

Interest Balance and Application Choice of Legal Regulation Modes for Cross-border Data Flows

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ABSTRACT

In the era of digital economy, the cross-border data flow is an important foundation and inevitable trend. While the cross-border data flow can generate huge economic benefits, there are also corresponding security risks. Therefore, based on the comprehensive balance of the benefits and risks, three legal regulation modes for cross-border data flow have been formed in various countries. On the basis of interest balance of the three existing modes and the essential objectives and values of cross-border data flow, in order to better fit the current situation of data cross-border flow regulation model in China, this article explores the alternative models of data cross-border flow according to China's current data economy development and data cross-border flow legislation. This article also proposes a new mode of "free transmission plus core protection" for cross-border data flow and puts forward targeted suggestions for the application to adapt to the characteristics of different industries.

Keywords: Data cross-border flow, Economic interests, Security interests, China's application.

1. INTRODUCTION

In recent years, the rapid development of the digital economy and its huge dividends have made the cross-border data flow a must. Since the information carried by the cross-border data often involves national security, privacy, human rights and other important contents, based on different development stages and value positions, international organizations or countries have legislations for the cross-border data flow to balance the economic benefits and security risks, which can mainly be divided into three categories namely strict data localization, restriction of cross-border data flow and free transmission. They have divergent interests in regulating the cross-border data flow, creating obstacles to the data cross-border flow. These models mainly put diverse weight on the two polars of the two sides: economy benefits and the security. Due to the different weights the three models emphasis, obstacles have inevitably been created.

For the sake of the wholesome security, China adopts the data localization mode, which seems to bring certain disadvantages for the development of digital economy which ranks the top. However, the hamper of this model generated for the further

digital economy development cannot be ignored. To keep the advance position China has, it is urgent to find a superior model that contribute to the rapid digital economic development alongside the need of security. China currently has certain advantages in digital economy, ranking among the top in the world. However, for the protection of security interests, China adopts data localization model, which to a certain extent impedes rapidly developing digital economy. Therefore, it is urgent for China to find its historical position according to the real situation, and then promote the sustainable development of China's digital economy through cross-border data flow while safeguarding security interests.

2. THREE DATA TRANSFER MODES AND THEIR INTEREST CONSIDERATIONS

Economic development and the security are the key elements for the prosperity of every country. Each country adapts various practices in face of cross-border data. In the basis of the practice, three models have been emerged, namely the free transmission, data localization with strict restrictions, and the new model. The first model

tries to maximize the benefits of economy. The second one emphasizes the security while the third one combines the previous two in order to better balance the two elements.

2.1 Free Data Transfer Model

Nowadays, developed countries that are technologically strong and dominant usually advocate the free flow of data. For example, the United States proposes the free data flow by the CLOUD Act, which provides domestic law enforcement agencies with the right to access data from other countries across borders. Through dominance and influence in the field of data, those countries can force technologically disadvantaged countries to import data into dominant countries' territories, so as to gain more data resources and profit. In addition, this model better matches the purpose of many international organizations that promote trade and investment liberalization. Also, technologically powerful countries have a major voice in international organizations so what they prefer often influence the attitude of the organizations.

Countries or organizations that choose this model often sacrifice some security interests to pursue greater economic value. At the macro level, international organizations and countries can reduce the cost of cross-border data flows and circumvent data protectionism by cooperative agreements on free data transfers, thereby facilitating international trade. Allowing data to flow freely means that countries can host their data with giant global data operators who have matured technology. Owing to the rich experience in data management and better operating models, it is cheaper to use global data operators.[1]

At a micro level, business and citizens can benefit economically from the free data transfer model. For business, the free flow of data across borders ensures that they are aware of market needs in different geographies. Business can provide goods and services to target groups through online platforms correspondingly. In addition, it can reduce business costs by addressing cross-border data barriers and reducing the need for complex two-way data compliance reviews. For citizens, the free flow of data allows individuals to have comprehensive access to goods and services around the world. Citizens can enjoy low-cost goods and services due to lower export costs. If the free flow of data is restricted, the cost of the same services or goods may increase due to differences in

comparative advantage across countries, or due to data barriers and economic protectionism.[2]

However, the model poses a serious threat to security interests. The offshore companies and the control of offshore technology systems bring a serious security risk to data. For example, the free transfer of data is feared to involve basic and important information in critical areas. If such data is transferred without restriction, the national security and personal privacy in the territory will be under serious threat.

Therefore, developed countries with strong data industries and international organizations that focus on economic integration and trade liberalization tend to swing the pendulum towards economy interests.

