

Global Economic Governance in the Digital Economy Era: Features, Influences, and Ways

Li Yu*

Abstract: Since data has become an essential production factor and digitization has become increasingly popular during the transformation of industrial development, the global economy has gained new growth momentum, and economic activities have been tremendously changing. At the same time, the digital economy is suffering from the problem of inequality, coupled with a lack of international cooperation, and the issue of global governance is becoming increasingly apparent. This paper discusses the definition and features of the digital economy, explores its positive and negative impacts on global economic governance, and analyzes the new features of global economic governance in the digital economy. After clarifying this impact and these characteristics, this paper argues that global economic governance in the digital economy should be effectively implemented by (i) improving the ways and efficiency of governance, (ii) expanding the scope of governance to include more groups, (iii) seeking common ground while acknowledging differences to reduce conflicts, (iv) revising rules and standards to adapt to the times, (v) advocating for multi-party co-construction to attain collaborative governance, and (vi) promoting the sustainable development of global digital governance. All countries are supposed to collaborate to build an open, inclusive, and win-win global economic governance system.

Keywords: Digital Economy, Global Economic Governance, Digital Technology, Digital Divide

I. INTRODUCTION

The fourth industrial revolution inspired by digital technology has recently been flourishing and key technologies such as big data, cloud computing, the Internet

* Li Yu, Associate Professor, School of Foreign Studies, East China University of Political Science and Law, Email: liyuecupl@sina.com.

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of Things, augmented reality, 5G, blockchain, and artificial intelligence (AI) have achieved considerable progress. The interplay of these technologies has formed a comprehensive system with functions that include digital data storage, transmission, analysis, and calculation. Digital technology has been combined with advanced manufacturing techniques as well as promoted forms of production and business models, providing ideal opportunities for more efficient resource allocation and sustainable economic development. As it has demonstrated an unprecedented development speed, the digital economy has become a key force in restructuring global resources, reshaping the global economic structure, and changing competing global visions.¹ It has also been a “new engine” for national economic growth as well as for the global economy’s structural optimization and efficiency improvement.² According to the Brookings Institution, the contribution of the flows of cross-border data to global economic growth exceeded that of traditional factors such as goods, services, capital, and trade, and reached 10.1% between 2009 and 2018.³ A case in point is digital technology and the digital economy’s important role in supporting the fight against the COVID-19 pandemic and assisting with production and everyday life. Therefore, all countries have valued the digital economy and implemented strategies, plans, or agendas. At the same time, international organizations and regional groups have focused increasingly more on the digital economy. The Digital Economy Report 2019 — Value Creation and Capture: Implications for Developing Countries published by the United Nations Conference on Trade and Development (UNCTAD) comprehensively reviewed the development of the global digital economy. International organizations such as the Organization for Economic Cooperation and Development (OECD) and Asia-Pacific Economic Cooperation (APEC) have viewed the digital economy as an important issue. The 2016 G20 Hangzhou Summit approved the G20 Digital

1 Xi Jinping, The Reinforcement, Optimization and Expansion of China’s Digital Economy, *Qiushi*, No. 2, 2022, p. 4.

2 Singhal K., et al., Introduction to the Special Issue on Perspectives on Big Data, *Production and Operations Management*, No. 9, 2018, pp. 1639-1641.

3 Chen Weiguang and Zhong Lieyang, Global Digital Economy Governance: Elements, Mechanisms and Breakthroughs, *International Economic Review*, No. 2, 2022, pp. 87-88.

Economy Development and Cooperation Initiative, and it involved the first time that attendees chose the digital economy as an important part of the agenda for the G20 blueprint on innovative growth. The international community's universal attention on this issue has further developed a global scientific and technological revolution as well as industrial transformation, and the digital economy has grown rapidly since this summit.

The new industrial revolution emphasizing the digital economy is intended to create new models, formats, scenarios, and systems, which not only promote transformations of production and lifestyles, but also have an essential impact on the direction, mode, and path of global economic governance,⁴ which refers to the governance mechanism and international rules designed to solve global issues.⁵ In addition to its roles in promoting global economic growth, digital technology has created many new challenges for global economic governance. On one hand, its emergence has led to economic changes and provided a new way of solving traditional global governance issues. For example, blockchain technology is helpful for solving the problem of a trust deficit and promoting global cooperation.⁶ On the other hand, digital technology has created more challenges for global economic governance in terms of the unification of technical standards, governance of market structure, maintenance of transnational rights and interests, and protection of data security. Furthermore, new global problems have arisen, which involve digital trade barriers, intensified digital competition among major powers, the digital divide, and data security. The traditional global governance mechanism could not satisfy the digital economy's needs, while the digital economy's new governance rules have not been established, which has increased the governance deficit. The Global Risks Report 2022 shows that the issues of digital inequality and online security have been listed among the world's most severe threats. All of this describes the new

4 Xie Fuzhan, The Direction of Global Governance Adjustment in the Context of Accelerated Expansion of the New Industrial Revolution, *Economic Research Journal*, No. 7, 2019, pp. 4-13.

5 Zhang Yuyan, *The Change of Global Economic Governance and China's Response*, China Social Sciences Press, 2017, p. 64.

6 Gao Qiqi, The Significance of Blockchain for the Reform of Global Governance System, *Exploration and Free Views*, No. 3, 2020, pp. 23-24.

demands of global economic governance in the digital economy era. In response to these demands and challenges, reforms and institutional innovation must be implemented to improve the global system of economic governance. Countries, regions, as well as regional and international organizations should collaborate to build a new global economic governance mechanism in the digital economy era to provide effective solutions to these problems and ensure that digital technology can contribute more to global economic development.

II. THE DEFINITION AND FEATURES OF THE DIGITAL ECONOMY

A. The Definition of the Digital Economy

The term “digital economy” dates back to 1996, when Don Tapscott proposed this concept, describing it as a new economic system that allows for the free movement of vast amounts of information in the shortest time possible among people in different parts of the world.⁷ Tapscott (1996) discusses twelve characteristics of the digital economy, i.e. knowledge, digitization, virtualization, molecularization, integration, disintermediation, convergence, innovation, presumption, immediacy, globalization, and discordance, among which the most prominent one is disintermediation, i.e. the end of middlemen. Tapscott (1996) points out that some businesses have already connected with their customers, as technology facilitates information exchanges between suppliers and customers, and newer ways of adding value have been found. The digital economy is therefore regarded as the economic model of the networked intelligence era.⁸

Since 1996, the study of the digital economy has undergone three stages: information economy, Internet economy, and new economy.⁹ The digital economy's prosperity is attributed to digitized information and knowledge, popularized Internet and commerce, digital technology integrated with traditional

7 Don Tapscott, *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*, McGraw-Hill, 1996, pp. 12-60.

8 *Ibid.*

9 Turcan R. V. and Juho A., What Happens to International New Ventures beyond Start-up: An Exploratory Study, *Journal of International Entrepreneurship*, No. 2, 2014, pp. 129-145.

