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China's Digital Silk Road in the Age of the Digital Economy: Political Analysis

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Abstract. The digital economy is an increasingly important driver of the global economic growth. In recent years, regional digital cooperation has received a new tangible impetus with the launch of China's "Belt and Road" initiative (BRI). The Digital Silk Road (DSR), as the BRI's technological component, is becoming a digital bridge to promote a new type of globalization. The DSR has achieved extraordinary progress recently. It has strengthened regional cooperation in digital economy, mainly in Asia and Africa, through such channels as cross-border e-commerce and mobile financial tools, while it also reflects the global technological transformation under the Fourth Industrial Revolution in key sectors such as big data, digital currency, cloud computing and Internet of Things (IoT). Thus, the DSR provides the optimal platform for new formats and technologies, such as digital trade and digital infrastructure, which have developed rapidly in recent times. However, most countries participating in "Belt and Road" initiative are still at an early stage of digital transformation; the potential of the huge digital growth has yet to be released. Furthermore, the digital lag has become a major problem limiting economic development. This article focuses on the digital economy as a new economic model, its potential and challenges, analyzing the possible implications beyond China's DSR at both national and international levels, particularly, the role of DSR within the context of the Sino-US strategic rivalry. The methodological basis of the study covers a wide range of general scientific methods of political analysis, such as analytical, empirical, chronological, comparative, situational, narrative and descriptive. The author argues that the DSR provides a great opportunity for active multinational engagement in building a regional platform for the development of digital economy and a legal framework for digital standards and governance rules. China should focus on key sectors of the DSR, especially cross-border e-commerce, mobile financial tools, digital yuan, cloud computing and other cutting-edge components to make the DSR a more decisive initiative in global digital transformation. In promoting its own rules of digital governance, China has to be prepared to overcome difficulties and challenges that are partly the result of great power competition. The conclusion contains the results of the study and the strategic policy recommendations beyond the DSR.

Key words: digital divide, digital economy, Digital Silk Road, digital transformation, e-commerce, financial technologies, Sino-US rivalry

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Цифровой Шелковый путь Китая в эпоху цифровой экономики: политический анализ

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Аннотация. Цифровая экономика становится все более важным фактором глобального экономического роста. Региональное сотрудничество в цифровой сфере получило ощутимый импульс в результате запуска инициативы «Пояс и путь». Цифровой Шелковый путь (ЦШП), будучи технологической частью «Пояса и

пути», выступает «цифровым мостом» в продвижении нового типа глобализации. За последние годы здесь был достигнут значительный прогресс. Благодаря ЦШП удалось укрепить региональное сотрудничество в сфере цифровой экономики, в частности в Азии и Африке, через трансграничную электронную торговлю и мобильные финансовые инструменты. ЦШП отражает глобальные технологические изменения в рамках Четвертой индустриальной революции в таких ключевых секторах, как большие данные, цифровые валюты, облачные вычисления и Интернет вещей. Как представляется, Цифровой Шелковый путь — это оптимальная платформа для новых форматов и технологий, таких как цифровая торговля и цифровая инфраструктура, которые развиваются стремительными темпами. Однако большинство стран, участвующих в инициативе «Пояс и путь», все еще находятся на начальной стадии цифровой трансформации; потенциал широкого цифрового роста в полной мере не раскрыт. Более того, отставание в сфере цифрового регулирования является основным препятствием экономического роста. Данная статья посвящена цифровой экономике как новой экономической модели, ее потенциалу и вызовам, анализу возможных последствий для китайского ЦШП на национальном и международном уровне, в том числе в контексте китайско-американского стратегического соперничества. Методологическую основу исследования составляет широкий спектр общенаучных методов политического анализа, таких как аналитический, эмпирический, хронологический, сравнительный, ситуационный, нарративный и описательный. Цифровой Шелковый путь предоставляет широкие возможности для многостороннего участия в построении региональной платформы в целях развития цифровой экономики и правовой основы для цифровых стандартов и правил управления. Китаю следует сконцентрировать свои усилия на продвижении ключевых секторов ЦШП — трансграничной электронной торговле, мобильных финансовых инструментах, цифровом юане, облачных вычислениях и других передовых компонентах. Это позволит повысить интегративную роль ЦШП в общем контексте глобальной цифровой трансформации. Продвигая собственные правила цифрового управления, Китай должен быть готов преодолевать трудности и вызовы, которые отчасти являются следствием великодержавной конкуренции. В заключении приводятся результаты исследования и рекомендации по стратегической политике.

Ключевые слова: цифровое неравенство, цифровая экономика, Цифровой Шелковый путь, цифровая трансформация, электронная торговля, финансовые технологии, американо-китайское соперничество

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Introduction

The digital economy and trade have not been uniformly and clearly defined globally at the academic level, while relevant international organizations and national authorities still have disputes over the digital trade and its classification (Bukht & Heeks, 2018). At first, researchers generally believed that the digital economy was driven by the Internet (Brynjolfsson & Kahin, 2000; Lane, 1999, p. 317; Tapscott, 1996).[1] Later researchers identified three main components of the digital economy as e-business (operating process), e-business infrastructure (hardware, software, telecom, networks, etc.), and e-commerce (on-line trade).[2] Digitalization as a term has been defined as the transition of businesses through the use of the digital technologies, products and services.[3] Since then, the research has focused on "digitalization" and "digital transformation" to explore various cross-sectoral digitalization trends.[4] In 2020, the OECD report offered the

[1] Also see: Margherio L., Henry D., Cooke S., Montes S. The Emerging Digital Economy // U.S. Department of Commerce. 1998. URL: https://govinfo.library.unt.edu/ecommerce/EDEreprt.pdf (accessed: 16.02.2022).

[2] Mesenbourg T., Atrostic B. Measuring the US Digital Economy: Theory and Practice // U.S. Bureau of the Census. 2001. URL: https://2001.isiproceedings.org/pdf/1074.PDF (accessed: 16.04.2022).

[3] Brennen S., Kreiss D. Digitalization and Digitization // Culture Digitally. September 8, 2014. URL: http://culturedigitally.org/2014/09/digitalization-and-digitization/ (accessed: 16.04.2022).

[4] See: Ministerial Declaration on the Digital Economy ("Cancún Declaration") from the Meeting on the Digital Economy: Innovation, Growth and Social Prosperity // OECD. Paris : OECD Publishing, 2016. URL: https://www.oecd.org/internet/Digital-Economy-Ministerial-Declaration-2016.pdf (accessed: 16.04.2022); OECD Digital Economy Outlook 2017 // OECD. Paris : OECD Publishing, 2017. URL: https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/93170 11e.pdf (accessed: 16.04.2022); Information Economy Report 2017: Digitalization, Trade and Development // UNCTAD. New York : United Nations Publications, 2017.

