

THEORETICAL INTERPRETATION AND RULE OPTIMIZATION OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA

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TABLE OF CONTENTS

I. INTRODUCTION	32
II. THE THEORETICAL BASIS OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA	34
<i>A. The Theoretical Premise of Data as the Object of Intellectual Property Registration</i>	<i>34</i>
<i>B. The Theoretical Approaches to Data Inclusion in Intellectual Property Registration Frameworks</i>	<i>37</i>
III. THE OPTIMIZATION STRATEGY OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA FROM THE DIMENSION OF SUBSTANTIVE RULES	39
<i>A. Definition of the Basic Scope of Data Intellectual Property Registration</i>	<i>40</i>
<i>B. Limitation of the Legal Validity of Data Intellectual Property Registration</i>	<i>44</i>
IV. THE OPTIMIZATION STRATEGY OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA FROM THE DIMENSION OF PROCEDURAL RULES	49
<i>A. General Procedures for the Registration of Data Intellectual Property Rights</i>	<i>50</i>
<i>B. Supporting Procedures for the Registration of Data Intellectual Property Rights</i>	<i>53</i>
V. CONCLUSION	57

THEORETICAL INTERPRETATION AND RULE OPTIMIZATION OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA

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Data intellectual property registration is an important practical exploration of the data property protection initiative in China. From the perspective of the non-material object attributes of data and the legal framework of the openness of intellectual property rights, data has the rationality and feasibility of being registered as an object of intellectual property rights. The theory of intellectual property contract and intellectual property signal can prove the legitimacy of data being included in the framework of intellectual property registration. In the dimension of substantive rules, the object of data intellectual property registration should be a collection of derived data with practical value and legal sources, and be able to obtain three data intellectual property rights, including the right to hold, to use, and to operate. The registration of data intellectual property rights should adopt the mode of determining the validity of the registration of confirmation. Combined with the characteristics of rapid updates and continuous accumulation of data, we should set short-term and renewable period restrictions, and promote the integration process of data intellectual property registration nationwide. In the dimension of procedural rules, general procedures should be designed around specific issues such as rights application and invalidation. At the same time, it is necessary to establish supporting procedures such as open licensing and trust management.

I. INTRODUCTION

In recent years, based on the powerful support of big data technology and the continuous promotion of big data strategy, data has become a new social production factor that stands side by side with labor, land, capital and technology. As a result, the issue of data ownership confirmation related

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to the identification of data property attributes and data transaction and circulation has been fermenting, and has set off a fierce collision of views and theoretical debates in the theoretical community.¹ Undoubtedly, the differentiation of the concept of data right confirmation will bring about different institutional arrangements at many levels, such as property rights allocation and regulatory methods, but from the practical needs of clarifying the scope and boundary of rights, data property registration is a basic normative structure that cannot be ignored. However, the question of how to register data property rights will arise, whether to follow the property registration model or take the intellectual property registration route? Based on the intrinsic nature of the intangible assets of the data itself, it may be more valuable to adjust the intellectual property regime for intangible objects in the design of its registration mechanism.

In December 2022, the Chinese government issued the *Opinions on Building a Basic Data System to Better Play the Role of Data Elements* (hereinafter referred to as the Opinions), proposing to ‘research new ways of data property rights registration’ and ‘establish and improve the registration and disclosure mechanism of data elements’. On this basis, the national intellectual property authority attaches great importance to the registration of data intellectual property rights, and has successively launched pilot explorations in Beijing, Zhejiang, Shandong, Tianjin, Jiangsu, Anhui, Hainan, Shaanxi, Shanxi, Hubei, Hebei and other provinces and cities. After entering 2023, various localities have promulgated local regulatory documents related to data intellectual property registration, which not only deeply implement the policy requirements of ‘data registration’ in the Opinions, but also initially build the basic prototype of the data intellectual property registration mechanism.

In view of this, in order to promote the continuous improvement of the data intellectual property registration mechanism in China, it is necessary to clarify the rationality and feasibility of data property registration based on the framework of the intellectual property system from the theoretical level, and on this basis, to propose the optimization strategy of the data intellectual property registration mechanism from the two dimensions of substantive rules and procedural rules, combined with the practical experience of data intellectual property registration in various localities.

1 See Shen Weixing, *The Debate over Data Ownership*, 3 Journal of Comparative Law 1 (2023).

II. THE THEORETICAL BASIS OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA

As a new type of intangible property, data, like traditional intellectual property objects, also faces the problem of ambiguity in the scope and ownership of property rights, which should be dealt with by a special rights registration mechanism. From a functional perspective, although the registration mechanism cannot create rights, it can play a positive role in proving rights, protecting rights, and promoting rights transactions.² Based on this, in the context of the increasingly prominent attributes of data property and the rising value of transactions, various localities have taken the Opinions as a policy guide and intellectual property registration as a model system to start the standardized design and pilot operation of data intellectual property registration. However, it does not effectively respond to the basic premise of data intellectual property registration, that is, why should data property rights be registered under the intellectual property framework? In other words, what is the normative rationale for the registration of data intellectual property rights? If the above issues cannot be clarified in theory, even if the registration of specific data rights is completed in accordance with relevant local regulations, there will exist doubts and defects in the validity of the rights, and the expected goal of data intellectual property registration cannot be achieved.

A. The Theoretical Premise of Data as the Object of Intellectual Property Registration

The inherent intangibility of data makes it impossible to be included in the traditional category of tangible property rights and become an independent civil object.³ On this basis, we cannot directly invoke the rights registration mechanism applicable to tangible property such as land, houses, motor vehicles, and ships to construct the mechanism for data property rights registration. For this reason, the intellectual property registration model has been more referenced in the design of data property rights registration rules, and the institutional arrangements for data intellectual property registration have been formed in many local normative documents. Therefore, in order to further clarify the theoretical premise of data as the object of intellectual

² See Cheng Xiao, *On Data Property Rights Registration*, 4 Law Review 138 (2023).

³ See Mei Xiaying, *The Legal Properties of Data and the Position of Data in Civil Law*, 9 Social Sciences in China 164 (2016).

property registration, the rationality and feasibility of data intellectual property registration should be deeply explored from the high degree of compatibility between data property and intellectual property rights.