industries, and expanded emerging industries. Its meanings and definitions have been continuously revised and polished during history to accommodate economic development's new phenomena and models. Its early definition mainly focused on the productivity of digital technology and emphasized its market-oriented applications, such as the manufacturing industry producing communication equipment, the service industry selling information technology (IT), and the digital content industry.¹⁰ In further research, the focus gradually shifted to an interpretation of digital technology's economic functions and its transformation regarding production relations. The United States (US) Department of Commerce (DOC) points out that e-commerce and the digitization of tangible goods are also part of the digital economy.¹¹ The concept of "digital economy" was demonstrated globally for the first time in September 2016, when attendees of the G20 Hangzhou Summit signed the G20 Digital Economy Development and Cooperation Initiative. This defined the digital economy as economic activities that view digital knowledge and information as key production factors, regard modern information networks as an important method of conveying data, as well as effectively use information and communication technology (ICT) as an essential driving force for improving efficiency and optimizing economic structures.¹²

"Digital economy" currently lacks a widely accepted definition. The current definitions can be divided into three categories. The first category adopts a bottom-up approach, which defines the digital economy by describing the output or production process of industries and enterprises. For example, the US Bureau of Economic Analysis (BEA) defines the digital economy as the sum of ICT, e-commerce, and digital media.¹³ The second category adopts a top-down approach, which considers the digital economy as the result of multiple

10 Landefeld J. S. and Fraumeni B. M., *Measuring the New Economy*, *Survey of Current Business*, No. 3, 2001, pp. 23-40.

11 [America] David Henry (Translated by Jiang Qiping), *The Emerging Digital Economy*, China Renmin University Press, 1998, pp. 2-3.

12 Office of the Central Cyberspace Affairs Commission, G20 Digital Economy Development and Cooperation Initiative, http://www.cac.gov.cn/2016-09/29/c_1119648520.htm (Last Visited on February 2, 2023).

13 Barefoot K, et al., *Defining and Measuring the Digital Economy*, US Department of Commerce Bureau of Economic Analysis, No. 15, 2018, p. 7.

impacts in the digital transformation era without economic limitations. For example, the World Bank emphasizes that “the digital economy covers most industries in the society besides the ICT industry”,¹⁴ and the OECD highlights the digital economy’s inclusion of individuals, communities, and society along with enterprises and markets.¹⁵ In the third category, the digital economy is defined by adopting the hierarchical or structured approach, which evaluates the digital economy. For example, the framework of a hierarchical definition for the digital economy that the OECD proposed in the G20 Roadmap of Measuring the Digital Economy divides the digital economy into a core layer, narrow layer, broad layer and “digital society”. The core layer only includes basic ICT products and services, and the narrow layer includes industries that rely on digital products and services within the core layer, and the broad layer includes both of the other two levels as well as the economic activities strengthened by digital products and services.¹⁶

The digital economy is a broadly defined concept. Generally speaking, it is regarded as an emerging economic form based on big data, intelligent algorithms, and hash rate.¹⁷ Digital technology has provided a foundation for developing at least two aspects of the digital economy. One of these is the expansion of digital data. According to the United Nations Conference on Trade and Development (UNCTAD), global Internet protocol traffic has been largely expanded in recent years and global Internet bandwidth increased by 35% in 2020.¹⁸ The other is the promotion of data platforms. In the past decade, many digital platforms with data-driven business models have emerged. They provide a mechanism that producers and consumers can use to interact with each other online. They can record and extract all data related to the online behavior of

14 World Bank Group, World Development Report 2016: Digital Dividends, 2016, p. 251.

15 OECD, Measuring the Digital Transformation: A Roadmap for the Future, 2019, p. 5.

16 OECD, A Roadmap toward a Common Framework for Measuring the Digital Economy: Report for the G20 Digital Economy Task Force, 2020, p. 40.

17 Shi Yong, Digital Economy: Development and Future, *Bulletin of Chinese Academy of Sciences*, No. 1, 2022, pp. 78-87.

18 United Nations Conference on Trade and Development, Digital Economy Report 2021 | Cross-Border Data Flow and Development: For Whom the Data Flow, 2021, p. 1.

platform users.¹⁹ In 2021, more than half of the ten companies with the world's largest market value implemented a business model based on digital platform.

Accordingly, the digital economy can be defined in a broad way: as an economic activity that is based on digital information (including data elements) as its key resource, relies on internet platforms as its main method of communicating information, it is mainly driven by digital technology innovations, and is embodied as new models and formats. This definition emphasizes the meaning of digital economy as including four core aspects: digital information, which refers to information (images, words, and sounds) stored in virtual containers that can be used repeatedly;²⁰ internet platforms that are established online and function as a medium for market organization and digital information, such as a shared economy or e-commerce platform;²¹ digital technology, which is a new generation of IT that can analyze and process digital information, such as AI, blockchain, cloud computing, and big data;²² new business forms and models, which are products of the integration of digital technology and traditional real economy innovation, such as the individual new economy and unmanned economy.²³ This definition integrates multiple perspectives such as technological applications, value creation, and economic format, aiming to comprehensively analyze the digital economy.

B. Features of the Digital Economy

The digital economy is a new economic form emerging after the agricultural and industrial economies, which is based on data as its key production factor and creates new growth points for economic development by relying on the

19 United Nations Conference on Trade and Development, Digital Economy Report 2019 | Value Creation and Capture: Implications for Developing Countries, 2019, p. 2.

20 Berisha-Shaqiri A. and Berisha-Namani M., Information Technology and the Digital Economy, *Mediterranean Journal of Social Sciences*, No. 6, 2015, p. 78.

21 Xiao Hongjun and Li Ping, Ecological Governance of Platform Enterprises' CSR, *Management World*, No. 4, 2019, pp. 120-144.

22 Teece D. J., Profiting from Innovation in the Digital Economy: Enabling Technologies, Standards, and Licensing Models in the Wireless World, *Research Policy*, No. 8, 2018, pp. 1367-1387.

23 Xu Peng and Xu Xiangyi, Change Logic and Analysis Framework of Enterprise Management in the Era of Artificial Intelligence, *Management World*, No. 1, 2020, pp. 122-129.

digital industry and industrial digitization. Its deep integration with the traditional economy has become a new feature. It mainly exists based on three aspects. Firstly, micro entities apply technologies like the Internet to participate in economic activities, and more enterprises start using the Internet to improve their business processes. Secondly, the digital economy, an economic form, impacts the traditional economy, which is most evident in the consumer sector. Thirdly, the deepening integration causes the traditional economy's service model and technology to continue innovating. For example, in the business-to-business (B2B) model, e-commerce enterprises have applied big data and cloud computing to create the service of "industrial chain and supply chain finance", which has improved their trade achievement rate. The integration of the digital and traditional economies is not only a status quo of the current economy, but also a future economic trend. Its formation and rapid development are attributed to the international interaction of technology and economic globalization. Negroponte believes that the fundamental difference between the digital era and all previous eras lies in the transformation of information from "atoms" into "bits".²⁴ In the information age, most information is still delivered as atoms (newspapers, magazines, and books), which are essentially part of a manufacturing industry. Digitization makes a great difference. Some of its positive aspects include data compression and error correction as bits, which are important for transmitting information through costly and noisy channels. A bit is the smallest atomic element within information and can travel at light speed. Hence, digital technology has extensively promoted the transmission of information and knowledge.

