

The technology dividend and the digital divide: A political economy analysis of the impact of the digital economy on income inequality in China

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Abstract. As the economy grows, the digital economy has had a profound impact on multiple fields in China, particularly on the income gap. Some research believes that the digital economy helps reduce the income gap, while others disagree. This research aims to determine the impact of the development of the digital economy on the income gap within China. The research uses the literature review method to examine the impact of the digital economy, as well as analyzes typical cases to display the observation. The conclusion is that the digital economy has dual influences on the income gap, whereas, in the long run, the digital economy has a greater impact on decreasing the income gap in China. The research also points out the salient role of the government in regulating the digital economy.

Keywords: digital economy, technology dividend, digital divide, income gap, income inequality.

1. Introduction

As digital technology develops rapidly, the digital economy has become a crucial driver in boosting global economic growth. According to an agenda published by the United Nations called “2030 Agenda for Sustainable Development”, one of the central goals is that by 2030, all extreme poverty around the globe should be eradicated (United Nations, 2024). As one of the leaders of the digital economy, China's development of digital technology not only affects its economic growth but also has a profound impact on income distribution and social equity. The income level, as a pivotal criterion when evaluating the level of the economy, the income gap cannot be ignored. To discover the influence of the digital economy on the income gap in China, the research uses the method of literature review to explore the issue. The research discovered that the digital economy affects the income gap and narrows it in the long run. Having a dual influence on the income gap, the digital economy reduces the income gap for the following reasons: the platform economy offers job opportunities without a high requirement in skills, and how e-commerce highly stimulates economic development; meanwhile, the digital economy can also expand the income gap because of the quality difference of population, the background and ability differences of workers, and regional differences. In comparison, the digital economy decreases the income gap in the long term by offering low entry barriers for market participation and employment, along with promoting the growth of the digital economy in rural areas in China. Last but not least, to foster the development of the digital economy, the government should promote regional development, including strengthening digital infrastructure and cultivating the quality of the population, and supervising the market with policies.

2. Digital economy's roles in narrowing the income gap

2.1. Platform economy

Platform economy as a form of digital economy promotes economic development and reduces the income gap. In China, the population of platform employment personnel is about 9.7% of the total employed population, with 74.5% of full-time employed platform personnel of the overall number of takeout riders (Tu, 2024). This indicates the high proportion of employment rate thanks to the platform economy. By offering job opportunities to workers without a high threshold, platform economy, such as takeout riders, has long been a vital source of income for platform workers (Tu,

2024). Therefore, the platform economy increases the employment rate, fosters economic growth, and helps avoid the widening of the income gap.

2.2. E-commerce

E-commerce stimulates economic development and decreases the income gap because of higher profits and fewer financial losses. According to Zhu, e-commerce requires lower costs (2025). As e-commerce runs online, it can expand consumption with lower prices because it avoids the rent for a site and part of the hiring fee. This enables merchants to lower their prices without lowering the actual purchase price, thus obtaining higher profits. What is more, by transacting virtually, merchants are able to realize the demand and the market more explicitly, which eliminates capital damages (Zhu, 2025). Hence, the higher profits and fewer financial losses increase the economic income of the e-commerce merchants, resulting in a decrease in the income gap.

2.3. Taobao village case

Taobao villages are good examples that can demonstrate how e-commerce can foster economic growth. A Taobao village is where e-commerce clusters offline (Xu, Jia & Jia, 2023). These Taobao villages usually either promote the local specialty products or integrate the surrounding industrial resources (Xu et al., 2023). The exemplar of all Taobao villages in China is Qingyan Liu village. In Qingyan Liu village, over 30,000 online stores are registered, making the annual sales revenue to exceed 130 billion Chinese Yuan (Man & Yu., 2023). According to the data calculated by Xu et al., the overall Taobao village per capita disposable income of local residents increases by 5.8% as the number of Taobao villages increases by 1% (2023). Not only do Taobao villages boost economic development, but also improve the employment rate by providing occupations and attracting workers to return to their home villages (2023). Taobao villages are becoming a more comprehensive business system by integrating with the local industries and the latest digital technologies, for instance, live-streaming commerce. Data shows that live-streaming commerce in Taobao villages has covered more than 2,000 counties in 31 provinces across China, driven sales of agricultural products for more than 5 billion Chinese Yuan, and led to more than 200,000 jobs since 2019 (Xu et al., 2023). Therefore, Taobao villages not only drive local economic development but also promote the return of labor and job creation, thus helping to narrow the urban-rural income gap as a whole. By and large, e-commerce, such as Taobao villages, boosts economic development, especially in rural areas, narrowing the income gap.

