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Research on the Impact of Digital Economy on Rural Labor Transfer

Jiaqi Yang

Institute of Statistics and Applied Mathematics, Anhui University of Finance & Economics, Bengbu Anhui 233030, China

Abstract

This paper deeply explores the multi-level impact of the digital economy on the transfer of rural labor. With the rapid development of the digital economy, the popularization of information technology and the Internet has brought new employment opportunities and development paths for rural labor. First, this paper sorts out the definition and connotation of the digital economy, and explains how the digital economy promotes the transfer of rural labor through the convenience of information acquisition, skills training, improvement of the entrepreneurial environment and improvement of employment matching efficiency. Secondly, through a literature review, this paper summarizes the main findings of existing research, clarifies the key role of the digital economy in the labor market, and reveals the theoretical basis and practical performance of the digital economy in promoting the transfer of rural labor. In addition, this paper analyzes the specific impact mechanism of the digital economy on the transfer of rural labor, including information acquisition and employment opportunities, skills training and human capital improvement, changes in the entrepreneurial environment and employment structure, and enhanced employment matching and mobility. In order to verify the effectiveness of the theoretical analysis, this paper selects typical regions for case analysis, discusses in detail the transfer of rural labor in these regions under the background of the digital economy, and summarizes general conclusions and inspirations. The study found that the digital economy not only significantly increases the employment opportunities of rural labor, but also improves their skill level and mobility, and promotes the development and transformation of the rural economy. Finally, this paper puts forward a series of policy recommendations for the government, enterprises and all sectors of society, aiming to better utilize the digital economy to promote rural labor transfer and achieve coordinated development of rural and urban areas.

Keywords

Digital economy, rural labor transfer, influencing mechanism, information acquisition.

1. Introduction

1.1. Research background

With the rapid development of information technology and the popularization of the Internet, the digital economy has become an important driving force for global economic development. The digital economy not only covers emerging industries such as e-commerce, digital finance, and online education, but also penetrates into all aspects of traditional industries. Through technological innovation and business model innovation, it has significantly improved economic operation efficiency and productivity. In recent years, the Chinese government has attached great importance to the development of the digital economy and regarded it as an important means to promote economic structural transformation and achieve high-quality

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development. The development of the digital economy has not only changed the way companies operate and the lifestyles of consumers, but also had a profound impact on the labor market. In particular, the digital economy has shown great potential in promoting the transfer of rural labor.

1.2. Research significance

Rural labor transfer is an important way to achieve rural economic development and coordinated urban and rural development. Traditional labor transfer mainly relies on the flow of physical space and the supply of low-skilled labor, while the development of the digital economy provides new possibilities for the transfer of rural labor. Through digital platforms, rural labor can more easily obtain employment information and training resources, broaden employment channels, improve their own skills, and increase employment competitiveness. At the same time, the digital economy has also promoted the improvement of the rural entrepreneurial environment and supported more rural labor to achieve employment and increase income through entrepreneurship. Therefore, studying the impact of the digital economy on rural labor transfer will not only help understand the role of the digital economy in the labor market, but also provide a scientific basis for policymakers to better promote rural labor transfer and rural economic development.

1.3. Research objectives

This paper aims to systematically analyze the impact mechanism of the digital economy on the transfer of rural labor, and reveal how the digital economy promotes the transfer of rural labor through the convenience of information acquisition, skills training, human capital improvement, improvement of the entrepreneurial environment and improvement of employment matching efficiency. Specifically, this paper will conduct research from both theoretical and empirical levels. First, it will summarize the existing research results and research gaps through a literature review, then verify the actual effect of the theoretical analysis through case analysis, and finally put forward policy recommendations, in order to provide reference for the government, enterprises and all sectors of society to promote the transfer of rural labor and the sustainable development of the rural economy. Through this study, we hope to provide a more comprehensive and in-depth understanding of the role of the digital economy in the labor market and reveal its potential value and actual effect in promoting the transfer of rural labor.

2. Current Research Status and Development Trends at Home and Abroad

2.1. Research on the measurement of digital economy

At the industrial level, it was OECD (2013) that proposed a digital economy measurement framework and started measuring the digital economy, mainly by measuring the added value of e-commerce and digital media. Zhang Xueling and Jiao Yuexia (2017) were the first to systematically construct digital economy development evaluation indicators and used the value method and index method to measure the development of China's digital economy. At the regional level, the approach of Zhao Tao et al. (2020) is usually followed, using principal component analysis to reduce the dimension and sum up secondary indicators such as inclusive finance, per capita telephone ownership, and the proportion of ICT sector output value, and finally obtain an overall digital economy indicator. Li Xinwu et al. (2022) used methods such as weight method and coefficient of variation method for calculation. Although there are differences in the specific calculation methods, their basic ideas are consistent. At the enterprise level, there are mainly the following measurement methods: First, Yan Xueling et al. (2020) used the number of digital-related equipment or the degree of digitalization of specific businesses, such as Internet product sales rate, ICT equipment, ICT asset proportion, number of robots, etc. as proxy indicators of the digital economy. The second method is to propose a