When mainly driven by digital technology, the digital economy promotes digital transformation and high-quality development of the global economy in the following three ways. These are establishing new industries by creating new technologies, introducing new models by developing new industries, and empowering traditional industries by adding new technologies.²⁵ A major

24 Nicholas Negroponte, *Being Digital*, Hodder and Stoughton, 1995, pp. 11-17.

25 Li Xiaohua, New Features and the Formation Mechanism of New Growth Drivers of Digital Economy, *Reform*, No. 11, 2019, pp. 40-51.

research topic on the current economy's sustainable development is based on how to efficiently utilize IT and allocate digital resources to achieve high-quality economic transformation empowered by the digital economy.²⁶ The digital economy's emergence is accelerating the transformation of traditional economic models,²⁷ causing traditional production, consumption, and business modes to undergo profound changes. Compared with the traditional economy, the digital economy has several unique features due to its industrialization and marketization of IT.²⁸

Firstly, the digital economy is data-based. In the digital era, data has become the key human production factor. Modern production has generally experienced three eras: the agricultural economy with labor and land as the main production factors, the industrial economy with capital and technology as the main production factors, and the digital economy mainly driven by big data. It is estimated that around the 1970s, the term “data” was used more frequently than “information”, suggesting that data is digitized information. An important feature of the emerging digital economy is a high extent of digitization. In a digital economy context, new business forms, such as AI, big data, and the Internet of Things (IoT), are based on a huge amount of data. Data accelerates the flow and sharing of traditional production factors such as capital and labor, improving the total factor productivity as well as greatly shortening the production chain and the wealth creation process.

In the digital era, data capital replaces physical capital and functions as the key production factor supporting value creation and economic development, which is the digital economy's essential feature. At the same time, the combination of data and other production factors fuels economic growth. Data capital refers to the integrated assets of information (such as big data) derived from circulating data containing a massive amount of information that technology analyzes and processes. The key to developing new business models as well as creating products and services is to explore consumers' potential needs

26 Corbett C. J., How Sustainable Is Big Data? *Production and Operations Management*, No. 9, 2018, pp. 1685-1695.

27 Zhao Tao, Zhang Zhi and Liang Shangkun, Digital Economy, Entrepreneurship, and High-quality Economic Development: Empirical Evidence from Urban China, *Management World*, No. 10, 2020, pp. 65-75.

28 Goldfarb A. and Tucker C., 2019, Digital Economics, *Journal of Economic Literature*, No. 1, 2019, pp. 3-43.

by considering data capital.²⁹ The digital technology virtually storing data capital has improved data capital's searching efficiency, supported its low-cost replication and transportation, and reduced the cost of data-based value creation.³⁰

Secondly, the digital economy involves integration and innovation. The new generation of IT has detached the innovation process from the linear chain law that moves from knowledge accumulation and research to application. As a result, the boundary between each innovation stage is gradually blurred, and the innovation process gradually becomes integrated.³¹ Digital technology increases the efficiency of knowledge sharing and cooperation among those involved with innovation, who actively implement digital technology to create products and services that reflect rapid iteration.³² In addition, digital technology has been applied to create a loose coupling system between products and organizations, making product and service innovation more flexible as well as reducing the cost of organization and communication. It also decentralizes organizations by overcoming temporal and spatial limits. The application of Internet, blockchain, big data, and other technologies strengthens inter-industry networks and overcomes the constraints of traditional industries. The potential of collaboration that the virtual world provides has led enterprises to actively establish convenient and cost-saving virtual global workplaces.³³

A new modern economic trend is the in-depth integration of digital technology and the real economy. If the trade of the global value chain (GVC) involves the new generation of economic globalization, the penetration and extension of digital technology in the GVC is the global economy's main attribute during the new scientific and technological revolution. On one hand, the digital economy is not an independent economic form. It serves the three traditional industries by improving productivity, the lack of which will weaken the digital

29 Wu J., Huang L. and Zhao J. L., Operationalizing Regulatory Focus in the Digital Age: Evidence from an E-commerce Context, *MIS Quarterly*, No. 3, 2019, pp. 745-764.

30 Goldfarb A. and Tucker C., Digital Economics, *Journal of Economic Literature*, No. 1, 2019, pp. 3-43.

31 Nambisan S., et al., Digital Innovation Management: Reinventing Innovation Management Research in a Digital World, *MIS Quarterly*, No. 1, 2017, pp. 223-238.

32 Lakhani K. R. and Panetta J. A., The Principles of Distributed Innovation, *Innovations*, No. 3, 2007, pp. 97-112.

33 Srivastava S. C. and Chandra S., Social Presence in Virtual World Collaboration: An Uncertainty Reduction Perspective Using a Mixed Methods Approach, *MIS Quarterly*, No. 3, 2018, pp. 779-804.

economy. On the other hand, global information has entered a new stage due to its comprehensive penetration, cross-border integration, and accelerated innovation. After extensive development, the digital economy represents the new real economy. In a sense, the digital economy is actually a digital agricultural and industrial economy. The intensive integration of the digital and traditional economies increasingly blurs the boundary between them. In the future, economic globalization will likely be equivalent to digital economic globalization.

Thirdly, the digital economy is focused on openness and sharing. In the digital economy era, many digital platforms are emerging. The presence of an open ecosystem can enable aspects such as production, circulation, service, and consumption to gradually integrate into a platform, promoting the combination of online and offline resources, creating many new business models and formats, and hence forming a platform economy.³⁴ As an open, sharing, and symbiotic ecosystem, online platforms have added new vitality to the traditional economy.³⁵ In particular, the connectivity of these platforms can accelerate industrial cross-border integration and collaborative production processes,³⁶ forming an agglomeration of industrial digitization.³⁷ This can improve the efficiency of allocating limited resources, bridge the digital gap, as well as quantitatively and qualitatively improve economic growth. Traditional manufacturing industries have been exploring how to digitize the supply chain, and digital technology has also been integrated into traditional service industries such as education, healthcare, and retail.

At the same time, emerging digital technology has added new energy to the traditional ICT industry, and the digital industry has been increasingly expanding to more fields. Emerging industries implementing digital technology

34 Hukal P., et al., Platform Signaling for Generating Platform Content, *MIS Quarterly*, No. 3, 2020, pp. 1177-1206.

35 Sandberg J., Holmström J. and Lyytinen K., Digitization and Phase Transitions in Platform Organizing Logics: Evidence from the Process Automation Industry, *MIS Quarterly*, No. 1, 2020, pp. 129-153.

36 Jing Wenjun, Sun Bao-wen, Digital Economy Promoting High-quality Economic Development: A Theoretical Analysis Framework, *Economist*, No. 2, 2019, pp. 66-73.

37 Wang Ruyu, Liang Qi and Li Guangqian, Virtual Agglomeration: A New Form of Spatial Organization with the Deep Integration of the New Generation of Information Technology and the Real Economy, *Management World*, No. 2, 2018, pp. 13-21.

are booming, such as cloud games, cloud tourism, cloud exhibition, and unmanned retail. The changes resulting from digital technology have spread across all other aspects of human life besides limited aspects such as digital media, digital audio and video, and digital libraries. The popularity of mobile communication terminals has dramatically changed socializing and search patterns, extending applications of digital information and the Internet from online to offline platforms. The emergence of new business forms such as online takeout and ride-sharing indicates the arrival of the sharing economy. In the future, telemedicine, online education, shared manufacturing, and collaborative work will also become increasingly popular. In addition, the digital economy has far-reaching impacts on finance, employment, international trade, the GVC, and global governance.

