Dilemmas and Reconstruction of International Legal Regulation of Cross-border Services Trade in the Context of the Digital Economy

Yuxia Li*
Legal Aid Center of Liuqing Subdistrict, Lanshan District, Linyi 276000, China
*Corresponding email: 15206705105@163.com

Abstract

The digital economy has profoundly restructured the forms and architecture of international trade, with cross-border services trade increasingly emerging as the core driver of global growth. The General Agreement on Trade in Services (GATS) of the World Trade Organization (WTO), born before the internet era, exhibits significant institutional shortcomings when confronted with emerging issues such as digitally delivered services and cross-border data flows. Regional trade agreements, while making breakthroughs at the rule level, have further exacerbated governance fragmentation. This article systematically deconstructs four major pressures on the GATS framework. These pressures include classification difficulties, rigid commitment models, missing data flow rules, and inadequate domestic regulatory coordination. It also analyzes the fragmented flaws of regional agreements. On this basis, it puts forward three reconstruction paths. The paths are to restore the WTO's core functions, promote institutional opening-up, and build an inclusive rule system.

Keywords

Digital economy, Cross-border services trade, International legal regulation, General Agreement on Trade in Services, Dilemmas and reconstruction

Introduction

The digital economy is reshaping the global trade landscape with unprecedented depth. According to United Nations Conference on Trade and Development (UNCTAD) data, global exports of digitally deliverable services reached United States dollar (USD) 4.5 trillion in 2023, accounting for 57.4% of total services exports. The rapid growth of cross-border data flows, cloud computing and artificial intelligence has changed the attributes of many traditionally non-tradable cross-border services. These services can now be delivered digitally. Digital services trade has accordingly developed into a brand-new business model [1]. Yet the evolution of legal rules has consistently lagged behind technological change. GATS, which entered into force in 1995 as the foundational multilateral agreement within the WTO framework for regulating international trade in services, has its normative design rooted in the pre-internet commercial landscape. Jiang et al. put forward a representative viewpoint. The international academic community has generally reached a consensus that international trade rules should be reconstructed to adapt to the development of digital trade [2]. The GATS commitment system based on a positive list approach and its classification framework pivoting on four modes of supply have encountered unprecedented tensions of applicability under digital economy conditions [3]. During the same period, new-generation trade agreements have set up independent chapters for e-commerce or digital trade. Typical examples include the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), United States-Mexico-Canada Agreement (USMCA), and Regional Comprehensive Economic Partnership (RCEP). These agreements adopt higher regulatory standards than the GATS concerning free cross-border data flows, data localization and other matters. Nevertheless, the club-oriented nature of these agreements creates a fragmented landscape for global governance [4]. Wang et al. bluntly observe that an international digital trade rule system that satisfies multilateral interests has yet to be formed [5].

Against this backdrop, this paper analyzes the institutional dilemmas facing the GATS from four perspectives. The four dilemmas cover the classification difficulties of digital services trade, the rigidity of the commitment model, the lack of data flow rules, and inadequate domestic regulatory coordination. This paper also explores the fragmented limitations of regional agreements. On this basis, it proposes a systematic reconstruction scheme.

The fourfold dilemma of cross-border services trade rules under GATS

The classification dilemma of digital services trade

The operation of services trade rules under the GATS framework is supported by sectoral classification. In accordance with MTN.GNS/W/120 (W/120), the Services Sectoral Classification List, each member formulates its schedule of commitments on a sectoral basis. This schedule clarifies the specific levels of market access and national treatment commitments undertaken by the members. This classification architecture, forged in the 1990s, exposes fundamental adaptive impediments in the digital economy environment. The classification of digitally transmitted products dictates applicable trade rules. These products may fall under goods regulated by the General Agreement on Tariffs and Trade (GATT) or services governed by the GATS. The two regulatory regimes present substantial differences in market access thresholds and the scope of non-discrimination obligations. The WTO Dispute Settlement Body adopted the principle of technological neutrality in the United States (US)-Gambling case and the China-Publications and Audiovisual Products case. It aimed to extend offline service commitments to online delivery scenarios. Even so, the effective scope of this principle still faces ongoing disputes. Entirely new business forms such as cloud computing, big data analytics, and artificial intelligence (AI) training cannot be located within the W/120 classification list, rendering the “classify - apply rules” pathway fundamentally uncertain. Furthermore, digital delivery may simultaneously trigger both Mode 1 and Mode 3, and GATS treats the benchmark treatment for different modes as distinctly different, thereby compounding the complexity of rule application [6].