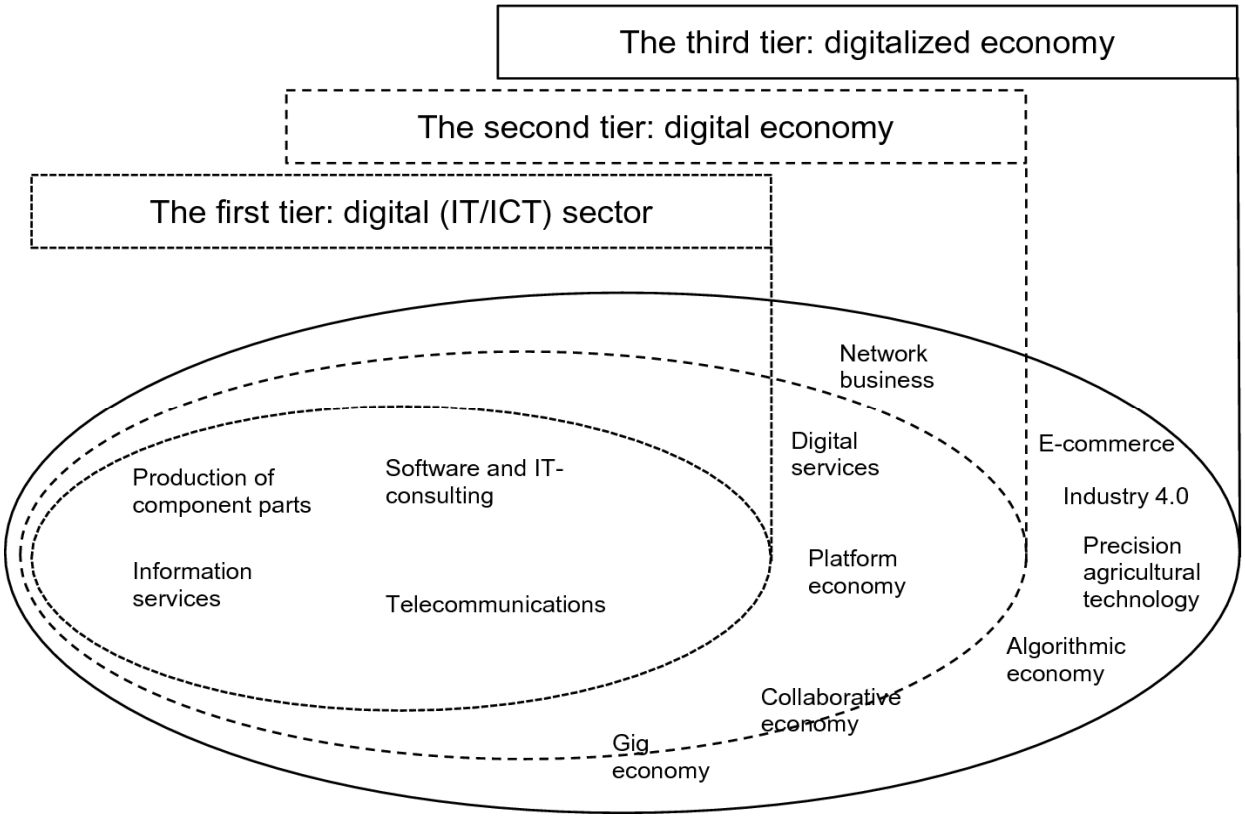

Fig. 1. The scope of the digital economy

Source: Digital Economy Report 2019: Value Creation and Capture: Implications for Developing Countries // UNCTAD. New York: United Nations Publications, 2019. P. 6. URL: https://unctad.org/system/files/official-document/der2019_en.pdf (accessed: 16.04.2022).

definition from a macro perspective as bottom-up, top-down, and flexible approaches.[5] Meanwhile, the digital trade was defined by the international organizations as "all trade that is digitally ordered and/or delivered."[6] The WTO report defined three components of digital trade as trade in ICT products, global e-commerce, and cross-border data transfer.[7] The US vision of digital trade includes end-products and products and services that rely on or facilitate digital trade.[8]

The Chinese vision of digital trade refers to the trade in products, services and technologies that rely on the Internet and digital technology, use digital exchange technology as its means, and use Internet transmission as a medium for cross-border delivery tools, including digital product trade, digital service trade (Xu & Han, 2021), and digital technology trade (Ding, Liu, Zheng & Li, 2022).

In general, according to the official research, the scope of the digital economy can be interpreted as Fig. 1.

URL: https://unctad.org/system/files/official-document/ier2017_en.pdf (accessed: 16.04.2022).

[5] A Roadmap toward a Common Framework for Measuring the Digital Economy // OECD. 2020. URL: https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf (accessed: 16.04.2022).

[6] Digital Economy Report 2021: Cross-Border Data Flows and Development: For Whom the Data Flow // UNCTAD. New York : United Nations Publications, 2021. URL: https://unctad.org/system/files/official-document/der2021_en.pdf (accessed: 16.04.2022).

[7] World Trade Report 2018: The Future of World Trade: How Digital Technologies Are Transforming Global Commerce // World Trade Organization. 2018. URL: https://www.wto.org/english/res_e/publications_e/world_trade_report18_e.pdf (accessed: 25.04.2022). See also: (Smeets, 2021).

[8] Fefer R., Akhtar S., Sutherland M. Digital Trade and U.S. Trade Policy. Congressional Research Service // Congressional Research Service. 2021. P. 1. URL: https://crsreports.congress.gov/product/pdf/R/R44565 (accessed: 25.04.2022).

China's Digital Silk Road: Theoretical Framework

The Digital Silk Road (DSR) is a component and a technological dimension of China's Belt and Road Initiative (BRI), a global infrastructure connectivity strategy, initiated in 2013. The DSR concept originated from the 2nd World Internet Conference in 2015, when Chairman Xi Jinping expressed China's five proposals, including speeding up the construction of global network infrastructure and promoting interconnectivity.[9] At a sub-forum "Digital Silk Road, Cooperation and Win-win" several key issues have been discussed including launching an online platform for cultural exchanges and sharing, developing cyber economy, cyber security, and Internet governance system.[10]

In recent years, the DSR has gradually attracted attention of the international observers. However, there has been relatively little academic research on the issue comparing to the BRI. This reflects the general understanding among international community towards the DSR is still in formation, with few books covering the DSR as their primary topic (Hillman, 2021; Kassenova & Duprey, 2021). Based on the China's updated policy paper, some international researchers have offered their definition or understanding of the DSR goals. For example, some researchers suggested that the main components of DSR are telecommunications networks, cloud computing, e-commerce and mobile payment systems, surveillance technology, smart cities, and other high-tech areas.[11] Some denoted two key aspects of the DSR as the supply of the Internet connections through submarine cables and broadband Internet and China's BeiDou satellite navigation network.[12] Although most Western researchers are skeptical about the global efforts and achievements of the DSR, questioning its security impact and implications, represented by the tech giants (such as Huawei and ZTE) activities in the relevant countries. They also believe that China's digital progress challenges Western technological leadership and accuse China of exporting its political model through technological means.[13] There are still some researchers who believe the DSR could be beneficial to the world.[14]

[9] Xi Jinping Attends Opening Ceremony of Second World Internet Conference and Delivers Keynote Speech // Embassy of the People's Republic of China in the United States of America. December 16, 2015. URL: https://www.mfa.gov.cn/ce/ceus//eng/zgyw/t1325603.htm (accessed: 12.03.2022).

[10] Xue Lin: Hulianwang shi cishan gengjia touming [Xue Lin bates in the Field of Internet Makes Charity More Efficient and Transparent] // China Radio Network. December 17, 2015. (In Chinese). URL: http://news.cnr.cn/native/gd/20151217/t20151217_520821160.shtml (accessed: 13.03.2022).

[11] See: Eder T., Arcesati R., Mardell, J. Networking the "Belt and Road" — The Future is Digital // Mercator Institute for China Studies. 2019. URL: https://merics.org/en/tracker/networking-belt-and-road-future-digital (accessed: 13.03.2022); Assessing China's Digital Silk Road Initiative: A Transformative Approach to Technology Financing or a Danger to Freedoms? // Council on Foreign Relations. 2020. URL: https://www.cfr.org/china-digital-silk-road/ (accessed: 16.04.2022).