Digital technology contributes to the formation of a new globalization model. On one hand, the mobile Internet has ushered in the era of “Internet of Ten Thousand People”, and 5G has created the “Internet of Everything”. Anything that has been forgotten or marginalized during traditional economic globalization will likely be integrated into new forms of globalization due to their connections with the digital economy. The rise in 5G technology suggests that end-to-end transmission between any two devices in the world moves faster than human visual perception. This makes the perception time between any two points in the world consistent with human eyes’ perception time, as it achieves proximity in a virtual space. The changes in spatial relations resulting from increased speed will greatly shorten the distance between people and things, truly connecting the world. On the other hand, the digital economy will change systems reliant on the global division of labor such as industrial and innovation chains. The development of technologies like 3D printing and the control of carbon emissions will likely make the cost of products such as iPhones produced in the US lower than those produced in developing countries.

III. THE DIGITAL ECONOMY’S INFLUENCE ON GLOBAL ECONOMIC GOVERNANCE

The world’s economic diversity has highlighted global economic issues related

to trade, finance, investment, energy, and other fields. This emphasizes the importance of global economic governance, that is, the cooperation and joint governance of a single country or several countries in response to global economic problems,³⁸ as well as the application and extension of global governance in economies.³⁹ Global economic governance promotes the development of the world economy in a healthier, more inclusive, and more sustainable way by providing global public goods, resolving conflicts and differences between all parties, establishing a global economic and trade order, coordinating international actions, and promoting the integration of global resources.⁴⁰ Global economic governance and economic globalization coexist, and an understanding of global economic governance determines reforms of global economic governance. Ruggie (1982) believes that the international economic order embodies the will of specific political authorities, and the key to economic governance depends on international political relations.⁴¹ As an important part of the digital economy, digital technology not only significantly impacts the transformation of production and lifestyles, but also has many new beneficial or adverse effects on the direction, content, path, and effects of global economic governance.

A. Positive Influences

Firstly, digital technology makes global negotiation and consultation more convenient by facilitating online communication. Negotiation and consultation are indispensable steps in the global economic governance process for resolving conflicts and differences among multiple parties. Many international conferences have been essential for solving problems in numerous areas of global economic governance, such as the G20 and G7 Summits, as well as the Brazil,

38 Pang Zhongying, The Global Economic Governance and the Lessons since 1945, *International Review*, No. 2, 2011, pp. 1-8.

39 The Research Group of Guangdong Research Institute for International Strategies, The Strategy of China's Participation in Global Economic Governance: the Next 10-15 Years, *Reform*, No. 5, 2014, pp. 51-67.

40 Chen Deming, Economic and Trade Order and Governing Norms in the Age of Globalization, *Global Review*, No. 6, 2018, pp. 1-22.

41 Ruggie J. G., International Regimes, Transactions and Change: Embedded Liberalism in the Post-war Economic Order, *International Organization*, No. 2, 1982, p. 380.

Russia, India, China, and South Africa (BRICS) Summit, and the Shanghai Cooperation Organization (SCO) Summit (for world leaders); the World Trade Organization (WTO) Ministerial Conference, G20 Finance Ministers' Meeting, and Asia-Europe Finance Ministers' Meeting (for government ministers); along with the Belt and Road National Enterprise Summit Forum and the China-Africa Entrepreneurs' Conference (for entrepreneurs). Although international conferences are important, frequently participating in offline meetings requires an extensive amount of time and labor. Digital technology makes it possible to have online communication and online meetings, overcoming temporal and spatial constraints, and greatly improving negotiation efficiency while drastically reducing costs.

Secondly, digital technology provides technical support for promoting world economic diversity. As a result, production, trade, and finance are profoundly changing amidst digitization, and new business forms such as intelligent manufacturing, digital trade, and digital finance are emerging. These new business forms have created organization and operation models that differ greatly from those in the traditional economy. They have promoted the diversification, inclusiveness, and sharing of the world economic system and provided new ideas for solving problems related to global economic governance. For example, compared with traditional trade, spatial and temporal constraints no longer restrict digital trade. Information asymmetry has significantly decreased, and the scope of transactions has been expanded. Therefore, digital trade has overtaken previous trade modes, while the modes of business-to-consumer (B2C), B2B, business-to-business-to-consumer (B2B2C) and manufacturer-to-consumer (M2C) have greatly enriched existing trade formats. In addition, frictions or barriers that traditional trade faces will likely be circumvented in the context of digital trade. For example, on a digital trade platform, global purchasers and suppliers become a community of interests and their country of origin is not very important. In digital trade, it is increasingly difficult to form special trade barriers against specific countries as in traditional trade models, and this will greatly reduce trade friction.

Thirdly, digital technology can offer more scientific references for global

economic governance by rationally using data analysis. Problems in global economic governance are becoming increasingly diversified and complex, and the international community's attention is needed, especially in the fields of finance, trade, investment, environment, and energy. Considering the limited energy and resources of countries and international organizations, it is necessary to accurately assess and reasonably rank the severity and development of each kind of problem to ensure that human, financial, and material resources are spent on problems that must be urgently solved. Nemet Shafik, the then-vice president of the International Monetary Fund (IMF), proposed the idea of "smart governance" in a speech at Oxford University in 2013, believing that two elements: "hard" and "soft", affect global economic governance. Accordingly, "hard" or "soft" governance can be adopted to deal with these problems, whose nature and background should be considered, and to select an optimal, convenient, and practical solution. In the digital economy era, to achieve the purpose of "intelligent governance", digital technologies such as big data and cloud computing must be implemented. In order to provide more comprehensive information for policy makers and effectively improve the feasibility of implementation plans, it is necessary to comprehensively use information and data at the macro and micro levels and accurately analyze data to address certain problems in each type of field.

B. Negative Influences

The digital economy has had a significant role during global economic growth. Digital economic globalization has changed the mode of resource allocation and improved resource allocation efficiency as well as threatened economic sustainability and risked increasing the continuous expansion of economic gaps.⁴²

Firstly, it is increasingly difficult to unify standard and emerging digital technologies. Rapidly developing digital technology poses new challenges to the certification of technical standards, and many rules must be eliminated or

42 Linkov I., et al., Governance Strategies for a Sustainable Digital World, *Sustainability*, No. 2, 2018, p. 440.

updated. Unified technical standards are essential for ensuring the global flow of goods and services, and can effectively reduce transaction costs. If these standards are applied more extensively, they can generate a stronger network. Moreover, if there is a more unified market, there will be greater benefits that all parties can gain from. In the digital economy era, technological iterations require regular updates of product, method, safety, health, and environment standards. Internationally, this has enhanced the complexity of universal certification standards, and has proposed higher requirements for the formation, certification, promotion, and sharing of standards.