3. Digital economy's roles in increasing the income gap

3.1. Human capital and the digital divide

The digital economy can lead to an increase in the income gap. The quality of the population has a huge impact on how people perceive and accept digital technology, which further influences the application of the digital economy. Areas where people have higher population quality tend to be more acceptable to the digital economy (Zhao, Yang & Ye, 2024). This phenomenon implies that areas where residents are more acceptable of the digital economy are more likely to utilize digital technology. Therefore, the economic development of these regions is more apt to be boosted. The differences between different regions and the quality of the population may lead to the digital divide, which, according to Zhao et al. (2024), is one of the most apparent criteria that embodies the gap in the digital economy level. To conclude, with the growth of the digital economy, the income gap widens as the acceptability of the digital economy differentiates regionally based on the quality of the population triggering the digital divide.

3.2. Skill requirements and employment differentiation

The digital economy has a huge influence on the income gap due to its effect on cutting down the possible job choices for people based on their skills and educational background. According to Jiang, Li & Si (2022), residents in urban areas have relatively greater employment opportunities in comparison with residents in rural areas. This can be attributed to the fact that the digital economy has more advanced requirements for workers, and low-skilled workers are easily replaced by automation technology, causing massive numbers of low-skilled workers to face employment problems (Zhao & Zhang, 2024). Moreover, the growth of the wage rate of high-skilled workers benefits from the growth in digital technologies more than low-skilled workers (Jiang et al., 2022), resulting in an even bigger income gap between people with different skills. As in China, high-skilled workers are gathered in urban regions, and low-skilled workers are more concentrated in rural areas (Jiang, Li, & Si, 2022), the circumstance of the widened income gap not only occurs between different groups of people but also between urban and rural areas. As a result, rural areas, where low-skilled workers masses face an increasing unemployment rate and reduction in wages due to the digital economy, while high-skilled workers gathered the most in urban areas face an opposite situation, leading to an increase in the income gap between different groups of people and the gap between urban and rural areas. Thus, these dynamics not only widen the income gap between different skill groups but also deepen the urban–rural income disparity.

An example of the increase in the income gap caused by different skill levels and educational backgrounds within the workforce is observed in the aftermath of telecommuting. Telecommuting has emerged due to advancements in digital technology. Although often regarded as an efficient way of working, telecommuting actually contributes to a larger income gap. As illustrated by Budnitz and Tranos, opportunities for remote work have not been distributed fairly across the labor force (2021). Jobs associated with higher wages are more likely to allow telecommuting, while lower-income workers, whose jobs are fixed on-site, have fewer opportunities to work from home (Budnitz & Tranos, 2021). It is typically high-skilled and highly educated individuals who can work from home. Therefore, while the income gap already exists, it widens further due to disparities within the labor force and the growth of the digital economy.

4. The digital economy narrows the income gap in the long term

4.1. Lower barriers to market entry and greater economic opportunities

The digital economy lowers the market access barrier and advances economic opportunities. Compared to the traditional economic pattern, the digital economy, such as the platform economy and e-commerce, requires less capital, resources, and networks to be engaged in the market. The digital economy enables more low-income groups to participate in economic activities at a relatively low cost, not only in the native country but also in the world market. As demonstrated by Bai & Wang (2025), the development of e-commerce is one of the key factors that boost the increase in foreign trade in minority areas in China. The example of Taobao villages also provides chances for the rural residents to participate in market competition and raise rural incomes. This elucidates that development in digital technology makes the domestic market and the world market possible for people with fewer requirements.

4.2. The digital economy creates more jobs

The digital economy brings more jobs. The digital economy is creating a large number of jobs that are suitable for low-skilled people, such as food delivery, live streaming, and online car-hailing. These job opportunities derived from the platform economy are more flexible, less skill required, and offer a stable income, which narrows the income gap between different social groups. Although higher-skilled workers with higher education backgrounds benefit the most from the advancement of the digital economy, as well as the existing skill mismatch, increasing the income gap, this only occurs

in the short term. From a long-term perspective, as more jobs are provided and with the help of the government, the income of the lower-skilled group will advance, therefore resulting in a decreasing income gap between various groups.