The rigidity dilemma of the market access commitment model

The GATS adopts a positive list approach for services trade commitments. Members only undertake market access and national treatment obligations for sectors that are explicitly listed in their commitment schedules. This arrangement, at the time of conclusion, reflected the cautious stance of most developing countries toward services trade liberalization, yet in the digital economy era, its constraints have become increasingly salient. Digital services trade is characterized by rapid business model renewal, dense product iteration, and blurred sectoral boundaries. The empirical work of Wang and Liu found that digital trade rules can powerfully promote digital services exports and reduce trade costs [7]. However, the positive list model obliges members to go through cumbersome approval and negotiation procedures to make commitments for emerging sectors. This makes the update of commitment rules unable to keep pace with the innovation of digital business models. A large number of cross-border digital services that have already formed practical market scales have therefore long remained in a regulatory gray zone [8]. In contrast, CPTPP and USMCA have pioneered the application of the negative list approach in the field of services trade. Both agreements implement pre-establishment national treatment for the service sector. This approach fundamentally resolves the regulatory deadlock caused by lagging commitment updates.

The absence dilemma of cross-border data flow regulation

Data constitute the core input factor of the digital economy, and cross-border data flows are a prerequisite for the functioning of digital services trade. Yet GATS leaves a considerable gap in this regard. Although Article 5 of the GATS Annex on Telecommunications implicitly affirms free cross-border data flows, the General Exceptions under Article XIV and the Security Exceptions under Article XIV bis reserve broad policy latitude for members to restrict data flows. A more fundamental problem exists in the institutional design of the GATS. Its market access and national treatment obligations take specific service sectors as basic operational units. In comparison, cross-border data flows are inherently horizontal and cross-sectoral in nature.

The traditional opening model based on sector lists and itemized opening fails to effectively regulate such data flows. Sampson and Annor research further confirms that among digital services trade barriers, payment system restrictions and intellectual property barriers both exert a significant suppressing effect on export efficiency [9]. There is no unified multilateral regulatory framework to discipline data governance. Driven by security and privacy considerations, countries have introduced a growing variety of data regulatory measures. Representative rules include the European Union (EU) General Data Protection Regulation (GDPR), China's Data Security Law, Russia's data localization directives, and the United States CLOUD Act. These measures have essentially created new forms of non-tariff barriers.

The coordination dilemma of domestic regulatory disciplines

The core obstacles to services trade mainly stem from behind-the-border measures, namely domestic regulations. Such regulations include licensing requirements, qualification thresholds and technical standards. These rules create de facto market access barriers. Paragraph 4 of Article VI of the GATS empowers members to formulate relevant disciplines. The goal is to prevent domestic regulatory measures from turning into unnecessary trade barriers. However, related negotiations have long reached an impasse. Only 59 WTO Members completed domestic approval procedures for the Reference Paper on Services Domestic Regulation (SDR) in December 2022. The digital economy has given rise to a constant stream of new regulatory issues. These issues include consumer protection, cybersecurity, algorithmic transparency, and digital taxation. Cross-country differences in regulatory practices directly translate into higher transaction costs for cross-border services trade. Yeerken and Deng adopt cross-country panel data covering 46 economies for their research. They verify that digital services trade exerts heterogeneous effects on inclusive growth. Such effects differ among income groups. They also vary according to import and export structure and the strictness of digital services trade barriers in OECD and non-OECD economies [10]. In the absence of effective international regulatory coordination, domestic regulations under the banner of "protecting the public interest" can easily slide into instruments of trade protection.