Secondly, the global digital divide should be widened due to the different stages of digital technological development. The digital divide is an important issue related to global economic governance. It specifically refers to differences in the accessibility and implementation of digital technology among different social groups,⁴³ which can be extended to include enterprises and countries, showing the differences in the digital dividends that different parties can use to obtain benefits. Europe and the Americas have always been leaders in digital technology, while developing Asian and African countries still need to further develop due to their limited information infrastructure and low level of digital technology. The digital economic gap between developing and developed countries will continue to widen due to developed countries' monopoly in cutting-edge technologies such as AI and cloud computing. From the perspective of the discourse power of digital economic rule-making, there is a trend of "center-periphery" differentiation. The US is shaping and leading the new generation's digital economic rules. Australia, New Zealand, and other major global economies have followed this "American template". However, many developing economies are still applying the basic rules of e-commerce designed by the WTO, which conflicts with the practice of developed economies.⁴⁴

Thirdly, the super digital platform has led to serious problems. Although

⁴³ Qiu Zeqi, Zhang Shuqin and Liu Shiding, From the Digital Divide to the Connectivity Dividend Difference: A Connectivity Capital Perspective, *Social Sciences in China*, No. 10, 2016, pp. 93-115.

⁴⁴ Wang Luyao, Wan Shuzhen and Ge Shunqi, Challenges in Global Digital Economic Governance and China's Path of Participation, *Intemade*, No. 5, 2020, pp. 21-27.

this platform has existed for a long time while organizing bilateral and multilateral cooperation, its rapid development has followed the emergence of the Internet. Moreover, it has grown explosively due to the popularity of wireless networks and intelligent mobile devices. Today, super platform companies like Facebook, Apple, Microsoft, Google, and Amazon (FAMGA) are included in rankings of five of the top seven listed companies in all of the world's industries. In the digital economy era, the rise of these companies has created numerous problems while greatly improving economic efficiency and social welfare. Firstly, these companies abuse their dominant market positions and destroy the market mechanism, resulting in unavoidable problems such as data abuse and privacy disclosures. Secondly, the existing rules face many challenges when dealing with the problem of these companies' monopoly, such as the erosion of their tax base and the global transfer of profits that their platforms cause. Thirdly, the uneven distribution of social wealth has worsened. The economic success of AI and IT is embodied in outstanding returns on scale (such as Google) and agglomeration economies (such as Silicon Valley). A large number of international AI oligopolies and platform monopolies have grabbed most of the value from the provision of digital services by using a small amount of companies to accomplish this goal.⁴⁵

IV. NEW FEATURES OF GLOBAL ECONOMIC GOVERNANCE IN THE DIGITAL ECONOMY

In the past decade, digital technology has become an important force in reshaping the global economic structure and has also promoted the transformation and upgrading of economic globalization and its governance. Many global economic governance issues in the traditional economy era will continue to exist in the digital economy era. In addition to the traditional political, economic, and cultural factors, as well as international status and discourse power, the factors influencing global economic governance in the digital economy era also

45 Dafoe A., *AI Governance: A Research Agenda*, *Governance of AI Program*, Future of Humanity Institute, University of Oxford, 2018, pp. 1442-1443.

include the digital economy resulting from free digital technology. Although the unified international rules and coordinated governance systems have not yet been formed among countries regarding the digital economy, its bilateral, multilateral, and regional mechanisms have developed rapidly. While adding new vitality to the economy, many new formats and models in the digital economy have led to revolutionary and systematic changes. The interaction and competition between digital technology companies, sovereign countries, and international organizations will also promote reforms of the global economic governance system.

Firstly, the cross-border data flow has become the foundation of micro-level economic operations. In the digital economy, data has become a key production factor. The digitization and instant transmission of pictures, sounds, videos, and other information is the basis for operating digital production and exchange. Globally, the generation, storage, and processing of data often involves multiple countries, resulting in cross-border data flow. According to statistics, the global Internet Protocol (IP) traffic from 2017 to 2022 tripled.⁴⁶ In the digital era, the cross-border flow of this massive data runs through each stage of data operation such as collection, analysis, storage, and implementation, and forms the basis for micro-level global economic operations. Whether it is the internal management of multinational companies or cross-border transactions between enterprises, effective operation relies on cross-border data flow that involves all aspects of the digital economy. Enterprises in the global supply chain can collaborate and greatly improve their overall efficiency by implementing digital technology. At the same time, cross-border data flow is promoting the beginning of a new digitization-based business model. The creation of value by cross-border e-commerce, digital finance, sharing platforms, along with other new models and business forms is fully based on data and data analysis.

Secondly, the parties involved in global economic governance are more diverse. Since the end of World War II, countries have been vital in rebuilding

⁴⁶ UNCTAD, *Digital Economy Report*, 2021, p. 16.

the political and economic order as well as providing international public goods. Sovereign countries, especially the US and other Western countries, are the important powers that dominate the post-war economic order of global governance. The advent of digital technology has spawned a large number of digital technology companies, whose functions may exceed government-owned ones and extend from online governance to social governance and national governance due to the public's dependence on online platforms and the government's lack of cyberspace functions. Moreover, globalized companies can be digital technology companies such as the Electronic World Trade Platform (eWTP) rather than exclusively leading enterprises in specific industries. These digital technology companies solve the difficulties of small and medium-sized enterprises (SMEs) in obtaining export information, trade financing, and logistics costs. Furthermore, they provide more opportunities for developing countries along with SMEs to enter the global market by building the digital economy's global infrastructure (such as service networks for global trade or logistics, a global network for financial payments, and a global platform for public services). In addition, distributed technology following digital technologies like blockchain and community autonomy following digital platforms provide new channels for individuals to participate in innovating global governance. The difference between the industrial and digital eras lies in the fact that the former is product-centered and the latter is customer-centered. Today, the immersive experience and more convenient interactions during the digital economy era are transforming consumers from independent bystanders in the traditional social division of production to participants who are comprehensively involved in social division.

Thirdly, the objects of global economic governance are more complex and diverse. Traditional global economic governance includes issues such as macroeconomic policy coordination, trade and investment governance, currency and finance governance, energy and resource governance, and poverty governance. The rise of digital technology, popularization of global mobile Internet, and updated information technology have profoundly changed traditional trade, financial models, and currency. In addition to digital service trade

frictions, issues of cross-border data flow, potential systemic financial risks caused by private digital currency, digital development gaps and other problems resulting when digital technology is integrated into traditional fields, global governance focuses more on challenges resulting from global digital technology. Digital governance will become a new and important part of global economic governance. (i) Data governance cannot be ignored. In the digital economy era, data governance has penetrated every economic sector. However, the current setting of data rules and standards lags behind its practice. Moreover, there is no uniform system and standard regarding who owns and manages data property rights and how to manage them. (ii) The governance of certain platforms should be emphasized. Platforms are the most typical model of organization in the digital economy era, which profoundly impacts production, consumption, and government management. Platform enterprises are an example. The emergence of platforms has reshaped how multinational companies enter the international market, and has subversively impacted cross-border trade and investment, which proposes higher requirements for countries to supervise platforms. (iii) Governance of digital divide should not be ignored. While promoting economic transformation and upgrading, the digital economy has also created new challenges. The issue of a “digital divide” has become an important factor in widening the global gap between the rich and poor. (iv) Governance of digital security cannot be ignored. Digital technology has made online crimes and hacker attacks more complex. Numerous security threats have greatly increased the difficulty in prevention and generated massive economic losses.