2.2 Strict Data Localization Model

While international organizations and developed countries pursue the development benefits brought by the free transmission model, the issue of security benefits under this model cannot be ignored. To effectively protect human rights and national security, data localization model is chosen by more countries. Take the EU as an example, the EU has adopted the data rights protection model — one of the versions of localization model — which protects data rights throughout the whole stage of data collection and use. The protection of data rights by General Data Protection Regulation (GDPR) has become the gold standard for data protection. Similarly, because network security and local data protection are closely related to national security and personal privacy protection, China and other countries in the initial or preliminary stage of data technology tend to choose data localization model.[3]

Countries that choose this data transfer model tend to give priority to security interests and thus give up some economic interests. In terms of security interests, from the government level, on the one hand, internationally held data may be more susceptible to surveillance by foreign governments or unknown subjects outside countries. So without transmission restrictions on sensitive information in key areas, once the data is obtained and used maliciously, there is a great potential risk for the country. For example, DDT plays a vital role in China's transportation sector. When it went public in the U.S., it was asked to rectify the regulation by China's Internet Information Office.[4] On the other hand, Internet platform companies and

telecom operators that hold data internationally are not legally obligated to provide information to law enforcement or national security organizations. Therefore, in the process of cross-border law enforcement, data localization is more convenient for local law enforcement or national security organizations to obtain relevant data in a timely manner to effectively combat crime.

At the enterprise and individual levels, on one hand, enterprises can better protect their key information and avoid being used illegally because the enterprises are given greater power over the data by data localization model. On the other hand, data localization also becomes a form of government protection for the industry, allowing domestic disadvantaged companies to gain more room for development and gradually form an industrial advantage.

However, to some extent this model has hindered the freedom of digital trade and economic development. From the perspective of economic protectionism, there is a potential risk that data localization may violate the principle of non-discrimination or constitute data protectionism. This may restrict global trade and thus harm national economic interests. The expiration of the 2000 Safe Harbor Agreement makes all data transfers from the U.S. to the EU a violation of the EU Data Protection Directive. This violation limits relevant U.S. companies or institutions get access to necessary information that is vital to process U.S.-EU trade. In some way, the U.S. companies are excluded from the EU market. The Privacy Shield Agreement, which was invalidated following the expiration of the Safe Harbor Agreement, also imposes restrictions on U.S. access to EU data. Because the agreement set up different criteria for the U.S. and EU companies access to EU data. This created a risk of a violation to national treatment. In the U.S.-Gambling case before the WTO, the Appellate Body held that a series of U.S. measures affecting the cross-border provision of gambling services constituted zero quotas for market access commitments.[5] Restrictions on Internet gambling through the prohibition of illegal Internet Gambling Transactions Act are similar to restrictions on the development of related data industries through restrictions on data transmission. Thus restrictions on the free transmission of data across borders have the potential of economic protectionism and threaten to restrict cross-border economic trade. After being recognized as protectionism by other countries, countries will also face counter-trade

protection measures by others and thus face economic and trade losses.[6]

2.3 Restricted Cross-border Data Flow Model

The digital economy has been becoming a key element in a country's economy system. The balance between the economic benefits and security risks arising from the above two models can not be ignored. The swing of the pendulum has been the concerns for countries. The change of the regulation relating to data-flow is inevitably influenced by the stages of development. For example, the EU promulgated the Personal Data Protection Directive in 1995. It strictly restricted the cross-border flow of personal data. However, in 2018, the GDPR was promulgated by the EU, which stimulated the principle of adequate protection for the cross-border flow of personal data and makes appropriate relaxation for data localization. While supporting the free flow of data across borders, the U.S. also took privacy into consideration and led a group of economies in announcing a system of "global cross-border privacy rules" in April 2022. Although the U.S. has vigorously promoted the free data flow among countries, more detailed regulations have been imposed regarding to what types of data can be transmitted to overseas.