[12] Linh T. Digital Trade Must be Central to Biden's 'Pivot to Asia' // The Diplomat. August 10, 2021. URL: https://thediplomat.com/2021/08/digital-trade-must-be-central-to-bidens-pivot-to-asia/ (accessed: 16.04.2022).

[13] See: Cheney C. China's Digital Silk Road: Strategic Technological Competition and Exporting Political Illiberalism // Council on Foreign Relations. September 26, 2019. URL: https://www.cfr.org/blog/chinas-digital-silk-road-strategic-technological-competition-and-exporting-political (accessed: 16.04.2022); Greene R., Triolo P. Will China Control the Global Internet via its Digital Silk Road? // Carnegie Endowment for International Peace. May 8, 2020. URL: https://carnegieendowment.org/2020/05/08/will-china-control-global-internet-via-its-digital-silk-road (accessed: 16.04.2022); Kurlantzick J. China's Digital Silk Road Initiative: A Boon for Developing Countries or a Danger to Freedom? // The Diplomat. December 17, 2020. URL: https://thediplomat.com/2020/12/chinas-digital-silk-road-initiative-a-boon-for-developing-countries-or-a-danger-to-freedom/ (accessed: 16.04.2022); Wheeler A. China's Digital Silk Road (DSR): The New Frontier in the Digital Arms Race? // Silk Road Briefing. February 19, 2020. URL: https://www.silkroadbriefing.com/news/2020/02/19/chinas-digital-silk-road-dsr-new-frontier-digital-arms-race/ (accessed: 16.04.2022); Ghiasy R., Krishnamurthy R. China's Digital Silk Road and the Global Digital Order // The Diplomat. April 13, 2021. URL: https://thediplomat.com/2021/04/chinas-digital-silk-road-and-the-global-digital-order/ (accessed: 16.04.2022). See also: (Tugendhat & Voo, 2021).

[14] See: Agbebi M. China's Digital Silk Road and Africa's Technological Future // Council on Foreign Relations. 2022. URL: https://www.cfr.org/sites/default/

The Chinese scholars believe that the DSR could play a decisive and positive role[15] in a digitalized global economy (Gong & Li, 2019). Due to the large scale of the DSR, hereby the author will present the analysis only in conjunction between the DSR and the digital economy.

Research Methodology

This paper consists of a literature review supported by empirical research. The literature review is conducted to show the academic discourse on the digital economy and the DSR. The article mainly utilizes inductive and comparative methodology to articulate both the digital economy and the DSR as two related cases. The data collection focused primarily on the qualitative approach, with the data of the research containing both primary and secondary sources.

The Digital Economy in the Global Context

On a global scale, the Fourth Industrial Revolution (Industry 4.0) driven by such technologies as the Internet of Things, big data, cloud computing, information and telecommunication technologies (ICT), and artificial intelligence (AI) is having a profound impact on every corner of the socioeconomic development. The expansion of the digital economy driven by digital data and platforms (platformization) has created an immeasurable variety of new economic opportunities, leading to better of economic and social outcomes, and has become a driving force for innovation and productivity growth.[16] At present, the vigorous development of the digital economy promotes the growth of global digital trade and opens up new space for the global trade. The UN official report indicates that the scale of the digital economy accounts for about 4.5—15.5% of the global GDP.[17] In the world's largest economy, the US, from 2005 to 2019, real value added of the digital economy grew at an average annual rate of 5.2% outpacing the 2.2% growth in the overall economy.[18] The continuous expansion of the digital economy has pushed the world into a new digital era, and has also become the driver of a new round of globalization. Hence, the development of the digital economy has now risen to a national strategic level. It is estimated that by 2025, 24.3% of the global economy will be digital (amounting to USD 23 trillion), comparing to its share of 15.5% in 2016.[19]

According to the research, from 2009 to 2018, the contribution of global cross-border data flow to global economic growth was as high as 10.1%.[20] Cross-border data flows support almost all globalization activities, such as trade in goods and services, capital flows, and logistics. Digital trade is surpassing traditional trade and becoming a new engine of international trade and, thus, a new force of economic globalization.

In the wake of the devastating impact of the COVID-19 pandemic, the world's major economies have recognized the urgency of the digital economy and have significantly increased their investment in information technology, while strengthening the government policy support.

files/pdf/Chinas%20Digital%20Silk%20Road%20and%20Africas%20Technological%20Future_FINAL.pdf (accessed: 16.04.2022); Arcesati R. China's Rise in Digital Governance: Deploying Technology to Deliver Public Goods At Home and Abroad // Mercator Institute for China Studies. March 2022. URL: https://merics.org/sites/default/files/2022-03/MERICS-Primer-Digital-Governance-2021_final.pdf (accessed: 16.04.2022).

[15] Hao C. J. China's Digital Silk Road: A Game Changer for Asian Economies // The Diplomat. April 30, 2019. URL: https://thediplomat.com/2019/04/chinas-digital-silk-road-a-game-changer-for-asian-economies/ (accessed: 16.04.2022).

[16] Digital Economy Report 2019: Value Creation and Capture: Implications for Developing Countries // UNCTAD. New York : United Nations Publications, 2019. URL: https://unctad.org/system/files/official-document/der2019_en.pdf (accessed: 16.04.2022).

[17] Ibid.

[18] Fefer R., Akhtar S., Sutherland M. Digital Trade and U.S. Trade Policy. Congressional Research Service // Congressional Research Service. 2021. P. 1. URL: https://crsreports.congress.gov/product/pdf/R/R44565 (accessed: 25.04.2022).

[19] Digital Spillover: Measuring the True Impact of the Digital Economy // Huawei. September 5, 2017. URL: https://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf (accessed: 16.04.2022).

[20] Digital Economy Report 2021: Cross-Border Data Flows and Development: For Whom the Data Flow // UNCTAD. New York : United Nations Publications, 2021. URL: https://unctad.org/system/files/official-document/der2021_en.pdf (accessed: 16.04.2022).

For example, in February 2020, the European Commission issued its digital policy roadmap to strengthen the EU economy and improve its digital competitiveness.[21] The digital economy is likely to start a new round of economic cycle and may become the engine of economic recovery in the post-pandemic era.

Global "Digital Divide" in the Digital Transformation Period

On the one hand, digital globalization has triggered systemic changes in the global context (Joseph, 2001, p. 335). On the other hand, digital governance rules still lag behind, with the following characteristics.

Firstly, the problem of the global "digital divide" is still prominent. For example, in least developed countries, only one in five people uses the Internet as compared to four out of five in developed countries. Furthermore, Africa and Latin America together account for less than 5% of the global colocation data centers.[22] Thus, for some countries this digital gap has resulted in the "digital isolation" from the world.

Secondly, there is lack of leadership of the WTO in promoting the global digital governance rules. The world has not yet formed a unified digital governance rules framework (Aaronson & Leblond, 2018, p. 253).

Thirdly, the global digital trade rule system lacks uniformity and universal coverage. With the absence of global agreement on digital trade, the differences between the US and the EU countries on their formulation seem insurmountable. At the same time, the emerging powers, for instance, China, demand fair digital trade rules (Gao, 2021, pp. 327—331).