Fourthly, the global economic governance mechanism is usually fragmented. The institutional basis of global economic governance is the multilateral mechanism based on the Bretton Woods system. However, the negotiation and signing of regional trade agreements have continuously occurred since the end of the Cold War. After the signing of a large number of regional trade agreements and bilateral investment agreements, the global economic governance system has tended to fragment, which is more apparent with the impact of digital technology. In addition, numerous countries have reached independent bilateral

and regional agreements about the digital economy. Currently, there is still a lack of a unified and systematic global governance framework on the issue of digital economy. The progress of the agenda of global digital economic governance has encountered difficulties since countries elect the digital economy's governance models by considering their own interests. Different and contradictory rules have emerged regarding cross-border data, AI, online security, cryptocurrency, online spying, digital taxes, e-commerce, and online content.

Fifthly, the transformation of production modes has reshaped the international industrial division of labor. In manufacturing, digital technology has replaced low-skilled workers, eliminated the motivation for production decentralization, and shaken the foundation of the vertical GVC's division of labor due to the feature of "capital, high-tech, and low-skilled". The developing countries that participate in the international division of labor and have low-skilled workers are facing the risk of marginalization. Intelligent equipment and industrial Internet in the digital era can integrate and modularize production, reduce production and transaction costs, and somewhat weaken production fragmentation and decentralization. This will lead to the decline of the manufacturing industry's willingness to invest, and greatly shorten the GVC. In the service industry, digital technology enhance services that require synchronization between production and consumption by providing them remotely through data transmission, lifting restrictions on face-to-face service. This has greatly improved services' division of labor and increased the possibility that enterprises can reduce production costs by outsourcing their services. The division of labor of the service sector's GVC will become a trend, which offers opportunities for high-skilled workers in developing countries to participate in the international division of labor.

V. GLOBAL ECONOMIC GOVERNANCE IN THE DIGITAL ECONOMY

A. The New Meaning of Global Economic Governance in the New Era

Theoretically, there are at least three core questions concerning global economic

governance: who governs, whom do they govern, and how to govern them. Changes in the world's economic foundation have resulted in different answers to these questions, which further promotes the evolution of the global economic governance structure. Digital technology has challenged the world economy and profoundly changed the meaning of global economic governance.

1. New Issues Confronting the Objects of Governance

International trade and finance are the main issues of traditional global economic governance. Since the 21st century, the division of labor in the GVC based on the multinational cooperation of factors has achieved further progress. The focus of global economic and trade governance has gradually evolved from border measures against market access and tariff reduction in goods trade to domestic measures against direct investment, service trade, and intellectual property protection.⁴⁷ Since 2008, the response to the global financial crisis and international financial system reforms have become important targets of global economic governance. In the digital era, changes in the way the world economy operates have created many new issues, and the objects of global economic governance are profoundly changing.

Firstly, cross-border data flow is a key issue. As an important foundation for many transnational economic activities such as trade, finance, and investment in the digital era, free cross-border data flow poses major challenges to global economic governance. In some cases, this is generated by transactions (such as e-commerce) and can usually be viewed as digital trade under the framework of trade agreements. However, in many other cases, these flows are non-transactionable (such as the registration of accounts on transnational social platforms) and the definition of the ownership and sovereignty of data is completely different from the definition of traditional trade goods, far exceeding the limit of the existing economic and trade governance frameworks. As transnational digital platforms develop as well as when cloud computing and data storage technologies are more widely applied, cross-border data flow has created

47 Ma Sa and Zhang Erzhen, Reconstruction of East-Asian Regional Industrial Chain under the Framework of RCEP and China's Responses, *Journal of South China Normal University (Social Science Edition)*, No. 4, 2021, pp. 19-30.

security issues such as the invasion of personal privacy, data leakage, and identity theft. Privacy protection, national data security and sovereignty caused by this flow have become fundamental issues that should be solved urgently during global economic governance.

Secondly, digital trade has become a major target of governance. As the product of international trade reshaped by digital technology, digital trade proposes new requirements for global economic and trade governance just like the inherent demand of GVC trade for border and domestic measures. Both digital delivery trade in its narrow sense and physical commodity trade in its broad sense that includes all digital transactions are very different from traditional trade or GVC trade in terms of its mode, subject, intermediary, and delivery.⁴⁸ The cross-border transmission of data has a key role in trade. The scope of global economic and trade governance has expanded from a territory or boundary in the traditional geographical sense of the nation-state to the digital space. New trade barriers such as digital connectivity, localization, mandatory disclosure of source code, and data review have become forefront issues of global economic and trade governance.

Thirdly, international cooperation in the governance of digital enterprises is increasingly popular. As new market players in the operation of the world economy in the digital era, enterprises on multinational digital platforms have accumulated many users by supplying trading, social, and other platforms. Besides large-scale enterprises, they are also providers of trading locations and infrastructure.⁴⁹ Enterprises or consumers can use platforms to participate in the transaction and division of labor. An online presence means that if an enterprise has more platform users, it can attract more new users and strengthen its competitiveness. Therefore, in many fields of digital service, large industry-leading enterprises often take the lead. The governance of these enterprises mainly involves competition, taxation, and other issues that are originally within

48 Sheng Bin and Gao Jiang, Beyond Traditional Trade: Connotation, Characteristics and Impact of Digital Trade, *Social Sciences Abroad*, No. 4, 2020, pp. 18-32.

49 Jiang Xiaojuan and Huang Yingxuan, Market Order, Market Supervision and Platform Governance in the Digital Age, *Economic Research Journal*, No. 12, 2021, pp. 20-41.

the scope of domestic policies. However, due to the complexity of platform operation modes, which include both multilateral platforms and free value-added modes, and its operation scope that vastly exceeds the borders of a single country, it is possible to serve thousands of users without establishing a legal entity within a certain place. These platforms blur domestic and international boundaries and make it difficult to effectively manage by relying on the power of a single country. International cooperation in digital platform governance has become an inevitable trend of global economic governance in the digital era.

2. New Requirements for Governance

The state-led development model that emerging economies have adopted has impacted other countries' market-oriented development model, drastically altering the existing rules of global economic governance. If these emerging economies attempt to expand their development models' international influence and strive to attain a more relaxed external environment, they may face more conflicts related to global economic governance.⁵⁰ The dominant position of the neoliberal governance philosophy is constantly facing challenges.⁵¹ The diverse development paths that emerging economies implement are increasingly gaining attention, understanding, and affirmation from the international community, but they are far from mainstream. The diversification of the concepts and values of global economic governance has led to increasingly intense competition for the right to formulate, interpret, and execute rules. It is even more significant to determine how to enhance the mutual understanding of diverse governance concepts and values, shape a harmonious relationship during global economic governance, and forge a consensus for global economic governance. Institutions and rules are the main tools of traditional global economic governance. Due to the impact of digital technology, since the common economic problems that countries face are increasingly complex and constantly changing, global economic governance methods must become innovative. For example, the issue of cross-border data flow is worth mentioning. After gaining

50 Miles Kahler, *Rising Powers and Global Governance: Negotiating Change in a Resilient Status Quo*, *International Affairs*, No. 3, 2013, p. 713.