Fragmented governance through regional trade agreements and its limitations

Multilateral negotiations have long remained stagnant. Against this background, countries have gradually turned to bilateral and regional trade agreements to advance the development of digital trade rules. At present, more than 140 regional trade agreements worldwide include provisions on electronic commerce or digital trade. However, regional trade agreements have also shaped a distinct club-based pattern of global governance. The US-led USMCA and CPTPP prioritize free cross-border data flows and bans on data localization to pursue maximum digital trade liberalization. The EU builds its standard-centered data flow system through the adequacy decision mechanism under the GDPR. By contrast, the RCEP places greater emphasis on data sovereignty and national security. The divergences in stance among the three templates are unlikely to be bridged in the short term, and each may solidify its own regulatory ecosystem. Moreover, the majority of developing countries, constrained by technical capacity and negotiating resources, occupy a systemically marginalized position in rule-making, with existing agreements reflecting predominantly the interests of developed economies [11].

Reconstruction pathways for the international legal regulation of cross-border services trade

Restoring the centralized position of the WTO in digital trade governance

The priority direction for breaking the impasse lies in repositioning the WTO at the center stage of global digital trade governance. Launched in 2019 with 86 Participants on board, the WTO Joint Statement Initiative on E-Commerce (E-Commerce JSI) has achieved notable progress. In July 2024, 91 members reached a consensus on a finalized textual framework covering online consumer protection, electronic signatures and authentication, and paperless trading. This progress marks a substantive advancement in the development of multilateral digital trade rules. Nevertheless, rules achieved only at the level of procedural facilitation are still insufficient to address the fundamental regulatory challenges. Based on the above analysis, WTO members should advance the reform of multilateral digital trade rules in three key directions. First, update the GATS service classification system to incorporate emerging digital services such as cloud computing and artificial intelligence into the official negotiation agenda. Second, formulate a dedicated reference paper governing cross-border data flows. Drawing on the “principle-plus-exception” model adopted by the CPTPP, members can establish a unified multilateral regulatory framework for data governance. Third, revitalize and strengthen the negotiations on domestic regulatory disciplines under Article VI:4 of the GATS.

Advancing domestic regulatory discipline construction through institutional openness

The enrichment of domestic regulatory disciplines for services trade constitutes the institutional prerequisite for promoting cross-border services trade liberalization. The SDR Reference Paper, which entered into force at the end of 2022, lays the foundation for a disciplinary system by enhancing transparency, accelerating approval procedures, and reducing cross-border transaction costs. Nevertheless, this mechanism still leaves a prominent institutional gap. To balance members’ regulatory autonomy and trade liberalization, the long-discussed “necessity test” standard was ultimately excluded from the framework. As a result, members may still conduct de facto trade protection under the pretext of public policy. China should, while aligning its domestic regulatory practices with the SDR Reference Paper, actively promote the relaunch of relevant discussions on the necessity test within the WTO framework.

Constructing an inclusive system of digital trade rules

Another direction for reform of the international legal regulation of cross-border services trade is the construction of a genuinely inclusive system of digital trade rules. Inclusiveness is first reflected in the effective safeguarding of special and differential treatment for developing economies. Only around one-fifth of the population in least developed countries has access to the internet, which is further constrained by low network speeds and high service costs. The digital divide thus remains prominent worldwide. Jiang et al. empirical analysis reveals that the pull effect of digital trade rules on digital services trade in low- and middle-income countries even exceeds their impact on high-income countries, precisely illustrating the critical value of inclusive rule design for bridging the digital divide. WTO should assist developing countries in enhancing their institutional alignment capacity through mechanisms such as technical assistance, capacity building, and transitional arrangements. Second, inclusiveness is reflected in the synergistic integration of diverse governance actors. Digital trade governance entails not only rule coordination among sovereign states, but also effective participation from multiple stakeholders, including enterprises, technical standardization bodies, and civil society organizations. A “reasonable pluralism” governance framework can be established on the premise of respecting each state’s regulatory autonomy. This framework acknowledges that countries hold divergent regulatory preferences in fields such as privacy protection and cybersecurity. It achieves compatible governance through flexible mechanisms, including equivalence-based mutual recognition, standards harmonization, and regulatory dialogue. While upholding the baseline of data sovereignty and security, China should participate in global digital trade rule-making with greater initiative and openness. This effort facilitates the establishment of an inclusive global digital trade governance architecture that accommodates the interests and concerns of developing countries.