Fourthly, there are many barriers to digital trade rules in various countries. In order to safeguard their markets and protect their own interests, some countries have adopted policies on digital product trade tariffs, digital product trade data flow, personal data flow policies, restrictions on FDI and export controls, etc. in the name of protecting national security (Lim, 2021, pp. 109—111).

Fifthly, lack of understanding of the legal nature of digital technologies and relevant legal regulation leads to the lack of the major legislation, regulation and supervision towards the digital trade (Sidorenko & von Arx, 2020, p. 24).

Sixth, the Sino-US strategic rivalry around digital rules and governance and technical standards has significantly intensified. Particularly, both China and the US have promoted their own cyber-sovereignty to manage information and data flows and develop intergovernmental technological ecosystems (Degterev, Ramich & Piskunov, 2021, p. 8). The US approach of a "multistakeholder, decentralized model" (Mueller, 2020) stands in sharp contrast with China's approach of a "multilateral, centralized model" (Hong & Harwit, 2020, p. 4). Thus, the cyberspace, as the basic environment for the digital economy and digital trade, becomes the key dimension in this global digital divide.

Finally, the trend of global digital trade towards an "alliance" or "bloc" building has been further strengthened. The multilateral framework represented by the WTO has failed to produce progress on the new issues in the digital trade, which has also accelerated the trend efforts of the West to win over stakeholders to build alliances.[23]

China's Potential in the Digital Economy

In 2016, China's digital economy amounted to 30.3% of its GDP, the added value of China's digital economy reached USD 5.5 trillion in 2019, ranking second in the world. From 2014 to

[21] Shaping Europe's Digital Future // European Commission. February 19, 2020. URL: https://ec.europa.eu/info/sites/info/files/communication-shaping-europes-digital-future-feb2020_en_4.pdf (accessed: 19.03.2022).

[22] Digital Economy Report 2019: Value Creation and Capture: Implications for Developing Countries // UNCTAD. New York : United Nations Publications, 2019. URL: https://unctad.org/system/files/official-document/der2019_en.pdf (accessed: 16.04.2022).

[23] Wu M. Digital Trade-Related Provisions in Regional Trade Agreements: Existing Models and Lessons for the Multilateral Trade System // RTA Exchange. Geneva : ICTSD and the IDB. November, 2017. URL: https://e15initiative.org/wp-content/uploads/2015/09/RTA-Exchange-Digital-Trade-Mark-Wu-Final-2.pdf (accessed: 25.04.2022).

2019, the digital economy contribution to China's GDP growth was well above 50%, and in 2019, it reached 67.7%, becoming its core driving factor.[24] There is a room for China's digital dividend to be transformed into the "Belt and Road" regional dividend.

The scale of China's digital economy reached USD 5.8 trillion in 2020, accounting for 38.6% of its GDP, a nominal increase of 9.7% on year-on-year basis, and an increase from 14.2% in 2005 to 38.6% in 2020. It is predicted that by 2023, 51.3% of China's GDP will be directly or indirectly related to the output of the digital economy.[25]

The value of e-commerce transactions in China, one of the key sectors of the digital economy, has increased enormously over the past 20 years, and China has become the top global market. The market is also characterized by increasing diversity, for example, the expansion of cross-border e-commerce, the development of online-offline transactions, and the growth of e-medical services (Jiang, Zhang & Jin, 2021, pp. 141—143). In the field of cross-border e-commerce, there are many domestic market players, including e-platforms, e-payment operators, e-vendors, warehousing operators and express shippers that jointly operationalize huge numbers of online transactions and offline deliveries on a day-to-day basis (Ye, 2021, p. 154). In June 2018, China took the lead in compiling and publishing the "Framework of Standards on Cross-Border E-Commerce", which became the first guiding document for global cross-border e-commerce supervision services.[26]

Though the COVID-19 pandemic has caused a global economic recession, China's digital technology has played an irreplaceable role not only in prevention and control of the virus, but also in the entire economic recovery process (Wang, Su, Zhang & Li, 2021). Thus, the digital economy will become the main engine of economic recovery in the post-pandemic period.

The Digital Silk Road

From China's perspective, the DSR is an important aspect of the "opening up" principle and the policy of "striving for achievement" in the new era, as well as an attempt to participate and contribute to global economic governance. The DSR strategy is also accompanied by other key initiatives such as the "Made in China 2025 (MIC 2025)", "China Standards 2035", "Internet+" and the "MCF".

At the policy level, the DSR is an organic combination of the China's determination to develop its digital economy and the BRI. It is also a natural product of promoting the "community with a shared future for mankind" in the digital age strategy. The Vision and Actions of the BRI promotion offer improved international communication, smoothing the Information Silk Road, increased information exchange and cooperation.[27]

In 2017, at the "Belt and Road" Forum (BRF) Chairman Xi Jinping called for an innovation-driven development by strengthening cooperation in cutting-edge fields such as the digital economy, and promote big data and cloud computing, the construction of smart cities.[28] In September 2021, China successfully hosted the World Internet Conference BRI Internet International Cooperation Forum.[29]

[24] Digital Economy Development in China // The China Academy of Information and Communications Technology (CAICT). July, 2020. URL: http://www.caict.ac.cn/english/research/whitepapers/202007/P020200728343679920779.pdf (accessed: 25.04.2022).

[25] Ibid.

[26] Cross-Border E-Commerce: Framework of Standards // World Customs Organization. June, 2018. URL: http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/activities-and-programmes/ecommerce/wco-framework-of-standards-on-crossborder-ecommerce_en.pdf?la=en (accessed: 12.03.2022).

[27] Full Text: Vision and Actions on Jointly Building Belt and Road // Xinhua. March 28, 2015. URL: http://www.china.org.cn/china/Off_the_Wire/2015-03/28/content_35182638.htm (accessed: 14.03.2022).

[28] China Focus: Xi Launches Belt and Road Forum to Map Out New Global Vision // Xinhua. May 14, 2017. URL: http://www.xinhuanet.com//english/2017-05/14/c_136282137.htm (accessed: 15.03.2022).

[29] South — South Cooperation Event Debuts at CIFTIS-2021 International Forum on South — South Cooperation and Trade in Services Concludes Successfully // China International Center for Economic and Technical Exchanges. September 26, 2021. URL: http://www.cicete.org.cn/article/english/NewsUpdate/2021/09/20210903202114.shtml (accessed: 17.03.2022).

At the international level, the Belt and Road Digital Economy International Cooperation Initiative was launched by China in 2017 jointly with Egypt, Saudi Arabia, Serbia, Thailand, Türkiye, UAE and Laos.[30] To date, the memoranda of understanding (MOUs) on building the DSR have been signed between China and 22 partner countries.

One of the essential components of the DSR is the physical infrastructure such as the cross-border optical cable network. So far, progress has been witnessed in the construction of cross-border fiber optic cables carried out by China, Russia, Pakistan and other countries. Other efforts include Huawei building the "Pakistan — East Africa Cable Express (PEACE)" and China Telecom's active involvement in the Super Transit Silk Road (STSR) internet overland cable system spanning Europe and Asia.[31]

Cross-border e-commerce can be considered one of DSR's global benchmarks. According to official data, through the e-commerce platforms Chinese products are sold to 54 countries along the route, including such major economies as Russia, Poland, Thailand, Saudi Arabia, and Egypt.[32] Cross-border e-commerce is developing rapidly internationally. Data indicate that the global cross-border e-commerce B2C market reached USD 675 billion in 2018, with an average growth rate of about 30%.[33] China and its 22 partner countries have jointly built up the platform "DSR E-commerce". In 2019, the total amount of China's cross-border e-commerce trade with the participating countries increased by 87.9% year-on-year.[34] In 2018, China's total retail volume of import and export commodities sold through the customs cross-border e-commerce management platform reached USD 26.6 billion, an increase of 38.3%, which most intuitively reflects the degree of internationalization of the digital economy (Liu, Osewe, Shi, Zhen & Wu, 2022).