51 Robert Niblett, *Liberalism in Retreat*, *Foreign Affairs*, No. 1, 2017, pp. 17-24.

support from 5G, cloud computing, big data, and other technologies, the transmission of cross-border data has become diverse and fast. As a result, it is possible to instantly accomplish the cross-border flow of a massive amount of diverse data. This will occur in various scenarios, including internal aspects of businesses such as multinational enterprises' finance, human resource management, and administrative management operations as well as external aspects of businesses such as these enterprises' financial transactions. The transmission path of this data has become extremely complex and enterprises often deploy servers at their headquarters or in a third country, while considering factors such as efficiency and cost. Overseas branches transmit information to their headquarters or directly access server information. The registration, access, or release of information by overseas digital platform users will result in the fulfillment of cross-border data transmissions. End users, branches, and partners throughout the world can use the data center where the enterprise's server is located, which forms a complex data transmission network and complicates data tracking and monitoring. Challenges such as diverse data types and their application, complex data transfer paths, and difficulty in identifying data subjects all suggest that digital governance needs support from advanced technical means to scientifically and effectively achieve governance objectives. Technical specifications or standards based on advanced underlying technologies will provide support for global digital economic governance, which is important for developing innovative global economic governance.

3. Diversified Governance Subjects

The nation-state has always been an important subject of traditional global economic governance, while international organizations and non-governmental organizations are also extremely important. As the division of labor in the GVC develops, the production networks that transnational corporations dominate are spread all over the world. Their interests are closely related to the host countries, which has highly motivated transnational corporations to participate in global governance.⁵² In this stage of globalization, transnational corporations

52 Huang He, Transnational Corporation and Global governance — From a Perspective of Transformation of Globalization, *International Review*, No. 6, 2017, pp. 122-136.

often participate indirectly by influencing the positions and decisions of governments and cooperating with non-governmental organizations. In the digital era, the issues that global economic governance faces are more complex and changing, and their resolution requires the participation of digital enterprises, non-governmental organizations, and other stakeholders with extensive resources and strong technical capabilities. These participants have become more diversified. Presently, since the institutional rules of global economic governance lag far behind technological updates, the leading digital platform enterprises have directly participated in global economic governance by relying on their well-developed technologies, rapidly enhancing their market power and control over massive amounts of data. An effective global governance framework has not yet been formed, and beneficial preliminary research hasn't been conducted.

It is predicted that global economic governance in the post-pandemic era will experience unpredictable disputes and conflicts in terms of regulation, which mainly stems from two factors. On one hand, the decline of previously dominant norms has not eliminated it and other norms are not strong enough to replace it, which has caused conflicts among different concepts. Some experts believe that countries' interdependence is a weapon that can be implemented to overcome conflicts. However, as countries re-examine this form of interdependence and adjust their policies, these "weapons" are becoming sources of conflicts. The uncertainty index indicates a shift in global economic governance. For example, the World Uncertainty Index (WUI) shows that global uncertainty has significantly increased since 2012, and the high level of uncertainty within the past decade has been quite rare during the past 60 years.⁵³ On the other hand, each idea has different orientations regarding how to deal with globalization and interdependence. In addition, many differences that cannot be easily reconciled indicate that it will be challenging to reach a compromise or consensus in the future.

53 Hites Ahir, Nicholas Bloom and Davide Furceri, 60 Years of Uncertainty, *Finance and Development*, No. 1, 2020, p. 59.

B. The Ways of Global Economic Governance

Digital technology and its extensive applications in the global economy have expanded the scope of global economic governance and innovated the ways of governance. Considering the digital economy's impacts on global economic governance and new features of this governance, it is facing an increasingly complex situation. On one hand, accelerated digitization in traditional global economic governance has not only created new impetus for development, but also enriched the meaning of this governance. On the other hand, the present governance environment confronting this governance proposes higher requirements for international coordination and cooperation.

1. Improving the Ways and Efficiency of Governance

The meaning and extension of global economic governance in the digital economy era are broader than those in the traditional economy era. In addition to the key aspects of traditional global economic governance, the issues of global economic governance in the digital economy era are more complex due to the influence of digital technology, finance, trade, government, and security. This has proposed higher requirements for reducing governance costs, and it is necessary for countries and international organizations to change their ways of participating in global economic governance to improve its efficiency. On one hand, it is better to transform the governance structure. Considering the diversity and complexity of governance objects in the digital economy era, the global economic governance structure needs to change from its "vertical" structure to a "horizontal" one to achieve its aim of distributed governance. This will enable the allocation of governance objects to organizations by considering their categories and each organization's comparative advantages, after which experts can maximize their expertise. In addition, a comprehensive governance center should be established to guide the overall discussion of the issue of governance structure as well as to design the plan and assign tasks from the perspective of the goal's completion. This can ensure the continuity of the issued policies and maximize their efficiency. On the other hand, the means of

governance should be changed. Amidst the increasingly complex situation of global economic governance, it is necessary to accurately analyze and predict issues in different fields of global economic governance by applying digital technologies and methods such as big data and cloud computing. These improved governance methods can identify reasonable and urgent issues, create intelligent governance models, and provide more reliable decision-making proof for international organizations and governments, which can provide better solutions.

2. Expanding the Scope of Governance to Include More Groups

Differences exist between the digital and traditional economies in terms of economic format, participants, and operation mode. Global economic governance must expand its scope to include more groups. (i) More participants should be included in global economic governance during the digital economy era. Additionally, the digital divide should be narrowed while considering the quantity and quality gaps. The World Economic Forum (WEF) recommends the establishment of an “Internet for all” focused on improving people’s digital literacy and skills while continuing to expand the Internet’s popularity. Moreover, global economic governance should include disadvantaged groups such as SMEs in traditional trade. They can participate in the international division of labor by getting involved in digital trade, further developing the potential of supply and demand in the international market. (ii) Global economic governance should include more business forms during the digital economy era. Many issues existing in the governance during the traditional economy era will remain during the digital economy era, which requires continuous attention. In addition, the digital economy per se will create many new business forms in digital technology, trade, finance, government, and security, such as Bitcoin, cross-border e-commerce, and intelligent manufacturing. These emerging businesses should be included in the scope of global economic governance. (iii) More areas should be emphasized in global economic governance during the digital economy era. In this era, politics and economy share a closer link. The deepening integration of the digital and real economies has increasingly blurred the

boundaries between industries. Therefore, broader areas, especially emerging areas such as the Internet and space, should be emphasized in global economic governance. More countries can catch up to the digital economy by implementing new mechanisms of international cooperation.

3. Seeking Common Ground While Acknowledging Differences to Reduce Conflicts and Differences

One of the challenges of global economic governance in the digital economy era lies in how to deal with the differences and conflicts between different countries or regions in terms of rule-making, policy implementation, standard setting, and other aspects. Countries with different cultural backgrounds, governance systems, and development stages of the digital economy have contrasting value preferences and varying governance strategies. Inevitably, conflicts will occur during this governance. Complicated competition mechanisms involve conflicts or differences in cross-border data flows, transnational intellectual property protection, digital tax regulation, market access, and other aspects. The major challenge lies in how to reduce differences and build consensus. All countries participating in global economic governance should pursue win-win outcomes rather than unilateral agreements to comply with the principle of “seeking common ground while acknowledging differences”. To achieve the aim of mutual development, their differences in ideology as well as political and economic systems should be set aside and a consensus should be sought in areas with common needs.