1. *The Rationality of Data Intellectual Property Registration.* —

The rationality of data as the object of intellectual property registration stems from the attributes of informational public goods that data has in common with intellectual property objects such as works, inventions, and trademarks.⁴ The virtuality of data makes it lack physical boundaries, so that it presents a non-exclusive and non-competitive nature similar to that of intellectual property objects in the process of use, which means that different subjects can use the same subject matter in different regions and will not be exhausted. From the perspective of the economic basis of property rights, the public goods that include data and intellectual property objects are inherently lacking in scarcity.⁵ Based on this, the premise of property protection of data property rights registration has been always questioned in practice. However, in all existing intellectual property registration mechanisms, including copyright registration, patent registration, trademark registration, etc., the objects of rights are inherently not scarce, and related disputes and discussions have long existed. In this regard, the intellectual property system artificially creates a mandatory scarcity based on the statutory right granting model, which effectively resolves the theoretical obstacles to property rights registration.⁶ Similarly, data should not be confined to the traditional mindset of tangible property rights, but should be based on the theoretical premise of mandatory scarcity in the form of statutory rights under the choice of the path of intellectual property registration. In fact, this statutory rights form of intellectual property rights is not formed out of imagination, but is developed on the basis of traditional commercial customs.⁷ Works, inventions, trademarks, and other intellectual property rights objects are not inherently the object of property rights in their original state. In the process of market exchange, the increasingly prominent property attributes and the gradual formation of corresponding behavioral regulations make them present the basic form of property rights. At present, our legal regulation of

4 See Zhu Xiequn, *Information Sharing and the Exclusiveness of Intellectual Property Rights*, 4 *Social Sciences in China* 136 (2003).

5 See Tom G. Palmer, *Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects*, 13 *Harvard Journal of Law & Public Policy* 817 (1990).

6 See LONG WENMAO, A PRELIMINARY DISCUSSION ON THE PHILOSOPHY OF INTELLECTUAL PROPERTY LAW, at 29 (People's Publishing House, 2003).

7 See Xiong Qi, *Intellectual Property Law and Civil Law in Legal System*, 2 *Wuhan University Journal (Philosophy & Social Science)* 128 (2019).

data circulation is based on the rules of market competition, and in practice, it has gradually shown similar legal attributes and development trends to intellectual property objects. Therefore, it can be considered that it is undoubtedly a relatively reasonable path choice to carry out the standardized construction of data property rights registration based on the model of intellectual property system, which can effectively avoid theoretical disputes and realize the orderly operation of data market transactions.

2. *The Feasibility of Data Intellectual Property Registration.* — The feasibility of data as the object of intellectual property registration is reflected in the inclusiveness of intellectual property for data property, as well as the rich experience of intellectual property in the registration of data property such as databases and trial data. By reviewing the evolution of the intellectual property system, we can find that intellectual property has always adhered to an open and inclusive attitude towards new technologies and new business forms. From the initial works, inventions, trademarks to the later integrated circuit layout designs, new plant varieties, and geographical indications, intellectual property registration objects are developed and expanded with scientific and technological innovation and industrial innovation, and show an increasingly diversified system architecture.⁸ Nowadays, with the blessing of big data technology, the new data property is bound to be included in the intellectual property system and become a new object of intellectual property registration. Further from the relevant provisions of property rights in the *Civil Code of the People's Republic of China*, the registration of data intellectual property rights also has a feasible basis at the legal level. Article 127 of the *Civil Code of the People's Republic of China* establishes the object nature of property rights in virtual property such as data, but other legal provisions shall apply to the specific structure of rights. In article 123 of the *Civil Code of the People's Republic of China*, although data is not explicitly stipulated, 'other subject matter prescribed by law' in the article can be invoked by the data property, forming an effective connection with article 127, so that the data property has a sufficient legal basis for intellectual property registration.⁹ What is more, in the current practice of intellectual property registration, there are many experiences in obtaining legal protection for data property as the object of registration, which can be used for reference. For example, the collation and arrangement of data that satisfies originality can be converted into a compilation work and copyright registration can be obtained. Data

8 See James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 Law and Contemporary Problems 33 (2003).

9 See Xu Juan, *Legal Protection Path for Enterprise Derived Data*, 3 The Jurist 72 (2022).

collation and arrangement, which does not satisfy originality, has also been registered in the European Union for *sui generis* rights in databases, similar to copyright registration, so that database producers can obtain exclusive rights to extract and use the data contained in the database.¹⁰ At the same time, the trial data derived from the safety and efficacy requirements of marketed drugs have gradually formed a registration mechanism for exclusive rights on a global scale that is compatible with the marketing approval process, driven by regional free trade agreements.¹¹

B. The Theoretical Approaches to Data Inclusion in Intellectual Property Registration Frameworks

Undoubtedly, in the justification of intellectual property rights, there are many theories involving different theoretical aspects, such as labor theory, personality theory, incentive theory, etc., but most of them focus on the interpretation of the value attributes of intellectual property rights, and do not directly discuss the issue of right registration, and only a few of them, such as contract theory and signal theory, have made a full theoretical interpretation of the legitimacy of intellectual property registration. Therefore, in order to clarify the theoretical approach to the construction of data intellectual property registration rules, it is advisable to take the contract theory and the signal theory as examples to carry out the theoretical explanation of data intellectual property registration from the level of legitimacy.

1. The Legitimacy of Data Intellectual Property Registration Under the Contract Theory. — Under the framework of contract theory, the legitimacy of intellectual property registration is based on the static design of the registration system, and the theoretical proof of intellectual property registration is carried out from the social contract structure. In the current intellectual property system, the registration of patent rights in exchange for ‘exclusive rights’ by ‘disclosure of contents’ is a typical example of the contract theory, in which the ‘disclosure of contents’ for disclosing technical information is the consideration of the patent contract, and the ‘exclusive rights’ for the acquisition of property rights and interests is the purpose of the patent contract. In the process of the organic convergence of the above two items, a contractual institutional arrangement has been formed for private

10 See LI YAN, RESEARCH ON THE INTELLECTUAL PROPERTY PROTECTION MECHANISM OF SCIENTIFIC DATA SHARING, at 103-108 (People's Publishing House, 2019).

11 See Susan K. Sell, *TRIPS Was Never Enough: Vertical Forum Shifting, FTAs, ACTA, and TPP*, 18 Journal of Intellectual Property Rights 447 (2010).

individuals to legally obtain patent rights and interests on the basis of effective protection of social and public interests, which in turn provides the necessary justification basis for the rational setting of the patent rights registration mechanism. Based on the similarity between data property and invention in the registration mechanism of rights, the theory of contract can also be applied to explain the legitimacy of data intellectual property registration. For data property, registration in the form of intellectual property rights means the disclosure of the content of the right, and at the same time, it also enables the right holder to obtain the right to monopolize the corresponding data property for a certain period of time, which is undoubtedly a contractual institutional arrangement similar to the patent right registration mechanism.¹² In addition, it cannot be ignored that registration is only one of the means of obtaining legal protection for data assets. In the absence of registration, data property processors can use the trade secret route to protect their property rights and interests like technical inventors, but if the confidential data content is disclosed, it will lose its original property value as a trade secret.¹³ Due to the passivity of the trade secret protection model, the intellectual property registration mechanism based on the full disclosure of data content under the concept of social contract is undoubtedly more in line with the practical needs of data transaction and circulation, which not only clarifies the protection scope of data intellectual property rights, but also enables the public to understand relevant knowledge and facilitates the further development of subsequent data update and optimization activities, thus effectively realizing the coordination and balance between data intellectual property protection and the corresponding social public interest protection.¹⁴