The practices of EU and the U.S. well demonstrate the restricted cross-border data flow model. The first two models present the two poles of the extreme. Economic interest is on the one end and security risk is on the other. In reality, seldom countries can comply completely with the two models strictly. Along the continuums, finding the balance point becomes a necessary. The formation and abolishment of the Safe Harbor Agreement to that of Privacy Shield Agreement, and to the ongoing negotiation of the new Transatlantic Data Privacy Framework demonstrates the effort between the U.S. and the EU made in finding the right position along the pendulum. The process is clearly not straightforward because both parties have difficulty in reaching the consensus on how to protect privacy effectively. From the ongoing negotiation of the new transatlantic data privacy framework, it can be seen that both parties are making certain compromise. In a word, both completely unrestricted free data transfer and completely restricted data localization are gradually losing their dominant position while restricted cross-border data flow model will be favored.[7]

3. VALUE OBJECTIVES OF CROSS-BORDER DATA FLOWS

Based on their different development stages, international status and value orientation, different countries introduced various regulations relating to cross-border data flow, which well fit in the three models mentioned above. Since all three are interdependent and mutually influential, the conflicts brought about by different regulations need to be resolved urgently. Clarifying the value hold by different subjects and the necessity for cross-border data flow will help to explore which model is more suitable for the current international development trend.

3.1 The Core Value of Cross-border Data Flow

Data contains related information concerning individuals and the whole society. The cross-border data flow aims at sharing those valuable information to realize the overall welfare of society. So back to the data itself, its flow is initially not simply for the economic gains, or for other security interests. These are the two crucial elements but not the only ones. In order to realize the core value of cross-border data flow, international organizations and countries differ in their specific goals due to their different positions and perspectives.

To realize the core value, the means international organizations adopted is data cooperation and robust competition. Therefore, in the choice of the mode of cross-border data flow, international organizations are more inclined to economic interests. The law of competition, one of the four laws of economic development, illustrates that robust competition in the market helps create products that are better suited to market development. Hence, enhance the overall welfare of the world. For each country, economy interest and security are inseparable. Only with the safe and peaceful environment, can economy develop prosperously. Compared with organizations, countries have to take more factors into consideration.

3.2 The Reasons for Cross-border Data Flow

The cross-border data flow is inevitable because of its own characteristics, requirements for economy development and the interrelationship among countries. Firstly, the intangibility and non-

competition characters of the data ensure unrestricted access and use of data resources by unspecified people.[8] When data without nationality attributes are collected, accessed or used by foreign subjects, it constitutes cross-border data flow.

Secondly, the cross-border data flow is a prerequisite for international economic development. In terms of international economic development trend, as economic and strategic resources, data has become the core productivity of new industries and digital technology. Due to the outbreak of Covid-19, the digitalization process has accelerated. So the inevitability and importance of data flow are self-evident. In addition, once data has been analysed and used, it can generate more dividends. Therefore, the state government and even private subjects will grasp data resources as much as possible, and actively seek the data cross-border flows.

Thirdly, the cross-border data flow is an important way to strengthen international ties. In the context of globalization, interdependency has already become a reality. The cross-border data flow strengthens this. This has a significant impact on the national, regional and international thrive.

However, it is worth noting that in the trend of data cross-border flow, the risk of security interests brought by it is more in need of protection. This is because the data contains a large amount of information, involving a large number of subjects and industries. The illegal collection and use of data by subjects outside the country, the leakage of core data of domestic industries or personal privacy sensitive information will pose a serious threat to national security, personal privacy, and enterprise development. Therefore, while countries support data cross-border flow, they also need to be aware of the risk of the existence data security interests. Authorities can not completely give up the security interests for the sake of economic dividends. The harmful consequences of pursuing only economic dividends will not only affect and hinder the countries' economic development, but will even violate human rights and endanger national security.

On the whole, the pursuit of data development is not for the sake of a single economic pursuit or a single pursuit of security interests at the root. Therefore, as far as data development is concerned, extreme and pure economic pursuit mode or security interest protection mode may face the fate of being eliminated in the future. Each country or other subjects will eventually need to adjust the

mode of cross-border data flow according to the specific situation at a particular stage in order to bridge the gap between data security interests and economic interests.

4. CHINA'S CHOICE UNDER MULTIPLE DATA CROSS-BORDER FLOW PATTERNS AND INTERESTS

In the collective study on "Implementing National Big Data", the Central Political Bureau emphasized that data is a production factor and is of great significance to the development of digital economy. On the one hand, the data cross-border flow makes China's data go out. On the other hand, it also makes data from other countries come in. So that the relevant subjects in China can obtain more data resources for the development of the digital economy. Therefore, analysing the development of China's digital economy can help utilize data resources and adopt the most suitable data cross-border mode.