4. Updating Rules and Standards to Remain Relevant

Before World War II, the global economic governance system did not exist. Kindleberger pointed out that the Great Depression of 1929 had a profound impact and lasted for a long time since Britain was powerless in the international economic system and the US was unwilling to assume the responsibility to stabilize it.⁵⁴ The digital economy has resulted in many new changes, which

54 Charles P. Kindleberger, *The World in Depression: 1929-1939*, Berkeley: University of California Press, 1992, pp. 236-291.

has caused numerous rules and standards that existed during the previous version of global economic governance to become obsolete. This version must be changed so it can adapt to the new era. (i) Trade rules must be amended and improved. In the digital economy era, trade is highly digital. Items like commodity display, search inquiry, negotiation and exchange, payment and settlement, and after-sales return visits can be all be conducted online, while digital services, products, knowledge, and information have become popular for commodities. Therefore, international trade rules focused on offline physical commodity delivery must be urgently changed. (ii) International standards must be formulated and improved. The rapid development of digital technology requires prompt updates and improvements of international technical standards to quickly create a universal technical standard system and establish a new order of technical cooperation suitable for the digital economy era. (iii) Legislation on new business forms must be established and improved. Digital technology has resulted in numerous new business forms, such as Bitcoin, which has become a type of digital virtual currency that global consumers desire, but the establishment of related legislation lags far behind its practical experience. Other businesses have resulted from the integration of digital technology and traditional business forms, such as automatic driving and intelligent medical care. Legislation in these fields also must be improved to enhance their development. The digital economy era still has many areas where all countries must improve current economic rules and standards.

5. Advocating Multi-party Co-construction to Achieve Collaborative Governance

In the digital economy era, global economic governance often involves multiple fields in its practical implementation rather than a single one. A single country or organization cannot easily solve these problems effectively. When faced with complex and difficult problems, the international community should collaborate while reflecting the spirit of joint discussion, mutual construction, and sharing. On one hand, countries or regions should create coordinated governance. The solution for major issues in global economic governance cannot be separated from countries' joint efforts, especially when

dealing with global issues such as cyberspace security, global warming, and international emergencies. While implementing coordination between organizations, international coordination will become particularly important. On the other hand, governments, platforms, industry organizations, and platform users should achieve collaborative governance. The digital economy is uncertain and complex, and includes challenges in data governance, algorithmic governance, the governance of competition in digital markets, online ecosystem governance, and other aspects. This suggests that it is difficult to receive an effective response by relying solely on the government or a participant. In fact, as far as the theoretical significance of digital economic governance is concerned, the transformation from management to governance depends on the role of the government, platforms, industry associations, and other governance entities. The government focuses on solutions for market failure as well as how to provide a fair market environment to promote the digital economy's development. Internet platforms, especially digital platforms, should understand their competition, and maximize the governance advantages of algorithms, data, and user proximity to create an improved version of cyberspace. Industry associations should actively coordinate with intermediate organizations, provide a platform for communication or consultation between different subjects, and strengthen their industry self-discipline. Global digital economic governance must create collaborative governance with clear rights, responsibilities, and benefits.

6. Promoting the Sustainable Development of Global Digital Governance

Digital technology has created a new impetus for the global economy's sustainable development. Technological innovation has always been a source of economic development. Since the outbreak of COVID-19, the digital economy has become an important driving force to cope with the pandemic and promote economic recovery. It is safe to say that the digital economy has provided strong support for preventing and controlling the pandemic as well as promoting economic development.⁵⁵ The digital economy is an important way of

⁵⁵ China Academy of Information and Communications Technology, White Paper on China's Digital Economy Development 2021, pp. 4-6, http://www.caict.ac.cn/english/research/whitepapers/202104/t20210429_375940.html (Last Visited on February 2, 2023).

achieving sustainable development along with significantly reducing social and economic costs during economic activities. During climate governance, for instance, digital technology directly reduces carbon emissions during traditional economic activities and contributes to fulfilling climate goals such as carbon neutrality by implementing macro management paths that include data analysis and scenario prediction.⁵⁶ During industrial development, digital infrastructure reduces economic costs, while digital platforms help to share resources and intensively use them. Digital transformation redefines traditional business models, simplifies business processes, expands production boundaries, reduces enterprise costs, improves operational efficiency, and creates more employment opportunities, thus promoting sustainable economic growth.⁵⁷

In general, in terms of governance paths, global economic governance during the traditional economic era is a “centralized”, vertical, and unilateral governance system led by developed countries. Since countries tend to start by considering their own interests, established governance tasks cannot be effectively distributed globally. The only way is to transfer these tasks from the global to the regional level, where they will be further allocated to the national and then to the domestic level. Decomposition and transmission at each level will undoubtedly make global economic governance more difficult and complex.⁵⁸ In the digital economy era, global economic governance should address global governance objectives in a more intelligent and reasonable way, and the aim of horizontal and diversified governance will be gradually achieved. (i) A diversified governance model should be established. In the digital economy era, the governance system should focus on all countries’ governments as the central aspect of participation; emphasize the participation of industry organizations, platforms, and people; highlight the platforms’ governance responsibilities; unify governance concepts; coordinate governance tasks; and prevent

56 China Academy of Information and Communications Technology, White Paper on Global Digital Economy — The Recovery from the Impact of the Epidemic 2021, pp. 11-13, http://www.caict.ac.cn/kxyj/qwfb/bps/202108/t20210802_381484.htm (Last Visited on February 2, 2023).

57 Zhu Heliang and Wang Chunjuan, Industry Digitalization against the Strategic Background of the New Development Paradigm: Theory and Countermeasures, *Finance & Trade Economics*, No. 3, 2021, pp. 14-27.

58 Sui Guangjun and Zha Tingjun, Transformation of Global Economic Governance: from the Perspective of the Belt and Road, *Journal of Social Sciences*, No. 8, 2018, pp. 3-12.

governance conflicts. (ii) A collaborative governance model should be established. We should not only strengthen coordination among international organizations, regions, and countries, but also need to extend collaboration to the micro-level, including enterprises, industrial organizations, and research institutions. Micro-level collaboration will promote macro-level collaboration, while power at each level and in each field should be fully unified and applied. (iii) A rule-of-law governance model should be established. During the digital era, countries should align themselves with forward-looking, dynamic, and interactive principles by legalizing cyberspace, digital technology, online information, and the market system to regulate international cyberspace as well as clarify the digital economy's property and real rights. While collaborating to combat unfair market competition, they should protect consumer rights and interests during transnational consumption and jointly build a legalized market system.

VI. CONCLUSION

The new issues resulting from the digital economy's globalization have extensively impacted the traditional global governance mechanism, highlighting the weakness of global economic governance. On one hand, these issues are increasingly surpassing the limits of traditional geographical boundaries, and they are often difficult to be solved by relying on the strength of a single country. On the other hand, a single country's policies and measures regarding digital economic governance often have a huge impact on other countries and the world. Currently, countries participating in the economic division of labor are competing fiercely in terms of the digital economy. They hope to build a rule system that suits their own goals and basic interests in this emerging economic field, which makes the governance difficulties in the global digital economy increasingly prominent. Global issues need global solutions. They should confront the challenges of global digital risks by following multilateral principles while considering security and development along with fairness and justice. Presently, digital economic globalization has exceeded the paradigm of

traditional economic globalization, and traditional economic governance has demonstrated an obvious lack of theoretical support in response to problems existing within digital economic globalization. Therefore, countries around the world should work together to build an open, inclusive, and win-win global economic governance system by enhancing contact and collaboration, uphold the correct concepts, remain committed to the correct viewpoints, and update existing methods of global economic governance.