2. *The Legitimacy of Data Intellectual Property Registration Under the Signal Theory.* — Under the framework of the signal theory, the legitimacy of intellectual property registration is based on the dynamic operation of the registration system, and the theoretical proof of intellectual property registration is based on the market signal effect. In practice, market demand is the source of all new products and technologies, the works, inventions, trademarks and other intellectual property registration objects are no exception.¹⁵ On this basis, the marketization of the objects of registration has become a major goal of the intellectual property system. At the same

12 See He Yudong, *On Patent Contract*, 2 Social Science Journal 48 (2013).

13 See Cui Guobin, *New Wine in Old Bottles: The Approach of Protecting Enterprise Data as Trade Secrets*, 11 Political Science and Law 2 (2023).

14 See WILLIAN R. CORNISH, DAVID LLEWELYN & TANYA F. APLIN, *INTELLECTUAL PROPERTY: PATENTS, COPYRIGHTS, TRADE MARKS AND ALLIED RIGHTS*, at 144-145 (Sweet & Maxwell, 2010).

15 See Justin Hughes, *The Philosophy of Intellectual Property*, 77 Georgetown Law Journal 287 (1988).

time, with the increasing role of knowledge products in social and economic development, intellectual property rights are also derived as a market signal for market players to carry out investment and merger activities in the process of market competition.¹⁶ The same is true for the registration of data intellectual property rights, where the registered data property will have a clearer ownership of rights and a clearer transaction value in the corresponding market competition activities, and will further present a signal market function, becoming the object of competition between market players.¹⁷ Meanwhile, it is undeniable that, driven by the interests of market signals, the intellectual property registration mechanism is bound to have a huge risk of being improperly exploited by market speculators. For example, in the operation of the trademark system, there are malicious trademark registrations that are not for the purpose of use. In the operation of the patent system, there exists a phenomenon of ‘patent thickets’ in which rights are stacked and intertwined with each other, and even ‘patent trolls’ who initiate indiscriminate litigation on the basis of patent registration. The registration of data intellectual property rights is also not immune. Once the signals of the intellectual property market are alienated, it will inevitably form a ‘data swamp’ in which the rights of many subjects are intertwined and mutually restricted.¹⁸ However, it must also be noted that there are two sides to any regulation and system, and the intellectual property registration mechanism is unparalleled. Although the side effects of market signals are inevitable, the positive effects of them are even greater. Therefore, in the legitimacy of data intellectual property registration, it is not possible to negate the signal utility of promoting the data circulation market with a relatively small negative impact, but should refer to the current intellectual property rules to circumvent it through corresponding rights restrictions and regulatory mechanisms in the specific system construction and implementation process.

III. THE OPTIMIZATION STRATEGY OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA FROM THE DIMENSION OF SUBSTANTIVE RULES

After clarifying the question of why data intellectual property registration can be carried out from the theoretical level, it is necessary to

16 See Clarisa Long, *Patent Signals*, 69 University of Chicago Law Review 625 (2002).

17 See Shao Honghong, *Function Orientation, Mode Selection, and Institutional Improvement of Data Property Registration: A Perspective from Signaling Theory*, 3 Intellectual Property 54 (2024).

18 See Zhou Hanhua, *Misconceptions About the Confirmation of Data Rights*, 2 Chinese Journal of Law 10 (2023).

further respond to the question of how to carry out data intellectual property registration, in which the two most critical substantive questions are how to scientifically set the content of registration, and how to effectively determine the registration result? Specifically, in terms of content, it is necessary to reasonably define the basic scope of data intellectual property registration by clarifying the objects and main types of data intellectual property rights. And in terms of results, it is necessary to limit the legal validity of data intellectual property registration, by clarifying the validity of data intellectual property registration and the scope of its impact.

A. Definition of the Basic Scope of Data Intellectual Property Registration

Data intellectual property registration is an important path for data property registration based on the intellectual property system. However, the existing intellectual property registration system is not fully suitable for data property.¹⁹ Therefore, it is not possible to directly apply the existing rules in the fields of works, inventions and trademarks to carry out data intellectual property registration, but to define the basic scope of data intellectual property registration starting from the basic principles of intellectual property registration.

1. The Objects of Data Intellectual Property Registration. — Generally speaking, data is considered to be a carrier of information, stored in the form of a digital code, which can be read and processed by a specific program algorithm. For example, the International Organization for Standardization (ISO) defines data as a form of transformation of information that facilitates communication and interpretation, and the *Data Security Law of the People's Republic of China* defines data as ‘any record of information by electronic or other means’. In other words, data can essentially be an objective and real digital form of information resources perceived by humans or machines, which carries information, but it changes the external state of information, and exists in a digital form that can be transmitted and processed online.²⁰

On this basis, it should be further clarified what kind of data can be registered for intellectual property rights. That is, the eligibility requirements of the objects of data intellectual property registration. The relevant regulations for the registration of data intellectual property rights in Beijing,

19 See Liu Xin, *On Theoretical Proof and Normative Construction for Intellectual Property Protection of Enterprise Data*, 2 China Law Review 38 (2023).

20 See Liu Wenjie, *On Legal Expression of Data Rights*, 3 Chinese Journal of Law 37 (2023).

Zhejiang, Shandong, Tianjin, Jiangsu, Anhui, Hainan, Shaanxi, Shanxi, Hubei, Hebei and other localities have made similar provisions on the eligibility of the object of registration, that is, the collection of processed data with practical value in accordance with the law. It is no coincidence that this situation occurs, and all local normative documents define the object of registration based on the basic characteristics of data property. Therefore, combined with the specific provisions of the local regulations, the eligibility requirements of the object of data intellectual property registration can be summarized into four categories: collectivity, legality, derivativity, and utility, which will be described in detail below.