Despite the pandemic-caused global economic recession since 2020, China has taken swift efforts in promoting its "digital diplomacy" to strengthen the global digital cooperation, boost the global digital economy development, and reinforce the implementation of the DSR in order to achieve the goal of global recovery (Table 1).

Table 1

China's Global Efforts to promote "Digital Diplomacy"

2020	2021
September: Global Initiative on Data Security (ICT Supply Chain Security); November: China — ASEAN Digital Economy Partnership; BRICS New Industrial Revolution Partnership Innovation Base; Formulation of Smart City Guidelines	March: China — Arabian Data Security Cooperation Initiative; June: China — CELAC Cooperation Forum; July: China — ASEAN Digital Economy Development and Cooperation Forum; Guidelines on Outward Investment and Cooperation in the Digital Economy; August: China — SCO Forum on the Digital Economy; China — African Internet Development and Cooperation Forum; September: CPTPP; November: Digital Economy Partnership Agreement (DEPA)

Source: Events // The China Academy of Information and Communications Technology (CAICT). URL: http://www.caict.ac.cn/english/events/ (accessed: 16.04.2022).

[30] Moody A., Yu C. Digital Silk Road Forges Strong Links // China Daily. December 5, 2017. URL: http://www.chinadaily.com.cn/business/4thwic/2017-12/05/content_35207841.htm (accessed: 19.03.2022).

[31] Kelkar K. From Silk Threads to Fiber Optics: The Rise of China's Digital Silk Road // Observer Research Foundation. 2018. URL: https://www.orfonline.org/expert-speak/43102-from-silk-threads-to-fiber-optics-the-rise-of-chinas-digital-silk-road/ (accessed: 16.04.2022).

[32] 2019 nian zhongguo dianzishangwu hangyefazhan xianzhuang jí shìchang qianjing yanjiubaogao [Research Report on the Development and Market Prospects of China's E-Commerce Industry in 2019] // China Business Industry Research Institute. 2019. (In Chinese). URL: https://wk.askci.com/details/410b8e0556bd4223b5085696e00028d0/ (accessed: 19.03.2022).

[33] China — Country Commercial Guide: e-Commerce // International Trade Administration. February 3, 2021. URL: https://www.trade.gov/country-commercial-guides/china-ecommerce (accessed: 19.03.2022).

[34] Ibid.

Opportunities beyond the DSR: Implications for China

From the technological perspective, the following application scenarios have great potential in a number of practices.

Big data

For BRI countries with a well-developed big data industry, cooperation and development can be strengthened in the iterative research and development of underlying technologies (such as storage, computing and resource management) and analysis platforms (such as data collection), while the application of big data technology to marketing, risk control and network optimization could be expanded. At the same time, the cooperation will strengthen the expansion of integrated applications in vertical industries and help explore the application scenarios and business models of big data in the field of manufacturing, medical care, government affairs and public utilities.[35]

Mobile financial functions

In terms of mobile digital infrastructure, the relevant areas along the DSR generally have complex geographical conditions, especially in many remote mountainous regions with underdeveloped regional communication facilities. Rapid development of mobile Internet has brought lower communication costs and more convenient access to the Internet for these regions, thus achieving leapfrog development. In terms of mobile finance service, digital payments through digital wallets (e-wallets) and QR codes have fundamentally shifted our lives by using personal mobile banking systems to conduct payments. The e-wallets phenomenon has driven the Chinese economy towards a "cashless" future and accelerated its digitalization process. With the help of Chinese mobile payments technology and mobile financial service model a majority of the BRI countries will have huge development opportunities in financial services. In terms of mobile transportation, majority of the BRI countries have "pain points" in transportation to varying degrees. Mobile Internet and sharing economy models could quickly improve the travel experience of people in countries and regions along the route.[36]

In particular, China is experiencing a revolution in its payment systems. Domestically, the top two Chinese mobile payment service, Alipay and WeChat pay, have seen a significant user growth in recent years (Table 2 and Fig. 2). 87% of China's population has access to fintech apps such as WeChat Pay and Alipay, which together accounted for more than 90% of electronic payments in China as of 2021.[37] Globally, China aspires to lead the development of a "non-Western" payments system. Western sanction against Russia and its financial sector will further accelerate the process of internationalization of Chinese payments system.

Digital renminbi

China has been working on the digital renminbi since 2014 and is leading the way among major economies in trialing state-supported digital currency. The DSR offers great opportunities to vigorously promote the internationalization of the renminbi, especially the development of the Cross-Border Interbank Payment System (CIPS) and the digital renminbi. Particularly, China's ban on the mining of cryptocurrencies (such as Bitcoin) in September 2021 substantiates its determination and efforts to officially launch the digital renminbi.[38]

[35] Ma W. Could a Digital Silk Road Solve the Belt and Road's Sustainability Problem? // World Economic Forum. September 19, 2018. URL: https://www.weforum.org/agenda/2018/09/could-a-digital-silk-road-solve-the-belt-and-roads-sustainability-problem/ (accessed: 25.04.2022).

[36] Zhu V. China's FinTech: The End of the Wild West // Institut Montaigne Policy Paper. Paris : Institut Montaigne. 2021. URL: https://www.institutmontaigne.org/ressources/pdfs/publications/china-fintech-end-of-wild-west-note.pdf (accessed: 25.04.2022).

[37] Turrin R. China's Digital Yuan Is Not Death Knell for Alipay and WeChat Pay // South China Morning Post. February 15, 2022. URL: https://www.scmp.com/comment/opinion/article/3166958/chinas-digital-yuan-not-death-knell-alipay-and-wechat-pay (accessed: 24.03.2022).

[38] Shin F. What's behind China's Cryptocurrency Ban? // World Economic Forum. January 31, 2022. URL: https://www.weforum.org/agenda/2022/01/what-s-behind-china-s-cryptocurrency-ban/ (accessed: 25.04.2022).

Table 2

Comparative Overview of Alipay and WeChat pay

Criteria	Alipay	WeChat pay
Founding company	Alibaba	Tencent
Status	Third-party mobile online paymentplatform	Mobile payment digital wallet
Flagship financial products	2009: Credit Card Repayment Service 2013: Yu'ebao 2017: Facial Recognition Payment Service 2019: Tourpass 2020: QR Code System containing COVID-19; Open Digital Platform	2014: Red Envelope (Hongbao) 2019: WeChat Pay HK (Transaction in Hong Kong Dollar) 2022: e-CNY available among 1 bln WeChat users
Brands	Taobao (domestic); Tmall (Tianmao) (international)	QQ; weixin
International use	Over 300 global merchants Support transactions in 18 major foreign currencies	2019: 25 countries, including Italy, Russia, South Africa, and UK
Chinese market share	2017: 54% 2020: 56% 2022: over 1 billion users	2017: 37% 2020: 39% 2022: over 1 billion users

Source: Alipay Global Merchant Portal // Alipay. URL: https://global.alipay.com/platform/site/ihome (accessed: 16.04.2022); Weixìn zhifu menhu [WeChat Pay Portal] // WeChat Pay. (In Chinese). URL: https://pay.weixin.qq.com/index.php/public/wechatpay (accessed: 16.04.2022).

