

Research on International Law Theory Issues of International Economic and Trade Transformation under the Background of Digital Economy

Shuwen Xue

*International Law, Northwest University of Political Science and Law, Xi'an, 710122, Shaanxi,
China
18049063039@163.com*

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Abstract: The vigorous development of the digital economy is profoundly reshaping the form and pattern of international trade and economy, giving rise to new types of international trade and economic relations such as cross-border data flow, digital service trade, and platform economy regulation, and posing a systematic challenge to the international economic law system centered on traditional goods trade. This article takes the core characteristics of the transformation of international trade and economy driven by the digital economy as the entry point, focuses on analyzing the core issues of international law theory that have emerged during the transformation process, such as the application predicament of the principle of national sovereignty, the expansion of the connotation of the principle of fairness and justice, and the fragmentation of international cooperation mechanisms, and explores the adjustment direction of international law theory in the field of international trade and economy in the digital economy era. Provide theoretical references for building an international economic and trade legal order that is compatible with the development of the digital economy.

1. Introduction

With the iterative upgrading of digital technologies such as big data, artificial intelligence and blockchain, the digital economy has become the core engine of global economic growth. Its share of global GDP has been continuously rising, profoundly changing the transaction models, participants and value creation methods of international economic and trade^[1]. Unlike the traditional form of international trade and economy which is centered on cross-border flow of goods, international trade and economy under the background of the digital economy presents distinct features of “de-materialization”, “platformization” and “data-driven”. Cross-border data flow has become the core production factor of international trade and economy, and digital service trade has replaced goods trade as a new growth driver. Platform enterprises are gradually becoming important influencers of international economic and trade rules. However, the current international economic and trade international law system was mainly formed in the industrial economy era, with

multilateral agreements such as the General Agreement on Tariffs and Trade and the General Agreement on Trade in Services at its core. Its rule design and theoretical basis are significantly misaligned with the development needs of the digital economy^[2]. Against this backdrop, sorting out the core manifestations of international economic and trade transformation in the context of the digital economy, analyzing the theoretical issues of international law contained therein, and exploring theoretical adjustment and development paths are of great theoretical and practical significance for promoting the international economic and trade legal order to keep pace with The Times and ensuring the orderly global development of the digital economy.

2. The core characteristics of international economic and trade transformation under the background of the digital economy

2.1 Digitalization of Trade Objects: From tangible goods to Intangible data and services

The core object of traditional international trade and economy is tangible goods, while in the context of the digital economy, intangible digital products, digital services and data itself have become the core objects of international trade and economy^[3]. On the one hand, cross-border transactions of digital products are becoming increasingly frequent. For instance, products without physical forms such as e-books, online films and TV series, and software licenses can be delivered across borders in real time through the Internet without going through the traditional customs clearance process. On the other hand, digital service trade is booming, covering multiple fields such as fintech, cross-border e-commerce services, telemedicine, and online education. The provision and consumption of services can be completed simultaneously in different countries.

Data, as the core production factor of the digital economy, its cross-border flow has become the fundamental support for international trade and economy. Whether it is the transaction of digital products or the provision of digital services, they essentially rely on the collection, storage, processing and cross-border transmission of data. The efficiency of cross-border data flow directly determines the development quality of digital trade and economy.

2.2 Platformization of transaction model: Platform enterprises dominate the global digital economic and trade network

Under the background of the digital economy, platform enterprises have become the core hubs of international trade and economy. Cross-border e-commerce platforms such as Amazon, Alibaba and eBay have connected global suppliers and consumers, breaking the intermediate links of traditional trade and enabling small and medium-sized enterprises and individual merchants to directly participate in international economic and trade activities. Digital platforms such as Google, Apple and Facebook have built a global digital service ecosystem by providing services like application distribution, advertising and marketing, and payment settlement, and have dominated the value chain distribution of digital service trade. Platform enterprises are not only intermediaries in transactions but also rule-makers. The platform transaction rules, data management rules, and dispute resolution rules they formulate directly affect the transaction behaviors of tens of millions of market entities within the platform, and even exert a “reverse push” effect on the country's economic and trade regulatory policies, becoming an indispensable new type of subject in international economic and trade relations^[4].