Firstly, collectivity requires that the object of data intellectual property registration should be a collection of data, rather than metadata carrying intelligent algorithms, or single data that only contains personal information and commercial information that is transmitted in one direction and presented statically.²¹ The reason for this limitation is that the property value of the data is reflected in the comprehensiveness of its contents. The metadata that carries the intelligent algorithm is essentially a presentation of technical information, which should be protected in the form of patents or technical secrets. The single data that only contains personal information or business information should fall within the scope of personal information protection or trade secret protection. Secondly, legitimacy is a legal source requirement for the collection of data included in the scope of intellectual property registration. Data handlers shall collect data content on the basis of legal provisions or contractual agreements, and should not conflict with prior rights.²² Once the data is flawed at the source level, involving illegal acquisition, or infringement of prior personal information and intellectual property rights, it will inevitably have a serious impact on the validity of data intellectual property registration. Thirdly, derivativity is a further requirement to distinguish the content of the relevant data collection from the original data on the basis of legality. This also means that the data collection that meets the requirements for data intellectual property registration needs to go through a certain amount of processing, that is, after the data processor legally obtains the data, it must further pay the intellectual labor investment, such as filtering, refining, integrating and so on, in order to meet

21 See Kong Xiangjun, *Commercial Data Rights: A New Type of Industrial Property Rights in the Digital Age—The Affiliation of Industrial Property Rights and the Three Principles of the Ownership Definition*, 1 *Journal of Comparative Law* 83 (2022).

22 See Wu Handong, *Legislative Options for the Entitlement of Data Property*, 4 *Science of Law (Journal of Northwest University of Political Science and Law)* 44 (2023).

the conditions for data intellectual property registration.²³ Finally, utility is similar to the criterion of utility in patent registration, requiring that the object of data intellectual property registration be of practical value and capable of generating social welfare.

In addition, the data collection that is the object of the intellectual property registration should be disclosed. In practice, the disclosure of data collections often leads to ‘free-rider’ behavior. In order to avoid this situation, in the relevant regulations for the registration of data intellectual property rights, Beijing, Zhejiang, Shandong, Tianjin, Jiangsu, Anhui, Hainan, Shaanxi, Shanxi, Hubei, Hebei and other localities set the object of registration as data collections in an undisclosed state. However, this legislative model will inevitably lead to the ambiguity of the object of registration, which is not in line with the principle of publicity and credibility of property rights registration, and at the same time, it cannot enable the public to understand relevant knowledge, that is contrary to the intellectual property contract mechanism of exchanging ‘content disclosure’ for ‘right exclusivity’, and cannot give full play to the social public welfare effect of data intellectual property registration. Moreover, under the current intellectual property system, the existing trade secret system can provide sufficient legal protection to data collections in the undisclosed state, and there is no need to register them. On the contrary, in terms of the data collections in the disclosed state, except that those that meet the requirements of originality can obtain copyright registration, there is no special property rights setting, which should be determined by the corresponding registration mechanism, so as to form a relatively complete data intellectual property protection framework.²⁴

2. The Right Types of Data Intellectual Property Registration. — Based on the complex process of data collection generation and multiple participants, it is necessary to further clarify the types of rights in data intellectual property registration after straightening out the object of data intellectual property registration. Taking patent rights as an example, there are different types of rights, such as the right to manufacture, the right to use, the right to sell, the right to import and so on, which not only enables the patent right to be fully displayed, but also enables the right holders to know the specific rights they own on their patents. However, for data intellectual

23 See Feng Xiaqing, *Commercial Data Protection from the Perspective of Intellectual Property Rights*, 5 *Journal of Comparative Law* 31 (2022).

24 See Cui Guobin, *The Globalization of Extraterritorial Jurisdiction of Data Legislation and Chinese Countermeasures*, 4 *Intellectual Property* 18 (2022).

property rights, there is no systematic setting of rights types. Although the Opinions provide legal solutions for the right to hold data resources, the right to process and use data, and the right to operate data products according to the characteristics of data operation, it is still inconclusive how to transform them into legal expressions under the framework of intellectual property rights, which makes it difficult for relevant entities to fully anticipate the legal effects of data intellectual property registration, and restricts the orderly implementation of the data intellectual property registration mechanism.

In order to make the institutional arrangements of data property rights reasonably connected with the intellectual property registration mechanism, it is advisable to refer to the model of setting the types of rights in the intellectual property system, and simplify the three rights in the data intellectual property system to the right to hold, the right to use, and the right to operate the data collection. The reason why this relatively simplified system design is carried out is that under the requirements of collectivity, legality, derivativity, and utility of the object of data intellectual property registration, the data resources formed after preliminary processing are not the original data collected directly, and the data products are only further optimized and integrated on the basis of data resources. There is no clear dividing line between data resources and data products, both of which are represented by data collections. In fact, in the context of intellectual property registration, the relationship between a data resource and a data product is like the relationship between an original work that has been created for the first time and a derivative work that has been recreated on the basis of original work. Under the copyright system, a derivative work is adapted or translated from the original work created for the first time, and the derivative work generated by re-creation acts such as adaptation and translation will also become the original work of the new derivative work in subsequent creations. The same is true for preliminarily processed data resources and developed data products. The data products are processed based on data resources, and the data products generated by processing will also become data resources for new products.²⁵ Therefore, a more operational institutional arrangement is undoubtedly based on the data collections, which is the basic manifestation of data resources and data products, to carry out the registration of data intellectual property rights, and to give the corresponding data processors the right to hold, use and operate the data collections.

In addition, there is another issue that needs special attention, that is,

25 See Xu Jiujia, *Classification and Hierarchical Implementation of Data Property Rights from the Perspective of Benefit Balance*, 2 Science of Law (Journal of Northwest University of Political Science and Law) 67 (2023).

whether the requirements of the Opinions for the hierarchical confirmation and authorization of public data, enterprise data, and personal data should be implemented in the process of setting up the rights of data intellectual property registration, so that public data, enterprise data, and personal data can complete the registration of intellectual property rights in a standardized system that fully meets their own operational requirements. It must be recognized that the classification of data intellectual property registration is the best option, but it is also an idealized system design, which is difficult to achieve in practice. This is because in most cases, the data collection that can be included in the scope of intellectual property registration does not only contain a single data type, but is often a hybrid combination of public data, enterprise data, and personal data, and it is impossible to completely separate the three types, and even if it can be barely distinguished, it will have a great impact on the property attributes and value of the data collection. Therefore, it is advisable to take the registration mechanism as the basic rule for the protection of data intellectual property rights, and not to set up a differentiated system for classification. Based on the registration mechanism, we can shape the rules for classification in the subsequent implementation and restriction of data intellectual property rights combined with the different characteristics of public data, enterprise data, and personal data.²⁶

B. Limitation of the Legal Validity of Data Intellectual Property Registration

Generally speaking, the public certificate is the basic validity of property rights registration, and the validity of avoiding disputes and promoting transactions is derived from this. Data intellectual property is no exception. The probative effect of registration will further have the positive effect of avoiding data disputes and promoting data circulation.²⁷ However, in addition to the basic validity of public certificate, different methods of limiting the validity of registration often lead to differences in the specific effect of data intellectual property protection and circulation, and present different legal effects in the implementation of the registration mechanism. Therefore, in order to further rationalize the legal validity of data intellectual property registration, it is necessary to start the validity limitation from the two levels

26 See Liu Xin, *The Rationale and Approach of Data Intellectual Property Legislation in the Big Data Era*, 11 Intellectual Property 42 (2023).