4.1 The Current Situation of China's Digital Economy

Benefiting from China's huge digital economy market, high-intensity support policies and the huge dividends from emerging industries, China has shown significant advantages in the scale of digital economy. According to the data, the scale of China's digital economy ranked second in the world in 2020, approaching 54,000 USD, with a year-on-year growth rate of 9.6%, ranking first in the world.[9] But on the other hand, according to the report released by the World Economic Forum in 2016, China's digital economy development index ranked low in the world. China's network readiness, an indicator that reflects the development of the digital economy, ranked 59th in the world, much lower than Singapore, Finland and other countries. The phenomenon, with large scale of market but low rank developmental index, indicates the uneven developmental level problems among domestic regions. Therefore, there is still huge room for advancement in China's digital economy.[10]

In terms of industrial digitalization, China's secondary industry, such as industrial manufacturing industry, is developing rapidly and the "Internet plus" model is widely and deeply applied. However, the digitalization process of the primary industry lags far behind the rest of the

countries. For example, digital technology has been used in livestock breed research and development, refined planting and efficient processing. But China's livestock industry has a low degree of digital participation in the whole process. This industry has not yet used digital technology to produce superior varieties of agricultural products, and has more human input in planting and processing, leading to livestock industry that is more vulnerable to the severe limitations of both traditional and digital trade barriers. Such backward phenomenon puts China in a disadvantaged position in global competitions. To solve the problem, China should make full use of its own data resources. At the same time, on the premise of ensuring data security, China should seek more access to overseas data resources through the flow of data, as to develop the digital economy and expand its global influence.

For digital infrastructure optimization and digital economy technologies, some supportive policies, such as accelerating the construction and popularization of infrastructure, increasing Internet usage and penetration, strengthening network-to-home technology, have been put forward and partly being effectively carried out in the territory. This helps bridge the gap in network development between domestic cities and towns. The achievements in infrastructure construction not only set a solid foundation for China digital economy development, but also enable China to gain capabilities that can support the cross-border data flow and protect the interests of the country.

However, the weak points concerning to digital economy development exist in the areas such as accumulation of original technology and hardware and material equipment. This weakness does not just appear in the field of digital economy. For a long time, China is located in the middle even low end of the global value chain. The work China engaged in is mostly those basic raw material processing. As far as core technology subject concerns, it is imminent for China to enhance its global status in value chain. In the visible future, the priority should be given to the chip industry chain, operating systems, engineering software and material technology. All in all, in order to promote the data cross-border flow, China should attach great importance to the construction of infrastructure, and strengthen the ability to ensure data security and the development of core technology, so as to broaden the space for industrial development, both traditionally and digitally.

4.2 China's Data Transmission Mode Selection

Based on China's legislation in recent years, the Personal Information Protection Law, the Network Security Law and other acts clearly show that China has chosen data localization as the data transmission mode. These acts only set up regulations for operators and processors in critical information infrastructure and specific personal information departments. Concerning cross-border data flow, China has adopted the mode of security assessment for safer data transmission and management. Between the interests of development and security, China favors the protection of security interests to a certain extent.

In fact, based on China's current digital economy development, generally speaking, China's digital economy development process is relatively fast and has relative advantages in the international arena. China's data cross-border flow mode can gradually change from favoring data localization to favoring the data cross-border mode of "free transmission + core protection".

First of all, the development of China's digital economy has entered a mature stage. Digital industrialization and industrial digitization have formed a certain scale; especially the rapid development of China's e-commerce has become the pillar of China's digital economy. Some Internet companies with international influence have emerged one after another, such as Huawei, Alibaba and so on. Thus, China should take a positive attitude in the development of the digital economy and maintaining its international status.

Second, with the development of China's digital economy industrial technology and the gradual rise of the industry, China is also experiencing the progress and transformation. Although China's domestic digital development still exists an uneven phenomenon, but with the domestic digital infrastructure popularization and optimization degree gradually deepened, the domestic digital economy market saturation is only a matter of time. To a certain extent, such saturation can be already foreseen in the near future. Therefore, China should gradually tend to free data transmission, gain advantages through data flow, and seize international opportunities. China should, on the one hand, further expand its digital economy market and learn from experience in the process of exchange with other international countries to help China achieve a balanced domestic digital economy

development as soon as possible. On the other hand, China should consolidate its existing digital industry advantages and gradually occupy a place in the international market while maintaining its domestic digital economy development advantages.

Meanwhile, China can show its image as a great power to other countries through the adoption of a model that favors the free transmission of data in the interest of data security and then enhance China's discourse in international organizations. The adoption of the data localization model may constitute an injustice to other countries and prevent them from legally collecting and using data resources in China, which may cause targeted retaliation from other countries. On the contrary, China's digital economy development already has advantages among developing countries, and is gradually catching up with developed countries. At this time, the gradual shift to the free transmission model can better demonstrate China's great power, promote the common development among developing countries and gain their support and trust. Such a choice can also enhance China's status and voice in international organizations and better participate in the common development of the data economy.