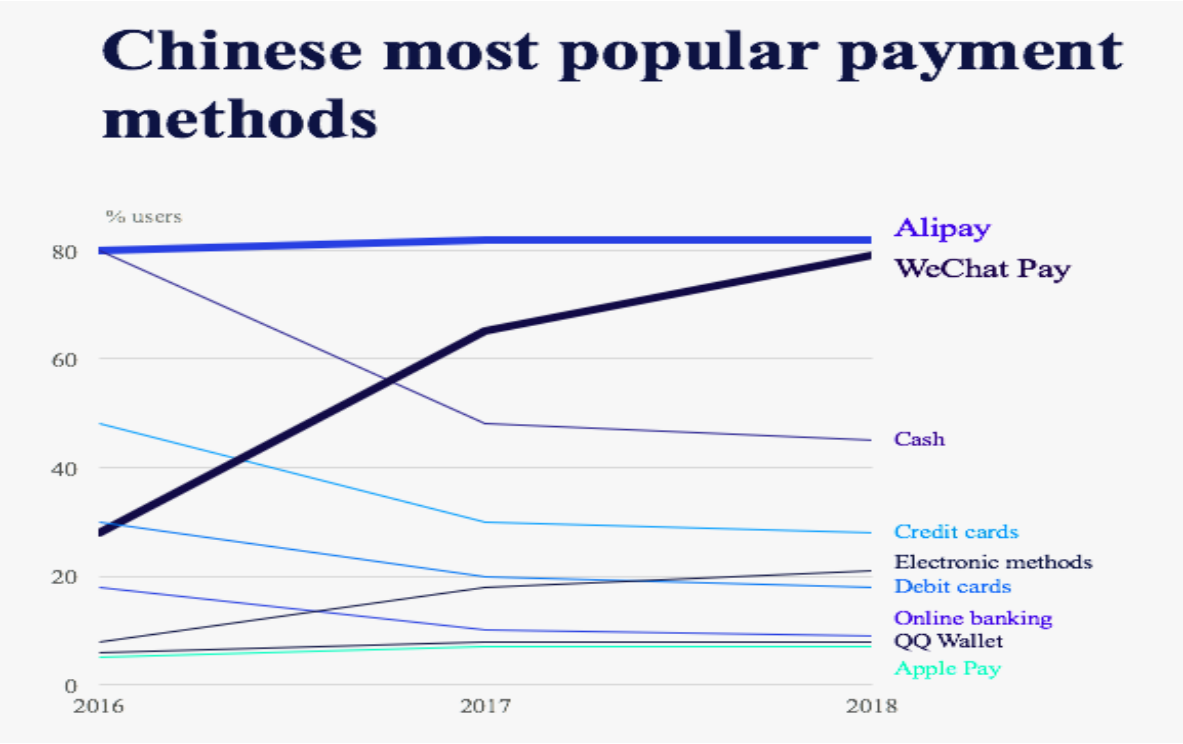

Fig. 2. Most Popular Payment Methods in China, 2016—2018

Source: Business Data Platform // Statista. URL: https://www.statista.com/statistics/1066420/china-monthly-unique-devices-financial-apps/ (accessed: 25.03.2022).

During the pandemic, China was piloting the use of digital renminbi in its megacities (as Beijing and Shenzhen) via lotteries for domestic large-scale usage. By the end of 2021, there were 261 million users of the digital renminbi wallet who had made USD 13.8 billion worth of transactions.[39] In January 2022, China launched its pilot digital renminbi through a mobile app,

[39] Feng C. China's Digital Currency: e-CNY Wallet Nearly Doubles User Base in Two Months to 261 Million Ahead of Winter Olympics // South China Morning Post. January 19, 2022. URL: https://www.scmp.com/tech/tech-

e-CNY, which is available on Android and Apple application stores. Shortly after that, e-CNY was also made available for over 1 billion WeChat users ahead of the 2022 Beijing Winter Olympic Games.[40]

The e-CNY clearly paves the path and guides China towards accelerating process of displacing physical cash in the long run. China's private sector could also benefit from the availability of the real time information in this digital age.

At the international level, the digitalization of the renminbi has significant potential to accelerate the use of the Chinese currency in international transactions, if the payments system outcompetes the existing infrastructure, and, finally, boosts the comprehensive internationalization of the renminbi. The BRI projects and Chinese tourists traveling around the world provide a perfect opportunity for China to promote the digital renminbi comprehensively. Furthermore, Western sanctions against Russia could offer new opportunities for the digital renminbi and its cross-border payments system.

Cloud computing technologies

With the promotion and application of cloud computing in various fields, the BRI countries have great development potential in cloud computing application fields such as industrial cloud, government cloud, and education cloud computing.

The industrial cloud computing is becoming a key element supporting the development of the manufacturing. The government affairs cloud unifies and centrally deploys the e-government affairs of various government departments and regions, which can greatly reduce IT operation and maintenance costs to build a cloud platform system for various application scenarios such as public safety management, emergency management, urban management, intelligent transportation, and social security. In addition, the developing countries under the BRI often have problems such as the scope of education popularization and the uneven quality of education. Education cloud can break through the limitations of time and region, realizing education equity and cooperation while sharing of advantageous educational resources, and fundamentally change the way of knowledge acquisition (Lv et al., 2018).

Internet of Things (IoT)

The application and promotion of the Internet of Things (IoT) technology in the industry has further deepened the integrated application of information technology in the industrial field, providing opportunities for the DSR countries to adjust the industrial structure and promote the development of industrial integration. The increasing pressure on the environment and resources requires the DSR countries to adhere to a "green," low-carbon, scientific and harmonious industrialization.[41]

Opportunities in the Application Service System

From the perspective of application services systems, first, cross-border e-commerce is the most suitable trade and business model for the DSR. In terms of the market size, cross-border e-commerce has significantly expanded recently. In addition to the traditional "Hai Tao" popular oversea markets such as the EU and Japan, and the Republic of Korea, commodities from the BRI countries have gradually become popular among the Chinese consumers in the retail sector (Liu, Osewe, Shi, Zhen & Wu, 2022).

Second, intelligent manufacturing could effectively assist the industrialization under the DSR. China and the BRI countries have similar industrial structures which could be complementary. The BRI cooperation and the "Made in China 2025" (MIC2025) initiative in the intelligent manufacturing industry has achieved good results at the practical level. There is still potential for further cooperation in high-tech products and projects such as high-speed railways.[42]

trends/article/3163953/chinas-digital-currency-e-cny-wallet-nearly-doubles-user-base-two (accessed: 25.03.2022).

[40] Huld A. China Launches Digital Yuan App — All You Need to Know // China Briefing. April 13, 2022. URL: https://www.china-briefing.com/news/china-launches-digital-yuan-app-what-you-need-to-know/ (accessed: 25.04.2022).

[41] Ma W. Could a Digital Silk Road Solve the Belt and Road's Sustainability Problem? // World Economic Forum. September 19, 2018. URL: https://www.weforum.org/agenda/2018/09/could-a-digital-silk-road-solve-the-belt-and-roads-sustainability-problem/ (accessed: 25.04.2022).