27 See Hao Siyang, *Institutional Options for Data Assets from the Perspective of Intellectual Property*, 9 Intellectual Property 45 (2019).

of determining mode and impacting scope, so as to effectively determine the legal validity of data intellectual property registration.

1. The Determining Model of the Validity of Data Intellectual Property Registration. — The determining model of the validity of intellectual property registration is essentially caused by the role of the registration mechanism in the process of obtaining rights. For example, in the field of literature and art, the copyright of a work is automatically acquired, and copyright registration only has the effect of basic proof, which cannot affect the validity of the right. However, in the industrial field, due to the high probability of similarity of technical functions and commercial marks, patent rights and trademark rights adopt the system approach of confirmation of rights registration in order to avoid the dilemma of overlapping and conflicting rights, which means that inventions and trademarks can only be granted property rights after a series of examination procedures.²⁸ Therefore, it is possible to further summarize the two modes of determining the validity of the existing registration of rights in the intellectual property system, which are the registration of the validity of certification and the registration of the validity of confirmation.

On this basis, the determination of the legal validity of data intellectual property registration also presents the problem of choosing the mode of the registration of the validity of certification or the registration of the validity of confirmation. Based on the similarity between the data collection as the object of intellectual property registration and the compilation work in terms of its essential attributes, the registration of the validity of certification, which is the same as the copyright registration, is often considered to be the most appropriate mode of validity determination. Moreover, from a practical point of view, with the continuous improvement of emerging digital technologies, the value of data elements has increased rapidly, and has gradually become the core element that plays a decisive role in industrial applications. The relatively simple registration of the validity of certification is undoubtedly more acceptable to data processors in the market. However, the mode of registration of the validity of certification will inevitably lead to the registration of data intellectual property rights as a mere formality, and cannot truly achieve the legal effect of clarifying and legalizing data intellectual property rights. From the perspective of the long-term development of the data intellectual property trading market, the registration of the validity of confirmation with the effect of publicity and credibility may

28 See LI CHEN, KEYWORDS IN INTELLECTUAL PROPERTY LAW, at 7 (Law Press • China, 2006).

be the better mode choice.²⁹ Specifically, in the mode of the registration of the validity of confirmation, all the data intellectual property rights of the data processor for the data collection are confirmed and obtained through registration. This means that only after the registration of data intellectual property rights can the data processor have the exclusive right to hold, use and operate the corresponding data collection. While, in the mode of the registration of the validity of certification, registration is only a form of proof that data processors can freely choose, and the failure to register does not affect their holding of intellectual property rights in the corresponding data collections. In this way, in order to confirm the intellectual property rights of data collections, it is necessary to determine a time node for the generation of rights outside the registration mechanism. For example, in the copyright system that adopts the mode of the registration of the validity of certification, based on the characteristics of the idea expressed by the work itself, the principle of automatic acquisition is adopted, that is, copyright protection is automatically obtained after the creation of a qualified work is completed. However, for data intellectual property rights, if the principle of automatic protection is also adopted, it will inevitably cause serious uncertainty in the boundary scope of data collection. Moreover, data collection is often used in the business field, and the ambiguity of the object will further hinder the corresponding intellectual property trading activities. In addition, the public disclosure of the content of the data collection can undoubtedly become a requirement for the confirmation of data intellectual property rights, but in fact, the legal effect achieved by it is the same as the mode of the registration of the validity of confirmation. The only difference is that such an approach would separate the disclosure mechanism from the registration process, and it would still be necessary to design other norms outside the registration system to ensure the adequacy of the disclosure of the content of the data collection, which will greatly increase the difficulty of implementing the system.

To sum up, for the determination of the validity of data intellectual property registration, the registration mechanism should be used to realize the confirmation of data intellectual property rights. At the same time, the protection of unregistered data collections that have not been confirmed by intellectual property rights cannot be ignored. In this regard, it is advisable to refer to the basic structure of the current trademark law, which grants the exclusive right to the registered trademarks, while the rights and interests of unregistered trademarks are protected by the anti-unfair competition law. We

29 See Tang Zhenyou, *Institutional Logic and Improvement of Data Intellectual Property Registration*, 3 Intellectual Property 34 (2024).

should give intellectual property rights to the data collections that have been registered, so that the right holder has the exclusive right to hold, use and operate those collections, and hands over the unregistered data collections to the anti-unfair competition law for protection.³⁰ In addition, it is also necessary to pay attention to the content attachment characteristics of data use, and refer to the registration model of movable property floating charge to carry out dynamic data intellectual property registration on the basis of the objects of floating changes within a certain range, so as to effectively deal with the emergence of massive rights caused by the continuous update of data collections under the data intellectual property registration.³¹

2. The Impacting Scope of the Validity of Data Intellectual Property Registration. — The temporal and territorial scope is the main content of the discussion on the impacting scope of the validity of data intellectual property registration. Different from traditional tangible property rights, intangible intellectual property rights are limited in time and space on the basis of exclusive validity, and the scope of validity shows two characteristics: temporality and territoriality. As an emerging object of intellectual property registration, data cannot be separated from the limitation of the scope of validity of time and space, but the specific degree of impact of the temporal and territorial scope must be specially set according to the unique attributes and operation rules of the data elements, so as to effectively determine the scope of the validity of data intellectual property registration.

At the level of temporal scope, the legal validity of data intellectual property registration is not permanent, but limited by a certain period of time. This is because all intangible objects, including data, cannot take the material existence of the object as the premise of the perpetuation of property rights, and take the loss and damage of the object as the signal of the extinction of property rights. The intangible objects can only rely on legal provisions to limit the validity period of property rights. Moreover, from the perspective of ensuring the public interest of society such as access to knowledge and information dissemination, it is categorically not allowed that these rights on the intangible objects will always be in validity.³² Within the framework of the current intellectual property system, all property rights are set for a validity period without exception, but the length of the

30 See Huang Hui, *The Effective Protection of Unregistered Trademarks by Anti-Unfair Competition Law and Its System Remodeling*, 5 China Legal Science 83 (2022).

31 See Xiong Bingwan & He Juan, *Theory, Methodology and Economic Implications of the Delineation of Data Property Rights*, 3 Chinese Journal of Law 54 (2023).