Conclusion

The wave of the digital economy has profoundly rewritten the operational logic and rule demands of international trade. As the core WTO multilateral agreement governing international services trade, the GATS exhibits prominent institutional dilemmas in four key dimensions: digital services trade classification, market access commitment models, cross-border data flow rules, and domestic regulatory disciplines. Regional trade agreements, while achieving breakthroughs in rule innovation, have exacerbated the fragmented state of global governance through their “club-like” character. Moving forward, the reconstruction of international legal governance for cross-border services trade should follow three core paths: revitalizing the WTO’s centralized governance function, advancing the development of domestic regulatory disciplines through institutional openness, and establishing a truly inclusive digital trade rule system. As the world's second-largest digital economy and the largest developing country, China should balance development and security. On this basis, it should advance the formation of a fair, reasonable and non-discriminatory new order for global digital trade governance.

Funding

This work was not supported by any funds.

Acknowledgements

The author would like to show sincere thanks to those techniques who have contributed to this research.

Conflicts of Interest

The author declares no conflict of interest.

References

[1] Xiao, Y., Li, Y. (2023) On the importance of coordinated international rules in cross-border circulation of data. *International Journal of Frontiers in Sociology*, 5(2), 85-88.

[2] Jiang, T., Hu, Y., Haleem, F., Zeng, S. (2023) Do digital trade rules matter? Empirical evidence from TAPED. *Sustainability*, 15(11), 9074.

[3] Caceres, D. G. (2025) Digital sovereignty in the cloud and international law: towards a balance between state autonomy and transnational cyber governance. *Latin American Journal of European Studies*, 5, 84.

[4] Chen, X., Huo, W. (2025) Comparative study of digital service trade potential and competitive advantage: based on the Regional Comprehensive Economic Partnership Agreement. *Journal of the Asia Pacific Economy*, 1-23.

[5] Wang, X., Zhang, J., Zhu, Y. (2024) Barriers to digital services trade and export efficiency of digital services. *Sustainability*, 16 (17), 7517.

[6] Adlung, R. (2020) WTO/GATS-alien framework provisions in RTAs - a closer look. *World Trade Review*, 19(4), 493-510.

[7] Wang, Y., Liu, B. (2025) The impact of digital trade rules on services trade: an empirical investigation from the DVA perspective. *Review of International Economics*, 33(3), 641-656.

[8] Huo, D., Ouyang, R., Tang, A., Gu, W., Liu, Z. (2024) New growth in cross-border e-business: evidence from gray forecasting to cross-border E-business in China. *Journal of Internet and Digital Economics*, 4(1), 12-29.

[9] Sampson, E., Annor, A. S. (2025) Cross-border e-commerce in Africa: Can digital sales infrastructure bridge global trade gaps. *International Journal of Business Marketing and Management*, 10(2), 74-94.

[10] Yeerken, A., Feng, D. (2024) Does digital service trade promote inclusive domestic growth? Empirical research of 46 countries. *The Economic and Labour Relations Review*, 35(2), 292-318.

[11] Trommer, S. (2017) The WTO in an era of preferential trade agreements: Thick and thin institutions in global trade governance. *World Trade Review*, 16(3), 501-526.