[42] Ma W. Could a Digital Silk Road Solve the Belt and Road's Sustainability Problem? // World Economic Forum. September 19, 2018. URL: https://www.weforum.org/

Third, smart city construction is the key solution. With the information society, the population of cities has increased significantly and the scale of cities is expanding rapidly. There are no solutions to urban problems, and the effective use of modern information technology to ensure sustainable development has become urgent for the governments of all countries. Therefore, the construction of smart cities has important and far-reaching strategic significance for the DSR.[43]

Fourth, there is a great potential for the development of telemedicine. It is the core of the "Internet + Medical Health" service and an important part of the DSR. The construction of a cross-border telemedicine service system among the BRI countries could break through the geographical restrictions, enable patients to access high-quality medical services and improve the availability of high-quality medical resources (Wang et al., 2019).

Fifth, cooperation in the field of smart education has broad prospects. Various educational resources between China and BRI countries have overcome the limitations of space and distance through network technologies radiating to a wider area and promoting more efficient utilization of educational resources. The online education has grown fast during the pandemic and demonstrated its advantages. The courses selected with no location restrictions can fully meet the needs of the citizens of the relevant countries for modern and lifelong education.[44]

Challenges beyond the DSR: Implications for China

Despite the opportunities, the DSR is still in its infancy and is facing severe challenges. At the international level, centering on "digital sovereignty" and related geopolitical and economic interests, such challenges to the DSR have become increasingly prominent.

The Sino-US strategic rivalry has dramatically transformed the bilateral relations and become a megatrend of the contemporary international relations. The technological dimension of this rivalry, concerning technological dominance in the digital age, runs deeper and outlasts any putative resolution of the Sino-US trade war (Degterev, Ramich & Tsvyk, 2021, pp. 221—223). The DSR has become a new frontier in this technological competition. Various definitions as "techno-nationalism" and "techno-globalization" profoundly reflect that the "technopolitical spheres of influence" caused by digitalization are no longer purely territorial, but still allow geopolitical power to be projected and international dependencies to be cemented (Luo, 2022, pp. 4—6).

The Trump administration undertook comprehensive decoupling efforts by launching the "techonomic war" to counter China. Furthermore, it defined China's technological rise as the national security threat. Its main efforts evidently reflect its intention to force China to abandon its "Made in China 2025" policy and compete with the DSR. Meanwhile, the Trump administration listed the cutting-edge technologies as quantum science, AI, and 5G communications as top national R&D priorities. Overall, the Trump administration focused more on countering China's high-tech manufacturing sector rather than specifically countering the DSR (Table 3, 4).

As shown in Table 3, the Trump administration has sought to intensify regulatory efforts to block China's access to advanced US technology by reforming the Committee on Foreign Investment in the United States (CFIUS) review mechanism, modernizing the foreign investment review process and export control system. Particularly, the Entity List blacklists the top Chinese high-tech suppliers. Thus, Huawei is the global leading producer in multiple sectors as ICT, IoT, cloud computing, and artificial intelligence (AI). Hikvision and Dahua Technology are the top global suppliers of the video surveillance technologies. SenseTime Group is the world's most funded AI startup and

agenda/2018/09/could-a-digital-silk-road-solve-the-belt-and-roads-sustainability-problem/ (accessed: 25.04.2022).

[43] Siacor J. Smart Technology to Make China's Belt and Road Initiative Sustainable // OpenGov. March 30, 2022. URL: https://opengovasia.com/smart-technology-to-make-chinas-belt-and-road-green-initiative-sustainable/ (accessed: 25.04.2022).

[44] Zhou T. From "Hardware" to "Human-ware" // China Daily. March 8, 2022. URL: https://www.chinadaily.com.cn/a/202203/08/WS62269f94a310cdd39bc8b0b9.html (accessed: 25.04.2022).

Table 3

The Trump Administration Major China-related Legislation and Chinese Companies Targeted, 2017—2021

Measures	2017	2018	2019	2020	2021
Export control		Export Control Reform Act		Export Controls on Artificial Intelligence (AI) Software	
Investment restriction	CFIUS blocked the Ant Financial (Alibaba) purchase MoneyGram bid	Foreign Investment Risk Review Modernization Act		Executive Order (EO) 13959 (31 Chinese companies, including China Telecom Corp Ltd; China Mobile Ltd; Hikvision)	
Export administration regulations entity list			May: HUAWEI, ZTE June: Sugon; the Wuxi Jiangnan Institute of Computing Technology; Higon; Chengdu Haiguang Integrated Circuit; Chengdu Haiguang Microelectronics Technology; October: Dahua Technology; HikVision, SenseTime Group; Megvii	SMIC	Total 420 Chinese companies and subsidiaries by the end of term
Information and communications technology	EO 13794 (Establishment of US technology Council)		EO 13873 (Huawei, ZTE)	EO 13913 (Huawei, ZTE)	
Applications and software bans (including mobile payment apps)				EO 13942 (TikTok) EO 13943 (WeChat)	EO 13971 (WeChat Pay; Alipay; QQ Wallet)
Delisting from stock exchanges				Holding Foreign Companies Accountable Act (Alibaba, JD.Com, Pinduoduo, PetroChina, Netease)	

Source: The US — China Trade War: A Timeline // China Briefing. April 25, 2020. URL: https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/ (accessed: 16.04.2022).

is renowned for powerful facial recognition systems. SMIC is the global top semiconductor supplier and chip maker. Besides the ban on these Chinese hardware companies, the Trump administration also focused on countering China's rising fintech through banning Chinese software companies, the key reason of its ban on WeChat and Alibaba is their payments system. Facebook[45] and other US tech giants supported limiting the use of the WeChat and TikTok electronic payments systems. President Trump also focused on the digital renminbi challenge to the US banking system calling for the digitalization of the US dollar to compete with China (see Table 4).

If President Trump's techonomic war with China marked a starting point of the Sino-US high-tech competition, President Biden's goal is to win this competition by various means. During the campaign, Biden advocated much increasing investments in the technological sphere and improving digital access. Since taking office, President Biden has initiated a fundamental tactical change in continuing this techonomic war by prioritizing countering China's BRI and DSR specifically and strengthening the US digital economy capacity (Table 5).

[45] On March 21, 2022, the Tverskoy District Court of Moscow satisfied the claim of the Prosecutor General's Office of the Russian Federation and recognized the activities of the social networks Instagram and Facebook, owned by Meta, as extremist, banning their work in Russia. — *Editor's note.*

Table 4

The Trump Administration Domestic Legislation on High-Tech and Digital Trade Agreements

Measures	2018	2019	2020
Domestic	National Quantum Initiative Act: Quantum Computing	EO 13859; American AI Initiative: American Leadership in Artifitial Intelligence; American Broadband Initiative (ABI): Deployment of Broadband Internet across Rural America	Secure 5G and Beyond Act: U.S. Leadership in 5G Technology
International	Infrastructure Transaction and Assistance Network (ITAN); Digital Connectivity and Cybersecurity Partnership (DCCP); Asia EDGE;	Blue Dot Network (BDN); U.S. — Japan Digital Trade Agreement	Clean Network Initiative

Source: Presidential Actions // The Trump White House Archives. URL: https://trumpwhitehouse.archives.gov/presidential-actions/ (accessed: 16.04.2022).