32 See ZHENG CHENGSI, ON INTELLECTUAL PROPERTY, at 88 (Law Press • China, 1998).

term and the calculation method are different. The data intellectual property rights are no exception, and must be limited for a certain period of time. On this basis, a new question arises, that is, how to set the specific time limit for the registration of data intellectual property rights. Among the existing precedents of registration of the validity of confirmation, the statute of limitations for patent rights and trademark rights is calculated in different ways, in which the validity of patent rights is calculated from the date of application for registration, and the protection period of 20 years, 10 years and 15 years is set for the three types of registered objects of invention, utility model and design. Trademark rights are valid for a period of 10 years from the date of registration and can be renewed before expiration. Based on the nature of the fact that most of the objects of data intellectual property registration are commercial use, the statute of limitations for trademark registration is undoubtedly more valuable for reference. Specifically, we should calculate the term of protection from the time of registration of the data intellectual property rights, and allow the right holder to apply for renewal before the expiration of the term of protection according to the actual operation status of the data collection. However, in the setting of the term of protection, it is not appropriate to directly refer to the 10-year term of trademark rights, and it is also necessary to further shorten the basic term of protection to 3 years in combination with the characteristics of rapid update and continuous accumulation of content in the operation of data collection, so as to realize the orderly determination of the protection period of data intellectual property rights with a short-term and multi-frequency registration structure.

At the level of territorial scope, the legal validity of data intellectual property registration is also limited by geographical boundaries. Fundamentally, this situation arises because data, as an immaterial object, cannot be presumed to be valid based on the substantial occupation of the material object like ownership, and it needs to be recognized and protected by the law of any country or region before it can have the corresponding legal effect. In the current situation of implementing data intellectual property registration on a pilot basis at the local level, the validity of data intellectual property registration carried out by each locality in accordance with its own local documents is often limited to its own geographical scope. Meanwhile, it must be recognized that under the current mode of registration of the validity of certification in various localities, geographical boundaries do not have a greater impact on the proof effect of registration. Just like copyright registration, although China has not yet formed a unified national registration

system, it does not affect the effective play of its role as a public certificate, but it cannot avoid the repeated registration of the same content and the complex and changeable practical risks of rights transactions.³³ However, on this basis, if we want to further promote the registration of data intellectual property rights confirmation, we will inevitably face the problem of mutual recognition of the validity of registrations made in different localities. In this regard, the best solution is to build an integrated data intellectual property registration framework nationwide on the basis of fully summarizing the operation experience of the pilot samples of data intellectual property registration in various localities, and ensure the orderly operation of the registration mechanism with systematic procedure design. In addition, while realizing the rational construction of the data intellectual property registration mechanism, China should also seize the opportunity of the times, actively put forward the China Plan for data intellectual property registration in the global governance of intellectual property rights, strengthen cooperation with other countries in related fields, and promote the internationalization of the data intellectual property registration system in the form of bilateral and multilateral intellectual property agreements.³⁴

IV. THE OPTIMIZATION STRATEGY OF DATA INTELLECTUAL PROPERTY REGISTRATION IN CHINA FROM THE DIMENSION OF PROCEDURAL RULES

In order to effectively implement the registration mechanism of data intellectual property rights, it is far from enough to scientifically set the registration content and effectively determine the registration results in the substantive rules. It is also necessary to start from the procedural rules. On the one hand, we should design general procedural specifications around the examination of rights application and rights invalidation by referring to the current intellectual property registration models such as copyright registration, patent registration, trademark registration, etc. On the other hand, we should further set up supporting procedural specifications such as open licensing and trust management linked to the registration of data intellectual property rights in light of the practical needs of data operation.

33 See Lv Bingbin, *A Third Alternative to Copyright Registration Renovation: Copyright Registration for the Purpose of Exchange*, 5 *Journal of Comparative Law* 170 (2017).

34 See Ma Yide, *The Construction of the Powerful Country with Intellectual Property Rights and the Great Changes in Global Governance*, 10 *Intellectual Property* 41 (2021).

A. General Procedures for the Registration of Data Intellectual Property Rights

In order to promote the effective development of data intellectual property registration activities and fully implement the validity of data rights confirmation in the intellectual property registration mechanism, it is necessary to establish registration procedures that run through the entire life cycle of data intellectual property rights from the generation to the elimination of rights. We should not only clarify the procedural requirements for the examination of data intellectual property applications, but also straighten out the procedural approach for the examination of data intellectual property invalidations, and then form a full-chain procedural framework for data intellectual property registration through the organic connection of procedural specifications in different fields.

1. The Procedures for Examining the Application of Data Intellectual Property Rights. — In the procedural design of data intellectual property registration, the application examination of registration is the most basic procedural link, which directly determines whether the data intellectual property rights are established or not, and whether the corresponding validity of confirmation is produced. Specifically, the procedural requirements that need to be determined in the process of applying for data intellectual property rights mainly involve the following aspects, namely, who should apply for and who should examine the registration of data intellectual property rights, as well as what content should be examined in the application for data intellectual property registration and how to examine the relevant contents.

From the perspective of the operational needs of the procedures for data intellectual property registration, the first thing that should be clarified is who to apply for and who will examine the registration of data intellectual property rights, that is, how to carry out the reasonable establishment of specialized institutions for the examination of data intellectual property registration applications. In terms of the intellectual property administration system, China has experienced a development process from separate management to relatively centralized management.³⁵ At present, in addition to the relatively special administrative authorities for copyright and plant variety rights, most of the rights such as patent rights, trademark rights, geographical indication rights, and integrated circuit layout design rights are managed by the national intellectual property authority, and the corresponding intellectual

35 See Yi Jiming, *The Construction of a Unified Administrative Governance of Intellectual Property in China*, 6 Tsinghua University Law Journal 137 (2015).

property registration work is also undertaken by special agencies within the national intellectual property authority. Based on the current increasingly centralized and unified intellectual property management system, it is undoubtedly a more appropriate model for the national intellectual property authority to be responsible for the management of data intellectual property rights. Correspondingly, the data intellectual property registration should also be led by the national intellectual property authority, the establishment of specific institutions may refer to the current intellectual property registration models such as patent rights and trademark rights, and a special examination department for data intellectual property registration should be set up within the national intellectual property authority. Meanwhile, professional full-time examiners shall make an administrative decision on whether to grant data intellectual property rights to the accepted applications.

On this basis, the specific examination of the application for registration of data intellectual property rights by the national intellectual property authority shall be carried out step by step in a certain order. The first thing that needs to be examined is whether the documents and materials of the application for registration of data intellectual property rights are complete, and whether the subject submitting the application is a qualified data processor. The subsequent issue of examination is the eligibility of the object of the registration of data intellectual property rights, including the adequacy of the disclosure of the content of the data collection, the degree of ethical danger of the content of the data collection, and the legal judgment based on collectivity, legality, derivativity and utility.³⁶ If the data collection of the submitted application can pass the whole process of examination, the data intellectual property registration shall be granted, otherwise it shall be rejected. In addition, considering the short-term system design of data intellectual property registration and the cost control of the operation of the procedure, it is not appropriate to adopt a strict substantive examination model similar to that of invention patents for the examination of relevant applications. Meanwhile, the efficient development of data intellectual property registration should be promoted through a quick and simple form of examination, and the defects in the application examination should be handled by subsequent invalidation procedures.

