

The New Challenges and Development Path of China's Economic Gap in the Digital Economy Era

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Abstract. Being an influential engine of high-quality economic growth in China, the digital economy is changing the mode of production, the distribution of income and social organization. Nevertheless, the fast emergence of the digital economy has not been beneficial to everyone but has only contributed to widening the gap between the rich and the poor and created a new system of stratification in society. Considering China as a research subject, the paper will initially define the current situation and the regional features of China's digital economy through literature review, and subsequently, examine how the digital divide, unequal factor allocation and unequal regional development increase the gap between the rich and the poor. It is revealed that the increasing gap between the rich and the poor in the period of the digital economy is not brought about by technology per se, but as a result of the interaction between infrastructure conditions, education levels, capital distribution, and policy resource allocation. Thus, human beings ought to work towards the spread of digital infrastructure, construct a national digital skills training framework, and improve the distribution system of digital economic elements, as well as contribute to the balanced development of regions and urban and rural areas.

Keywords: Economic gap, digital economy era, development path.

1. Introduction

Digital technology has been infiltrating every aspect of the economy and society of the 21st century faster and more extensively than ever before and has led the world to enter the age of digital economy. Being one of the most dynamic countries in the sphere of creation of digital economy all over the world, China has systematically increased the size of digital economy, systematically improved the structure and enhanced the policy support system. Based on the statistics of China Information and Communication Research Institute, the volume of digital economy in China has been 56.1 trillion yuan as of 2023, or over 44 percent of Gross Domestic Product (GDP), becoming a significant contributor to the stable development of national economy. A new wave of digital technologies, including 5G, artificial intelligence, big data and blockchain, is speeding up the process of their integration with traditional industries, introducing new types of businesses, including smart tourism, cross-border e-commerce, digital finance and smart agriculture, which have fundamentally transformed the way people engage in production and live.

Nevertheless, because of the very fast growth of the digital economy, there is an ongoing emergence of social issues, and one of the most noticeable and noteworthy ones is the increase in the gap between the rich and the poor. Classically, the wealth gap has been mainly brought about by such reasons as uneven regional development, slow industrial transformation, and unequal access to schooling facilities. But in the context of the digital economy, the processes of formation of wealth gap are significantly more complicated. Coverage of the digital infrastructure, mastery of digital skills, distribution pattern of the digital economic factors and uneven development of the digital industries across different regions have caused systematic and direct widening of the gap between income and wealth [1, 2].

At present, the scholarly society has outlined three distinct and hierarchical analytical dimensions in terms of the interrelation among the digital economy and the wealth gap. The first one is the digital divide theory, which states that discrepancies in access to, use of, and use of digital technologies are already the direct contributors to the increase in inequalities in incomes [3]. The second theory is the

technology-biased technological progress theory, which claims that highly skilled workers gain from digital technologies more than low skilled workers, hence causing polarization in the labor market. Third theory is the theory of digital capital agglomeration effect: concentration of digital platforms, data resources, and algorithmic capabilities inevitably intensifies inequality in wealth distribution [4,5].

Internal researchers have done studies on similar topics. The most notable phenomenon known as the top-tier effect was initially discovered by Li Shi in the course of China digital economy evolution: it means that well-paid jobs with high-skilled people earn much more money than the workers in non-digital industries struggle to boost their salaries [1]. This study is complemented nicely by Cai Fang who has shown that there exist considerable discrepancies between urban and rural regions regarding the availability of digital infrastructure and access to digital financial services and employment opportunities in the digital sector [6]. Furthermore, such disparities are also contributing to the worsening of the current wealth gap between the rich and poor. There is no theoretical framework in the existing literature that provides an organized explanation of why the digital economy increases the wealth gap.

The article presents a well-organized analysis of the new challenges and development directions associated with the wealth disparity in China under the current era of digital economy and explains the importance of this study. To begin with, it is important to understand the inherent logic behind the digital economy and the wealth gap using theoretical explanations. In such a way, people will be able to refine and develop theories on income distribution in the framework of the digital economy. Also, there are practical policy suggestions regarding how the Chinese government may facilitate common prosperity in the age of digital economy. Thirdly, it gives useful lessons to China and other developing nations in solving the issue of social polarization caused by digital economy, through the lens of international comparison.