Table 5

The Biden Administration's Main Domestic High-Tech Legislation and Global Initiatives

Actions	2021	2022
Domestic	S.1169: Strategic Competition Act of 2021 (First ever Official Act calling for the Great Power Competition, particularly countering China's BRI); S.1260: US Innovation and Competition Act of 2021 (Maintaining the US Technological Supremacy and Countering China's Rising Tech Power); EO 14005; EO 14017 (Supply Chain); EO 14007 (High-Tech); EO 14028 (Cybersecurity); EO 14029 (Technical Amendment); EO 14032 (Security of Chinese Companies Investment); EO 14034 (Big Data); EO 14036 (US Economy Competition)	EO 14067 (Digital Assets, particularly Digital USD)
International	Build Back Better World (B3W)	

Source: Presidential Actions // The White House. URL: https://www.whitehouse.gov/briefing-room/presidential-actions/ (accessed: 16.04.2022).

Domestically, the Biden administration enacted investments in the US digital potential, which demonstrates that the digital trade and transformation form a crucial part of the Biden administration's economic policy. The Build Back Better World (B3W) plan promised infrastructural investments of USD 2 trillion over eight years, with USD 100 million per year directed towards broadband infrastructure. The COVID-19 pandemic laid bare the digital divide between the Americans, particularly in rural communities. These investments plan to provide affordable digital access to the 30% of Americans.[46] Particularly, President Biden initiated real actions to strengthen the US digital economy through his executive order on big data and other digital assets including a U.S. Central Bank Digital Currency.[47]

Internationally, in June 2021, the US-led G7 finally announced the global infrastructure alternative, the B3W Partnership, which is considered by the majority of analysts as the first ever US-led global initiative to counter China's BRI.[48] The B3W proposal echoes the DSR in aiming to increase global digital connectivity. It is Biden's greatest move to mobilize the private-sector capital of the US and its allies in digital technology, ideology (democratic values), and

[46] He W. Rivalry Must Not Dominate B3W // China Daily. November 30, 2021. URL: http://global.chinadaily.com.cn/a/202111/30/WS61a56012a310cdd39bc783ba.html (accessed: 25.04.2022).

[47] Avery D. Biden's 'Digital Dollar': Could This Be the US' Answer to Bitcoin? // CNET. April 5, 2022. URL: https://www.cnet.com/personal-finance/crypto/biden-digital-dollar-governments-answer-to-bitcoin/ (accessed: 25.04.2022).

[48] Johnson K. Belt and Road Meets Build Back Better // Foreign Policy. October 4, 2021. URL: https://foreignpolicy.com/2021/10/04/belt-and-road-initiative-bri-build-back-better-us-china-competition-west/ (accessed: 16.04.2022).

standards. The Biden administration has considered a regional digital economy initiative, particularly for the Indo-Pacific.[49] In general, the Biden administration has undertaken swift effort through its international network to strengthen the blockade of China's digital technology and counterbalance China in terms of technical standards and international rules.

As the pessimistic expectations of global economic growth have intensified, the global industrial and supply chain system is facing the risk of rupture far beyond that experienced due to the Sino-US trade war since 2018. The US has pursued the pushback policy against China, and the decoupling is rampant. The US has also mobilized its allies to repeatedly suppress China's high-tech sectors while damaging the global trade system. The COVID-19 lockdown and restrictive measures have seriously affected the cross-border flow of people, goods and investments, further inhibited the vitality and impetus of economic growth. In addition, increased uncertainty in the global political and economic expectations would exacerbate differences and conflicts between the governments.

The DSR still lacks relevant digital governance rules and frameworks. At present, the global digital governance rules are still in its infancy. The US and the EU have their own rules and different interests and have not yet formed a unified and widely recognized multilateral system. Multilateral frameworks such as the WTO have failed to achieve substantial progress in increasing cross-border data flow, privacy protection, and digital service market access. In addition, China's digital economy rules focus on the facilitation of global logistics, cross-border payments and other services, and cross-border trade in goods, however the legal system for digital intellectual property protection is not yet perfect, and the shortcomings of digital governance rules may bring greater challenges to the DSR (Luo, 2022).

China's digital governance rule system is still imperfect. The basic system related to the development of the digital trade is not yet perfect, and government efforts to spearhead negotiations and discourse are insufficient. Currently, China has signed 19 FTAs with 26 countries and regions, but only 7 FTAs concluded after 2015 include e-commerce chapters with limited scope, and another 8 include e-commerce chapters (Eckhardt & Wang, 2021). These e-commerce chapters cover traditional e-commerce issues such as digital product treatment and digital facilitation, but do not cover such issues as cross-border data flow, personal privacy protection, source code, intellectual property rights, and digital service market access. There is a lack of the systematic design of digital trade rules and negotiation strategies and also a large gap between the main positions and high-standard rules, which results in a relatively weak position in the negotiation game of multilateral and bilateral digital trade rules (Liu, Osewe, Shi, Zhen & Wu, 2022).

Conclusion

This paper provides a comprehensive analysis of China's DSR in the digital economy. In particular, this paper discusses the DSR's achievements, opportunities and challenges ahead. There are also several policy recommendations for building an even better DSR in the long run.

Firstly, China needs to promote the interconnection through the digital infrastructure of the DSR and accelerate the integration of rules and standards, actively share experience in digital infrastructure and bridge the digital infrastructure gap under the DSR. China needs to utilize its advantages in 5G, R&D and AI technology application to guide and support Chinese companies to participate more in the digital infrastructure construction. The scope of cooperation in the Internet of Things, intelligent interconnection, 5G and other fields should be expanded. Furthermore, China needs to accelerate an in-depth integration of traditional infrastructure such as subways, ports, and railways in BRI countries, with the new-generation information technologies such as the Internet, big data, and cloud computing and actively promote smart cities at the global level.

Secondly, China needs to take the opportunity of multilateral and bilateral

[49] Halpert M. Sources: Digital Trade Deal under 'Serious' Interagency Consideration // Inside Trade. November 2, 2021. URL: https://insidetrade.com/daily-news/sources-digital-trade-deal-under-%E2%80%98serious%E2%80%99-interagency-consideration (accessed: 25.03.2022).

platforms to build and share the framework of digital governance rules under the DSR. Digital governance is a new field of global governance, and the DSR should be used to jointly formulate a coordinated digital trade development mechanism and global digital governance rules from the perspective of exploring digital governance experience and coordinating interests, while promoting multilateral consultations in order to accelerate the pace of negotiations on issues related to high-standard digital trade rules. This may gradually narrow the scope of what is acceptable and what is not in the digital trade regulation.

Thirdly, China needs to focus more on exploring the cross-border e-commerce rules and standards. The BRI countries have obvious differences in import and export tariffs, logistics and transportation, package release, intellectual property protection, and credit reporting systems. Speeding up the establishment of unified rules is a top priority for all parties. It is urgent that China further expand the Electronic World Trade Platform (eWTP) and form a widely applicable eWTP standardization rule system. Particularly, China needs to focus on selecting qualified eWTP overseas markets, such as Malaysia, Rwanda, Ethiopia, and Belgium etc., to establish important digital trade platforms and hubs there (Johnston, 2021).

Fourthly, China needs to take the promotion of the DSR digital governance rules as an opportunity to speed up the improvement of basic domestic institutional arrangements by formulating and improving the basic digital trade rules, accelerating digital trade-related legislation, and gradually forming a rules-based supervision system. In addition, it is necessary to establish and improve the data market and reduce institutional obstacles by improving the cross-border data flow system, promoting the two-way flow of data, and effectively safeguarding the national digital sovereignty.

A Chinese idiom may help capture the role of the DSR for the BRI: adding wings to a tiger (*ru hu tian yi*) which means to add more capacity to strong power. Therefore, the DSR will not only benefit BRI countries, but will also serve as a flagship in the high-tech led digital transformation and globalization process in this coming digital age.

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