2. The Procedures for Examining the Invalidation of Data Intellectual Property Rights. — In the procedural design of data intellectual property registration, the invalidation examination is a *post-facto* remedy for

36 See Liu Xin, *Institutional Reconstruction of Ethical Examination in Patent Authorization*, 3 Law Review 89 (2023).

registration errors, which provides a necessary procedural guarantee for the validity of confirmation of data intellectual property registration. Similar to the application examination procedure for data intellectual property registration, it is also necessary to address issues such as whom to file objections to and how to make a decision on the invalidation of data intellectual property rights in the arrangement of the invalidation examination procedure.

In fact, the invalidation examination of data intellectual property registration is a denial of the result of the application examination, so the establishment of the institution for determining the validity should also correspond to the application examination procedure, and be carried out by the special internal department of the national intellectual property authority. Just like the procedure for the handling of patent and trademark invalidation cases, a data intellectual property reexamination committee should be established to judge the invalidity objection of data intellectual property registration and make an administrative decision on whether the corresponding data intellectual property is invalid. In addition, there is another issue that needs special attention, that is, whether the judicial authorities can be allowed to directly adjudicate on the invalidation defense of data intellectual property registration in the trial of the case, and form a ‘dual-track’ intellectual property invalidation handling mechanism of administrative and judicial systems, so as to change the current *status quo* of civil and commercial circular litigation in intellectual property cases caused by a single administrative right confirmation procedure. No denying that there is a certain risk in rashly initiating a judicial determination of an objection to invalidation in the procedure of data intellectual property registration, and there will inevitably be many problems of mechanism coordination in the subsequent operation of the system. However, at the same time, it must also be recognized that as an emerging legislative option, the attempt of the ‘dual-track system’ of administrative and judicial invalidation of data intellectual property rights is undoubtedly the least resistant and more suitable for practical exploration.

On this basis, it is not appropriate to strictly restrict the subject of the objection to the invalidation of the registration of data intellectual property rights, and any stakeholder should be allowed to raise an objection to the invalidation of the data intellectual property rights within the term of protection of the data intellectual property rights. The grounds for invalidation are based on the authorization requirements set in the application examination procedure, which also include the adequacy of the disclosure

of the content of the data collection, the degree of ethical danger of the content of the data collection, and the legal judgment based on collectivity, legality, derivativity and utility. After the relevant invalidation objection is examined, if there is indeed invalidity, the corresponding data intellectual property rights will be declared invalid. If there is no invalidity, the objection to invalidity shall be rejected. In addition, in order to further promote stakeholders' objections to the invalidation of intellectual property rights of registered data collections and improve the validity of confirmation of data intellectual property registration, it is also necessary to try to introduce a regularly updated dynamic disclosure mechanism under the content disclosure requirements of data intellectual property registration, and include the use methods and implementation scenarios of relevant data collections into the scope of disclosure, so that the public can more clearly understand the specific operation status of the registered data collection, and at the same time, it is convenient for stakeholders to make invalidation objections.³⁷

B. Supporting Procedures for the Registration of Data Intellectual Property Rights

In order to further give play to the positive role of data intellectual property registration, reduce the abnormal abuse of data intellectual property rights under the registration path, and promote the transaction and circulation of data intellectual property rights, a series of supporting procedural specifications, including open licensing and trust management, should be set up in addition to the general registration procedures for data intellectual property rights. At the same time, we should make full use of emerging technologies such as blockchain to effectively link the relevant supporting procedures with the general procedures of data intellectual property registration in the operation of specific mechanisms.

1. The Open Licensing Procedure Linked to the Registration of Data Intellectual Property Rights. — Open licensing of intellectual property rights is a special licensing mechanism for rights holders to grant equitable licenses to others for their authorized intellectual products. Under the current intellectual property system, the open licensing mechanism is the most common in the patent system, which establishes the basic procedural structure of 'right holder declaration + implementer notification' based on the public registration of patent rights. The open licensing mechanism enables

37 See Jeanne C. Fromer, *Dynamic Patent Disclosure*, 69 Vanderbilt Law Review 1715 (2016).

the dormant patented technologies formed by market players participating in the ‘patent competition’, as well as the patented technologies developed by universities and scientific research institutions, to obtain a convenient path for transformation and application. There will also exist fierce competition for rights on specific data collection in the process of the general procedure of data intellectual property registration. Meanwhile, a large number of dormant data collections will emerge similar to the patent grant process. In this regard, it is necessary to carry out a special procedure involving the open licensing of data intellectual property rights on the basis of the disclosure content of the registration, so as to reduce the waste of resources and improve the circulation of data intellectual property rights.

Specifically, in the procedural arrangement of ‘right holder declaration + implementer notification’ for data intellectual property open licensing, the first thing that needs to be clarified is the method and effect of the proposal and withdrawal of right holder’s declaration. This is because the ability of a specific data collection to enter the scope of open licensing after it has been granted intellectual property rights through the general registration procedure depends on whether the right holder has made a corresponding declaration and whether the declaration has been withdrawn.³⁸ In practice, an open license declaration can be submitted at the same time as the application for registration of the data intellectual property right, or at any time during the existence of the data intellectual property after the registration is completed. At the same time, without prejudice to the validity of the prior license, the declaration of an open license may be withdrawn at any time after the declaration has been made and before the expiration of the data intellectual property rights. Although the proposal and withdrawal of the open license declarations are the independent choices of the right holders based on the operation status of their own data intellectual property rights, they must be submitted in writing and announced by the national intellectual property authority. On this basis, the operation of the open license of data intellectual property rights also requires the implementer to complete the corresponding notification and filing procedures, which means if an implementer wants to implement the open license of the data collection, the implementer shall notify the right holder in writing and file it with the national intellectual property authority. What is more, there is another key issue that cannot be ignored, that is, the specific process of payment methods and standards for open licensing fees for data intellectual property rights must be clarified in

38 See Fang Shaokun & Zhou Minmin, *The Properties, Examination and Validity of Patent Open License Declaration*, 1 Northern Legal Science 131 (2023).

the corresponding implementation rules.³⁹ Only in this way can the orderly operation of the ‘right holder declaration + implementer notification’ procedure for open licensing of data intellectual property rights be realized.