The core characteristics and manifestations of international economic and trade transformation under the background of the digital economy are shown in Table 1:

Table 1: Core Characteristics of International Economic and Trade Transformation under the Background of Digital Economy

Core features	Core connotation	Specific manifestations
Digitalization of trade objects	From tangible goods to intangible data and services	1. Cross-border instant delivery of digital products without the need for traditional customs clearance. 2. Digital service trade is booming, with supply and demand completed simultaneously. 3. Cross-border data flow is the fundamental support for economy and trade, and its efficiency determines the quality of digital economy and trade
Platformization of the trading model	Platform enterprises have become the core hubs of global digital trade and economy	Cross-border e-commerce platforms connect global supply and demand, breaking down the intermediate links. 2. Digital platforms build service ecosystems and lead the distribution of value chains; 3. Platform rules affect tens of millions of market entities and exert a "reverse push" effect on national supervision

3. The core issues of international law theory triggered by the transformation of international trade and economy in the context of the digital economy

3.1 The Conflict between Data Sovereignty and Trade Freedom

The principle of national sovereignty is the cornerstone of international law. In the field of international trade and economy, it is mainly reflected in the regulatory rights of each country over domestic economic and trade activities, the permanent sovereignty over natural resources, and the regulatory rights over cross-border trade. Under the background of the digital economy, data has become a core production factor, and data sovereignty has gradually become an important part of national sovereignty. The conflict between it and the trade freedom required by digital economy and trade has put the application of the principle of national sovereignty in a difficult situation.

On the one hand, based on data sovereignty, various countries have successively introduced regulatory measures for cross-border data flows to safeguard national security, public interests and citizens' rights and interests. On the other hand, there is a fundamental contradiction between the "territorial attachment" of traditional sovereignty principles and the "boundlessness" of the digital economy. The occurrence of digital economic and trade activities and the flow of data are not restricted by territorial boundaries. The services of a platform enterprise may involve users in hundreds of countries around the world. If all countries regulate it based on the principle of territorial jurisdiction, it will inevitably lead to overlapping and conflicting jurisdictions^[5].

3.2 Imbalance of Rights and Obligations under the Digital Divide

Developed countries have an absolute advantage in digital technology research and development, digital infrastructure construction, and the dominance of platform enterprises, controlling the high end of the global digital economic and trade value chain. In contrast, developing countries are in a passive and subordinate position in digital economic and trade due to reasons such as backward digital infrastructure, shortage of digital technology talents, and incomplete relevant laws and regulations^[6]. This unequal status directly leads to an imbalance in the distribution of benefits in

digital economy and trade. Developed countries have reaped the vast majority of the benefits in digital economy and trade by controlling data resources, technical standards and platform rules, while developing countries are at risk of being “digitally marginalized”. This is contrary to the concept of balanced benefit distribution required by the principle of fairness and justice in international law.

3.3 Absence of multilateral rules and conflicts with regional rules

As the core body of global trade governance, the World Trade Organization (WTO) has an existing rule system that is difficult to cover the core issues of the digital economy, such as cross-border data flow, market access for digital services, regulation of platform enterprises, and tariffs on digital products. Although WTO members have initiated negotiations on digital trade rules, the progress of the negotiations has been slow due to significant differences between developed and developing countries on the core demands of the rules, and no multilateral rules with universal binding force have yet been formed. The absence of multilateral rules has led to a lack of unified institutional guarantees for global digital trade and economy. Countries can only fight on their own, exacerbating the chaos in the global digital trade and economy order^[7].

4. The adjustment direction of international law theory in the field of international trade and economy in the digital economy era

4.1 Reconstruct the applicable boundaries of the principle of sovereignty

In the era of digital economy, the core of redefining the applicable boundaries of the principle of sovereignty lies in achieving a dynamic balance between data sovereignty and trade freedom. First of all, the core connotation of data sovereignty should be clarified. Data sovereignty should be defined as the management and control rights of data within each country and the regulatory rights over cross-border data flows. However, it should also be emphasized that the exercise of data sovereignty must not harm the sovereignty and interests of other countries and must not set up unreasonable digital trade barriers. All countries should formulate regulatory measures for cross-border data flows based on the principle of proportionality, distinguish the risk levels of different types of data, and implement differentiated cross-border flow management for ordinary commercial data, personal information, important data and core data. Under the premise of safeguarding national security and public interests, the free flow of data should be guaranteed to the greatest extent.