2. Current Development Status and Stage Characteristics of China's Digital Economy

2.1. Overall Development Scale and Industrial Layout of the Digital Economy

With the development of China's digital economy reaching its advanced stage, in 2023, the added value of the major digital industries was worth 8.5 percent of GDP. Industrialization of digital and digitization of industry are moving simultaneously. The digital industry is now geographically concentrated in the east coast regions. The cities of Beijing, Shanghai, Shenzhen and Hangzhou are developing with clusters of the digital industry with clear division of labor and unique benefits. These clusters include aspects of artificial intelligence, big data, cloud computing, blockchain, and the Internet of things. On the contrary, despite some progress, the central and western regions still lag behind in the size of the industrial sector, the capacity of the innovative sector, and their pool of talents [7].

2.2. Development Level of Core Digital Business Models

Even though China currently has an intelligent tourism system which can be used nationwide, there remains a considerable disparity in the degree of tourism digitization between the cities and rural areas, and between the east and west regions. Some of the famous scenic locations in the eastern area have already started using digital services in all aspects of the process such as reservations, smart guided tours, and contactless payment. Conversely, several remote scenic locations in the western region are also at the initial stage of informatization, with a poor coverage of digital services, whereas other scenic parts of the western region may be at the initial stage of informatization.

The imports and exports of cross-border e-commerce in China reached 2.38 trillion yuan in 2023, which was an increase of 15.6% over the previous year. Nevertheless, the largest companies in cross-border e-commerce remain in eastern coastal cities. The small and medium-sized companies in rural regions of central and western China are not much engaged due to their very limited participation and thus cannot exploit such opportunities.

At present, mobile payments, online banking, and online loans are among the most popular examples of digital financial services. Nevertheless, people living in rural regions and those aged 50

years and over continue to have difficulty accessing and using these financial services available in digital form. Equally, the creation of smart agriculture demonstration zones has made a successful beginning. Nonetheless, the entire digitalization of agriculture is just at the beginning, and not only the extent but also the width of implementation of digital technologies to empower agriculture are inadequate now.

2.3. Development Level of Core Digital Business Models

The regional development of the digital economy in China has a definite and measurable tendency of being strong in the east and weak in the west as well as strong in the cities and weak in the countryside. The eastern region dominates the digital economy with its share in the national total exceeding 60 percent, whereas in the western region it reaches below 15 percent. Most importantly, the 5G network coverage, the use of smart devices, and digital literacy levels in urban areas are much greater than in rural areas. Consequently, the digital gap between cities and rural areas cannot be explained simply by the lack of infrastructure. It is, in fact, a consequence of several elements including digital literacy, digital jobs, and the buildup of digital capital [8].

3. New Challenges Faced by the Wealth Gap in China in the Digital Economy Era

3.1. The Multi-Level Differentiation of the Digital Divide Exacerbates Uneven Development Opportunities

The digital divide has been transformed into not just an access gap but a multi-faceted problem that may be examined as in terms of access, usage and capability gaps.

The digital divide can be seen as a manifestation of the disparity in the coverage of the digital infrastructure in the urban and rural communities, and between the areas. The latest reports indicate that as of the end of 2023, the internet penetration rate in rural areas of China had been recorded at 61.2% which is less than the 83.1% rate in urban areas. The network coverage in many remote mountain areas and western rural communities is also poor, and there are few smart device owners. Consequently, millions of rural people have not yet achieved the full potential of the digital age on a balanced basis [9].

The biggest challenge with digital tools is that low-income groups, rural residents, and elderly cannot use them sufficiently well. As per the survey, it is evident that not more than 40 percent of those who are aged 60 years and above can use a smartphone to complete fundamental activities alone. Fewer still can access and use the digital financial services and other online services. Consequently, they are very susceptible to marginalisation during the digital economy era and thus are unable to benefit from the advantages of digital technologies.

