals we pursue at different stages vary evidently, and such differences require constant changes in the regime that matches economic and social development. The second is the challenge of the characteristics of the data economy itself. Our current discussion and analysis of data transaction or data economy are in fact still combined with the transaction forms and business models that have already happened or existed in practice. Is there any foresight in the existing research? Yes, there is. But it is hard to say whether the foresight can adapt to the nature of the data economy. Data transaction activities in the data economy are on the strength of existing data business forms, while the development and transformation of both the soft elements such as business models and the hard elements of data infrastructure have already been accelerated to the point where theoretical research is difficult to catch up with. When the Internet emerged, we discussed the issue of intellectual property, which was an issue of information. When the Internet-based information society entered the stage of e-commerce and social interactions, what we discussed more was the platform, which was an issue of data. The change of these developments has not taken long, and the pattern of transformation in recent years has been explosive, abrupt, and exponential. It can be said that we are controlling quantum computing, artificial intelligence, data economy, and other physical or virtual elements beyond our biological capabilities with the biological computing and wisdom of the human brain. We may not be able to accurately predict what form the economy and society will evolve into in the future. Accordingly, when we are designing the data transaction regime based on the current economic and social reality, the business modes or transaction forms that we intend to regulate probably will not exist any longer when the regime is launched. All in all, in the field of data economy, it is not advised to stick to the concept of traditional institutional norms, and always attempt to incorporate issues related to data transaction into the original rule system for analysis. Instead, it is necessary to combine the characteristics of data economy for adaptive or creative transformation in a bid to build a data transaction regime that conforms to the operational laws of the data economy.

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