Secondly, the principle of jurisdictional division should be innovated to adapt to the boundless nature of the digital economy. It is possible to explore the establishment of a jurisdiction division system that is "based on territorial jurisdiction, supplemented by personal jurisdiction, and extended by effect jurisdiction", clarifying that each country has priority jurisdiction over digital economic and trade activities occurring within its territory. For digital economic and trade activities carried out by domestic enterprises abroad, supervision can be conducted in accordance with the principle of personal jurisdiction. For digital economic and trade activities abroad that have a substantive impact on the country's territory, jurisdiction may be exercised in accordance with the principle of effect jurisdiction. At the same time, a mechanism for resolving jurisdictional conflicts should be established. Jurisdictional disputes among countries should be settled through multilateral consultation, international arbitration and other means to prevent the abuse and expansion of jurisdiction.

4.2 Expand the connotation of the principle of fairness and justice

The right to digital development should be incorporated into the core scope of the principle of fairness and justice, and it should be clearly stipulated that developing countries enjoy equal rights to participate in the formulation of digital economic and trade rules, access digital technologies and data resources, and build digital infrastructure. Developed countries should take on the obligation of helping developing countries develop their digital economies and narrow the global digital divide through means such as technology transfer, financial assistance and talent cultivation.

In the negotiations on multilateral digital trade rules, the transitional arrangements for developing countries should be clearly defined, allowing them to gradually open up their digital service markets in accordance with their own levels of digital economic development. A dedicated fund for the development of the digital economy should be established to provide financial support for the construction of digital infrastructure and the research and development of digital technologies in developing countries. A mechanism for the transfer of digital technologies should be established to encourage enterprises from developed countries to transfer digital technologies to developing countries and help developing countries enhance their competitiveness in the digital economy. At the same time, it is necessary to ensure that developing countries have an equal say in the formulation of digital economic and trade rules, and promote the establishment of a more inclusive and democratic multilateral rule negotiation mechanism.

4.3 Promote the synergy of international cooperation mechanisms

To address the fragmentation of international cooperation mechanisms, the core lies in promoting the establishment of a collaborative international cooperation mechanism characterized by “multilateral leadership and regional complementarity”, and achieving the unification and coordination of global digital economic and trade rules. Priority can be given to promoting the reaching of consensus on core issues such as cross-border data flows, market access for digital services, and tariffs on digital products, and forming a basic multilateral rule framework. At the same time, a flexible rule iteration mechanism should be established to dynamically adjust the content of multilateral rules in accordance with the development of the digital economy, ensuring the timeliness and adaptability of the rules.

The formulation of regional trade agreements should fully take into account the development direction of multilateral rules and proactively align with the framework of multilateral rules. A regional rule coordination mechanism can be established to promote mutual recognition and compatibility of rules among trade agreements in different regions and reduce rule conflicts. At the same time, efforts should be made to encourage the opening of regional trade agreements to non-member states and gradually promote the upgrading of regional rules to multilateral rules. In addition, practical cooperation among countries in the field of digital economy should be strengthened. Mechanisms such as cross-border data flow supervision cooperation, digital technology standard coordination, and platform enterprise supervision collaboration should be established. Through cooperation in specific fields, the coordination and unification of rules should be promoted.

5. Conclusion

In the context of the digital economy, the conflict between data sovereignty and trade freedom, the imbalance of rights and obligations under the digital divide, and the fragmentation of international cooperation mechanisms jointly constitute the core issues that international law theory needs to address. To address these challenges, it is necessary to base on the development

characteristics of the digital economy and make moderate adjustments to traditional international law theories: by reconstructing the applicable boundaries of the principle of sovereignty, a dynamic balance between data sovereignty and trade freedom can be achieved. By expanding the connotation of the principle of fairness and justice and strengthening the protection of digital development rights in developing countries; By promoting the synergy of international cooperation mechanisms, a global digital economic and trade rule system with multilateral leadership and regional complementarity will be established. Only in this way can an international economic and trade legal order that suits the development of the digital economy be established, and the global digital economy be promoted to achieve fair, inclusive and sustainable development.

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