The skills gap is the widest and longest-lasting separation. Hence, the differences in digital skills, digital entrepreneurship, and digital work directly determine which populations have the chance to take advantage of development opportunities in the digital economy. In particular, the high-skilled positions in the digital field, including data analysts, algorithm engineers, software developers, are highly paid compared to traditional positions. Still, it cannot be denied that these positions need high levels of education and specialization, and it is hard for people who live in rural areas or who have low levels of education to get into these fields. Most importantly digital entrepreneurship is still very densely represented by urban people with higher education and considerable capital.

3.2. Imbalanced Distribution of Digital Economy Factors Widens the Gap between Income and Wealth

Capital and technology are the two most significant factors of production in the age of the digital economy. At the same time, control and ownership of such assets are highly centralized among a few individuals. Hence, Chinese digital platform corporations and technology conglomerates have large

volumes of data resources, fundamental algorithms, and user traffic that gives them overwhelming market power. Consequently, the wealth of the executives, main technical staff and initial investors grew significantly. The regular workers and even those working in the traditional industries were deliberately eliminated out of this distribution system [10].

The most prominent cities of the digital industry have very high employment rates. Shanghai, Beijing, Shenzhen and Hangzhou contain more than 70 percent of all the digital industry jobs across the country. There is a substantial salary premium on the highly skilled positions in the digital market. Recruitment platform statistics report that the annual salary of an artificial intelligence engineer in a city of the first tier is 500,000 yuan compared to 70,000-80,000 yuan of a worker in the traditional manufacturing sector. The salary disparity is great.

The impact of digital finance, digital trade and other industries on wealth generation has also contributed to the increase in inequality of income distribution. Digital platforms have turned network effects into a winner-takes-all culture. Only a few major companies, popular influencers and famous content creators receive most of the traffic and profits whereas numerous small companies make only paltry revenues. The phenomenon of growing wealth inequality is also becoming more evident in the digital economy.

3.3. Disparities in the Growth of the Digital Economy Across Regions, and in Urban Versus Rural Areas

The developed areas of the eastern part of China have access to a lot of capital, talent, and even favorable policies. Eastern China has subsequently become the most significant and populous digital economy hub. Highly developed digital industries with full industrial chains and mature innovation ecosystems can be found in the Yangtze River Delta and Pearl River Delta as well as in the Beijing-Tianjin-Hebei region. The combination of regional differences in policy support and resource allocation in the digital economy increases wealth inequality. However, the digital industries in the west are still undeveloped causing an ever-larger gap between the rich and the poor.

The use of the digital economy in rural areas is at an initial level. Although e-commerce and live streaming sales have contributed to increasing the purchase of agricultural products, the full adoption of digital technologies into agriculture is still to be achieved. Precision irrigation, intelligent monitoring and data-driven decision-making are examples of technologies that can be important in smart agriculture but are not yet widely applied in rural regions. This has led to a low level of agricultural labor productivity and the economic divide between urban and rural areas remaining large.

4. Development Paths to Narrow the Wealth Gap in China in the Digital Economy Era

4.1. Promoting the Inclusive Development of Digital Infrastructure and Bridging the Digital Access Gap

The first step towards solving the digital divide is to make sure that digital infrastructure is available to everyone. The government must invest more in digital infrastructure in the rural and the west. It is important that attention is paid to the completion of the dual-gigabit network coverage project in order to enable remote areas to have access to high-speed, stable internet. Also, fiscal subsidies and trade-in programs could be utilized to reduce the barriers to purchasing smart devices faced by rural dwellers and individuals with low to middle incomes.

The Public-Private Partnership (PPP) model can be applied when introducing market and social capital in rural digital infrastructure development. At the beginning, telecommunications companies and internet providers must participate in the development of rural networks. Then, there are incentives that could be provided including tax advantages and cost subsidies to promote increased corporate involvement. It is even more important to develop and plan the digital infrastructure in combination with other rural infrastructure projects connected to transportation, water supply and

electricity supply. This strategy will also be useful in establishing the general support system in the process of rural development.

4.2. Building a National Digital Skills Development System to Bridge the Digital Capability Gap

The efforts needed to bridge the digital skills gap are those of the education system and social training. The state must officially and consistently integrate the concept of digital skills education into the national educational program. Elementary school is where programming and information retrieval as well as cybersecurity knowledge should start being taught. Steps need to be taken to make sure that digital education is accessible on equal terms in urban and rural schools. Also, there should be enough equipment in schools in underdeveloped regions and they should have a robust teaching staff.