Finally, under the tendency of data free transmission, as China has not fully mastered the core technology of specific digital industries and is still subject to some developed countries, the direct adoption or tendency of data cross-border free transmission mode will make the cross-border data face greater risks and data security interests are seriously threatened. China is supposed to protect the core data security of the country and individuals through a certain degree of data localization. At the same time, the national level protection of cross-border data will also effectively support the development of industries at a disadvantage.

In addition, adherence to the existing strict data localization does not completely eliminate risks. Data localization strengthens regulation and requires data to be stored centrally in specific areas within the country, but it cannot fundamentally prevent illegal forces outside from attacking and obtaining relevant information. It is clear that the fundamental approach to securing data is to improve the level of core technologies for data protection. Therefore, according to the current situation, the most efficient and effective cross-border data flow regulation model is to support the free flow of data while focusing on improving the strict protection technology of core data.[11]

4.3 Key Points of Regulation Under the “Free Transmission + Core Protection” Model

Nowadays, China has not proposed a clear model for cross-border data, but only stipulates that important data should be stored within the country in principle, and security assessment should be conducted when cross-border is necessary. As for the protection of data security interests, China focuses on national security and law enforcement convenience, and the existing regulations of “data cross-border security assessment” and “information hierarchy management” are both in the direction of principle, lacking clear and convenient operable regulations.[12]

Under this circumstance, China may consider adopting a new regulation of “free transmission + core protection” for cross-border data flow on the existing basis, so as to form a “Chinese solution” promoting the development of China’s digital economy.

Under the new model, the industry should first be classified according to the security protection capability and whether it covers critical information. For emerging industries that contain critical information and do not yet have data protection capabilities, China should implement a strict data localization model, because such industries often involve data related to national security, personal privacy and other critical information. Due to the slow development and weak data protection capabilities, data are more vulnerable to infringement. Once the data is illegally used, it will have a significant impact on China. Therefore, China should subsidize and protect such “core” industries and data, and support their development until the level of data protection in the industry itself reaches security standards.

For industries with a high level of data security protection and less important information in key areas, China can adopt the mode of free data transmission across the border. Through the cross-border data flow, enterprises can learn from excellent foreign technology, develop international markets and provide targeted services under the premise of ensuring data security. Eventually form healthy competition with other international companies to gain benefits and improve the enterprise and even the overall welfare of our society.

For emerging industries that do not contain critical information or industries that contain

critical information but already have a certain level of data security protection, China can be predominantly free to transmit, with restrictions on core critical data. Under the new model, the data and data security level are evaluated with “data importance” as the core. The information hierarchy management model is implemented to give strict protection to core data. For example, the auditing draft of the accounting firm involving project details is strictly prohibited from leaving the country, and the data that need to leave the country should take corresponding security measures under the new model. In the new model, we should take appropriate security measures for data that needs to be exported, such as de-identification of personal data. This can, to a certain extent, show China’s openness to other countries, express China’s willingness to cooperate and win-win, and show its great power style, while on the other hand, such data does not involve significant security interests or the level of data protection is sufficient to ensure data security interests. The free transmission of data at this time will bring more economic dividends while ensuring security benefits.

5. CONCLUSION

The cross-border data flow brings great economic benefits while also concealing great economic interest risks. After experiencing the initial more extreme strict data localization and free transmission model, countries tend to restrict the cross-border data flow and adjust their choice according to their fundamental goals and value pursuits. Based on China’s existing regulation and the current situation of digital economy, China should gradually strengthen and perfect its own capacities in the field of digital economy and strive for the advantages brought by it. China can propose a new model of “free transmission + core protection”. In this model, the industry classification has been refined according to the industry’s data security protection capability and the critical information covered. Consequently, the transmission of data has been regulated accordingly.

Most of the existing studies focus on the position of countries and international organizations and explore the model of cross-border data flow under this position. It is necessary to build a theoretical foundation based on data itself, exploring the essential objectives of cross-border data flow and analysing a more universal model of cross-border data flow. Practically, China could further clarify the industry classification rules and

core data categories in accordance with the development of data economy and specific national conditions, and establish a better system of cross-border data flow to safeguard domestic interests as well as enhance international image and influence.

AUTHORS' CONTRIBUTIONS

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