Furthermore, from the perspective of the actual operation of open licensing of data intellectual property rights, connecting the open licensing procedure with the publicity system of data intellectual property registration undoubtedly is the most convenient way for the national intellectual property authority to make the announcement of the open licensing of data intellectual property rights and the filing of the use of data intellectual property rights. The national intellectual property authority can directly add the information presentation of open licenses in the data collection disclosure link under the registration system. In addition, it should be noted that the Creative Commons (CC) and Open Data Commons (ODC) licenses are also valuable for the procedure setting of open licenses for data intellectual property rights. Lots of the formatting specifications in the CC and ODC can be introduced into the procedural framework of relevant open licenses, and promote a more systematic procedure for open licensing of data intellectual property rights.⁴⁰

2. The Trust Management Procedure Linked to the Registration of Data Intellectual Property Rights. — The trust management of intellectual property rights is an operation mode in which the right holders entrust professional trust institutions to operate and manage their intellectual property rights in the form of trust, which not only greatly reduces the management responsibilities of the right holders, but also makes the transaction channels of intellectual property rights more diversified. For example, collective management in the copyright system is a typical intellectual property trust management, which handles matters such as the transfer of copyright royalties, litigation and arbitration involving copyright infringement under the entrustment of the copyright owner. For data intellectual property rights, it is also necessary to set up procedures for trust management. The introduction of a special trust management mechanism on the basis of the general procedures for the registration of data intellectual property rights can not only enable data processors, who have been approved for intellectual property registration, no longer to be limited by their own business scope and fully transform relevant data intellectual property rights, but also can greatly dissolve the trust barriers in the process of data intellectual property circulation, and ensure the

39 See Liu Qiang, *A Study on the Determination of Patent Open License Royalties*, 7 Intellectual Property 3 (2021).

40 See Wang Shu, Wang Dan & Song Xiaodan, *Study on Intellectual Property Protecting and Licensing Mechanism of Scientific Data*, 4 Library Tribune 65 (2016).

security of data intellectual property market transactions.⁴¹

Specifically, the establishment of the data intellectual property trust management procedure is a special legal arrangement that is linked to the data intellectual property registration procedure and takes the corresponding data intellectual property rights approved for registration as the objects of trust management. This also means that the trust management of data intellectual property rights is essentially the trust management of rights after registration and confirmation, and its purpose is to refer to the transaction and circulation of intellectual property rights, which is completely different from the data trust mechanism that configures the rights and obligations between the data controllers and the data subjects under the behavior regulation model.⁴² Therefore, in setting up the procedural framework for data intellectual property rights, the right holders who have been approved for data intellectual property registration should be the center, and they should choose whether to entrust a professional institution to carry out data intellectual property rights trust management. And then, there arise two major procedural issues, namely, how to set up the corresponding data intellectual property rights trust management matters and how to set up the data intellectual property rights trust management institution. At the level of setting trust management matters, we can refer to the division of responsibilities of the existing copyright collective management organizations, regard the transfer of data intellectual property licensing fees, and the handling and response of data intellectual property infringement disputes as the basic matters of trust management, and allow the right holder and the trust management institution to make additional agreements according to the value attributes and implementation scenarios of data intellectual property rights. At the level of trust management institutions, there are two models to choose from: The first is to imitate the operation mode of copyright collective management organizations, and the statutory organization will carry out exclusive trust management of data intellectual property rights in the corresponding field. The second is to break through the restrictions of exclusive trust management, allowing any legally established organization to engage in data intellectual property trust management, and giving rights holders diversified market choices. The two models have their own advantages and disadvantages in terms of the stability and efficiency

41 See Sun Ying, *Research on the Mechanism for the Ownership and Authorization of Corporate Data Rights*, 3 *Journal of Comparative Law* 56 (2023).

42 See Feng Guo & Xue Yisa, *Data Trust from 'Rights Norm Mode' to 'Behavior Control Mode': Another Way to Construct Mechanism for Protecting Data Subject's Rights*, 3 *Law Review* 70 (2020).

of the legal relationship, and they must be treated cautiously in the specific procedures and be chosen reasonably based on the operation of the data intellectual property market.

On this basis, further from the perspective of the development trend of data intellectual property registration from the current pilot samples in various localities to the subsequent national integrated promotion, it may be more appropriate to set up a statutory authority to carry out exclusive trust management of data intellectual property rights, which can not only effectively ensure the predictability of the basic model in the initial operation of data intellectual property trust management, but also reasonably avoid the risk of market failure in the diversified operation of data intellectual property trust management. At the same time, in order to reduce the transaction cost of data intellectual property rights and enhance the protection of the economic interests of rights holders, the introduction of extended data intellectual property trust management can also be considered in relevant procedures, so that specific institutions can extend the management of specific data intellectual property rights without authorization.⁴³

V. CONCLUSION

In the process of optimizing the system of data intellectual property registration, in order to enable the relevant legal structure to be put into practice and achieve the ultimate goal of confirming data intellectual property rights, it is also necessary to rationalize the normative style of data intellectual property registration from the level of expression of normative documents. In the current stage of system exploration, Beijing, Zhejiang, Shandong, Tianjin, Jiangsu, Anhui, Hainan, Shaanxi, Shanxi, Hubei, Hebei and other localities have issued local documents related to the registration of data intellectual property rights in the form of trial measures or rules. And then, the integrated promotion of data intellectual property registration should also be carried out gradually. First of all, the national intellectual property authority should clarify the basic idea of data intellectual property registration nationwide in the form of policy documents. On this basis, it is necessary to further create a unified Data Intellectual Property Registration Rule in the form of departmental rules, and even establish the Data Intellectual Property Regulation with the registration mechanism as the core chapter, just like the relevant regulations in special fields of

43 See Hu Kaizhong, *Thinking of Building China's Extended Collective Copyright Management System*, 6 Studies in Law and Business 18 (2013).

intellectual property rights such as integrated circuit layouts and new plant varieties. When the time comes, we can continue to upgrade the Regulation to a more effective law, put forward a China Plan for the protection of data intellectual property rights in the global governance of intellectual property rights, actively carry out international cooperation on the registration of data intellectual property rights, and promote the integration process of data intellectual property protection on a global scale.

(Edited by Gong Li)

中国数据知识产权登记的理论诠释与规则优化

内容提要 数据知识产权登记是当下中国基于数据财产保护动议的一项重要实践探索。从数据本身非物质性的客体属性,以及知识产权开放性的法律架构来看,数据具备作为知识产权登记对象的合理性与可行性。知识产权契约学说和信号学说则能够证成数据具备纳入知识产权登记框架的正当性。在实体性规则维度,数据知识产权登记的客体标的应当是具备实用价值与合法来源的衍生数据集合,并能够获准包括持有权、使用权、经营权在内的三个数据知识产权权项;数据知识产权登记应采取确权登记的效力认定模式,结合数据迅速更新且不断累增的特点,设置短周期、可续展期限限制,并推进全国范围数据知识产权登记一体化进程。在程序性规则维度,应围绕权利申请审查及无效审查等具体问题展开一般性的程序规范设计;同时还应在一般性程序规范的基础上,构建开放许可与信托管理等配套性程序规范。