Digital skills training packages are offered in a tiered and categoric style to important social groups including rural dwellers, traditional industries employees, and the middle aged and the elderly. It is important to start with teaching fundamental operations then move gradually and in a suitable manner to practical applications in the field of digital finance, online services, e-commerce and telemedicine. This will be very effective in improving the digital capacity of people in all the groups both in terms of digital living and digital productivity. Even more importantly, it is vital to establish the direct link between digital skills training and the market demand, promote a constructive business relationship between companies and training organizations, and develop local talent in respect to digital employment and entrepreneurship.

4.3. Improving the Allocation System of Digital Economy Elements in order to Reduce Income and Wealth Disparities

The imbalance in the distribution of factors of the digital economy is an issue that needs to be addressed by institutions. The appropriate departments ought to begin with enhancing the anti-monopolistic systems and income distribution systems of digital platforms. They need to ensure that there is no disorderly accumulation of capital and data. Also, they need to consider the option of levying a tax on digital platform companies to provide digital services, or even come up with a mechanism to share digital dividends, where part of the platform earnings can be used towards social security.

The department must take an active and structured approach to developing a vocational training and certification program in the field of digital roles, as it builds channels enabling professionals in conventional sectors to move to the sphere of digitalization. The compensation schemes ought to be entirely based on the worth of skills development and have a just and sensible salary increment scheme. At the same time, it is crucial to defend the rights and benefits of the flexible workers and those hired via the platforms.

4.4. Encouraging the Synchronized Growth of Regional and Urban-Rural Digital Economies

Actively and energetically facilitate the relocation of the digital industry to the central and western territories. Promote the development of branches, data centers, and customer service centers in the west by inviting digital businesses in the eastern regions to open shops there. It will also contribute to the creation of local employment opportunities and the growth of local expertise. Simultaneously, assist the western regions in creating unique and competitive digital industries that capitalize on their special resource strength in areas like smart tourism, digital agriculture and cross-border digital trade.

According to the urban-rural view, it is important to encourage the introduction of digital technologies into all parts of the agricultural value chain. Firstly, a number of smart agriculture demonstration zones need to be set up to introduce the use of digital technologies like precision farming, intelligent irrigation and product traceability on an experimental basis and in a systematic process. Then, attempts must be implemented to ensure that rural e-commerce is strongly intertwined with logistics, where the upward stream of agricultural products and the downward stream of

industrial goods can be performed digitally. Lastly, it is important to enhance the supply of digital financial services in the rural environment, offering affordable and accessible digital credit facilities to farmers to engage in entrepreneurship and agricultural production.

5. Conclusion

The paper focuses on China as a research subject and discusses the new opportunities created by the wealth gap under the digital economy conditions and the appropriate responses to them. The author notes that the digital economy is an important contributor to economic development, but at the same time, it intensifies the income disparity by different means including: the multi-level segmentation that results due to the digital divide, allocation inequities of the factors, and uneven regional and urban-rural development. More so, this paper will claim that it has its origins in the interplay between certain elements like infrastructure, education, capital, and policy. Most notably, the present paper claims that it has its origins in the interplay between certain elements like infrastructure, education, capital, and policy.

The relevant departments must ensure that the digital infrastructure is available to everyone and create a way to develop digital literacy in the population, streamline the allocation process of resources of the digital economy, and promote a synchronized development of the digital economy in cities and villages. The said methods need to be interrelated and supplementary, and the coordination needs to be established at national, local, market, and social levels.

Thus, empirical studies are a suitable method to perform particular policy mechanisms henceforth and also explore shifts in the feeling of gain and equity among various groups in the digital economy. The following limitations have been noted in this study. Empirical analysis based mainly on macro-level data, without a more detailed understanding of the situation at the level of individual households and individuals. Also, it does not explore in detail how different types of digital business models influence the wealth gap in different aspects. It will be advantageous to shift to the real consequences of certain policy steps (both positive and negative) in future studies, as well as compare the different sense of gain and fairness in different groups.

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