4.3. Digital integration in rural and underdeveloped areas

Rural and backward areas are integrating into the digital economy. In spite of the fact that a bigger proportion of residents in urban areas are more likely to have a higher education background and higher skills, making economic development concentrated in urban areas after the emergence of the digital economy, recent trends indicate that the digital economy is increasingly contributing to the development of rural areas. For example, Taobao villages and rural e-commerce are greatly boosting the local economy. At the same time, the developing trend of Chinese rural agricultural development is apt to be more and more intellectualized, and the sales mode of agricultural products is more integrated with e-commerce (Man & Yu, 2023). Furthermore, rural development is under the assistance of the government. With the subsidy from the government, e-commerce platforms and farmer cooperatives are able to maximize their advantages (Zhong, Lai, Guo & Tang, 2021). All in all, there is huge potential for the influence of the digital economy on developing rural and backward areas.

5. Policy suggestions

5.1. Focusing on regional development

The government is suggested to take care of regional development. The development of the digital economy has shown an imbalance between different areas: the western area of China is more influenced by digital economy development compared to the eastern part, implying a greater potential in developing the digital economy (Xu, Shi & Zhuo, 2025). As the urban-rural gap widens due to the existence of the digital economy, the government should pay heed to the different levels of development of various regions and put effort into urban-rural coordinated and integrated development facilitation (Zhao & Zhang, 2024). In the first place, the government should promote digital infrastructure. Liang (2024) contends that Chinese agriculture and rural modernization can be promoted by constructing digital infrastructure. By involving rural residents in the Internet and the digital market, constructing digital infrastructure provides a platform for economic activities. Another important aspect is to improve the quality of the population because of how it is highly correlated with the income and urban-rural gap. Merely building the digital infrastructure will not be as effective without people who can handle and apply digital technologies. The higher quality of the population brings higher practicability of digital technology, such as absorbing digital production methods for the rural residents empowering them with the ability to handle higher productivity in agriculture (Zhao et al., 2024). Teaching rural residents, the digital skills to manage the development of the digital economy and rapid changes in the working market is also advised (Jiang, Li, & Si, 2022).

5.2. Alleviating skills mismatch and improving education

Due to skill mismatch, the reality that more and more low-skilled occupations are being replaced by digital technology, the government should create appropriate positions in order to avoid polarization in the employability of workers in urban and rural areas (Zhao & Zhang, 2024). Merely relying on the limited occupations created by the government is not enough. Research has found that the expansion of higher vocational education plays a significant role in narrowing the urban-rural income gap (He & Sun, 2024). Also, telecommuting benefits those with more advanced skills the most. Hence, the government is encouraged to increase the rates for people to receive higher education based on region. Furthermore, the government needs to not only create new jobs and improve education, but also simultaneously improve the vocational training system to ensure that low-skilled workers can have the opportunities to transform and upgrade. Ultimately, the government

is suggested to create more jobs and improve the education and vocational training system so as to ease skills mismatch.

5.3. Strengthening the regulation of digital markets

The government should supervise the digital market thoroughly, for the platform economy has its potential threats. The platform economy is facing the danger of monopoly, as the ownership of the Chinese platform economy is mainly dominated by private investment and institutional investment (Zhu, 2025). In order to deal with this threat, the government is advised to introduce policies that reasonably tax the merchants to prevent hostile takeovers and develop reasonable competition (2022). Other than this, anti-monopoly investigations are also indispensable in preventing monopoly. The government should also introduce policies that can promote diversified competition in the market. For instance, to boost e-commerce development, the government can also provide subsidies for the products (Zhong et al., 2021). Furthermore, it is essential for the government to strengthen supervision over the digital economic market to guarantee a well-operating environment (Bai & Wang, 2025). In short, enhancing the regulation of digital markets through law enactment, investigations, and subsidizing products are suggestions for the government to follow.

6. Conclusion

In conclusion, though the digital economy has a dual influence on the income gap in China, it overall decreases the income gap in the long run. This can be revealed through the low-barrier market it opens, reluctant opportunities for jobs, and the integration of rural areas into the digital economy. Since the digital economy yet increases the income gap in certain aspects, and the aspects that decrease the income gap still need to be perfected, the government is encouraged to aim at regional development, avoid skill mismatch, and police the digital economy.

This research not only focused on how the digital economy can decrease the income gap but also demonstrated the aspects of how it can increase the income gap. This provided more angles for researchers when studying the relationship between the digital economy and the income gap and the corresponding policy suggestions that are against them. However, there are also limitations to this research. This research only analyzed the influence of the digital economy on the income gap theoretically. Specific detailed microdata that could be utilized to examine the impact of the digital economy on the income distribution across various demographic groups is lacking in this research. In the future, research can further explore how the government can redistribute income to reduce the income gap through policy intervention and digital economy optimization.

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