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systematic evaluation index system by combing through industry and production characteristics, and use principal component analysis or iterative principal factor method to calculate the comprehensive digitalization degree of the enterprise. For example, the index system of Ren and Liu Xin (2021) requires the degree of dependence of core businesses such as partnerships, customer relationships, and production operations on information and communication technology. The third method is text analysis. The degree of digitalization of enterprises is measured by conducting text analysis on the annual reports of listed companies. Yuan Chun et al. (2022) and others measured the degree of digitalization of enterprises by the proportion of the frequency of keywords appearing in the management discussion and analysis section of the annual report to the total length of the paragraph.

2.2. Research on the Factors of Labor Transfer

Regarding the factors of labor transfer, this project collects literature from four aspects. The first is to focus on studying the impact of economic factors such as income and urban-rural economic gap on labor transfer. Cheng Mingwang and Shi Qinghua (2007) believed that my country's overall economic growth promoted the transfer of rural labor. Zhang Yanqiu (2022) found that the upgrading of industrial structure inhibited the transfer of rural labor in the west. The second is to focus on the impact of individual characteristics such as gender, age, education and family endowment on rural labor transfer decisions. Zhang Jingna and Shi Mo (2022) found that with the improvement of education level, female labor transfer is more inclined to pure employment, and is no longer affected by factors such as marriage, health, and traffic conditions. Hu Yongyuan et al. (2022) found that only children are less willing to transfer labor. The third is to focus on the impact of exogenous factors such as institutions, policies, and technological progress on labor transfer.

2.3. Research on the impact of the digital economy on labor transfer

Guo Dongmei et al. (2022) used micro data to study the impact of "Internet +" on labor mobility and found that the development of the Internet has promoted the mobility of labor, especially low-skilled labor. Zhou Tianyun (2022) used prefecture-level city panel data to study the impact of digital inclusive finance on labor mobility and found that digital inclusive finance has an inverted U-shaped impact on labor mobility. Zhou Shijun and Chen Bowen (2023) used the "Internet +" digital economy index released by Tencent Research Institute to study the relationship between digital economy and cross-city labor mobility and found that the improvement of the level of urban digital economic development can significantly attract cross-city labor inflows. Zou Yueqing et al. (2023) examined the impact of digital economy on labor mobility from the perspective of the registered permanent residence of migrant population.

3. The Impact of Digital Economy on Rural Labor Transfer

3.1. Information Acquisition and Employment Opportunities

The digital economy has greatly improved the convenience of information acquisition through the widespread application of the Internet and information technology, which has a positive impact on the employment opportunities of rural labor. First, digital platforms such as recruitment websites, social media and online job search applications can publish a large amount of employment information in a timely manner, enabling rural labor to more conveniently obtain employment opportunities in different regions and industries, breaking through the bottleneck of traditional information asymmetry. Secondly, rural labor can participate in career guidance, employment training and skills assessment through online platforms, enhance their competitiveness and find more suitable jobs. In addition, the rise of e-commerce has also provided new employment channels for rural labor. By selling agricultural products or handicrafts online, rural labor can start their own businesses and increase their

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income. Therefore, the digital economy has played an important role in promoting the circulation of information and the expansion of employment opportunities, and has provided strong support for the transfer of rural labor.

3.2. Skills training and human capital improvement

The digital economy not only provides more employment opportunities, but also significantly promotes the skills training and human capital improvement of rural labor. First, online education platforms and vocational training institutions use Internet technology to provide a rich variety of training courses, covering all levels from basic skills to advanced technologies. Rural labor can acquire the latest knowledge and skills through online learning, and improve their employability and professional quality. Secondly, the development of the digital economy has promoted the rise of remote work and flexible employment models. These new employment methods require certain digital skills and self-management capabilities, forcing rural labor to constantly learn and adapt to new technologies, thereby improving the level of human capital. In addition, the government and social organizations can also carry out targeted skills training programs through digital platforms to help rural labor improve their employment competitiveness. Therefore, the digital economy has played an important role in promoting skills training and human capital improvement, and has provided a solid foundation for the sustainable development of rural labor.

3.3. Entrepreneurial environment and employment structure

The rapid development of the digital economy has significantly improved the entrepreneurial environment in rural areas, and thus changed the employment structure of rural labor. First, digital technology has lowered the threshold for entrepreneurship. Through the Internet, rural labor can more easily obtain market information, marketing channels and financing channels, thereby realizing low-cost entrepreneurship. For example, e-commerce platforms provide a broad market space for rural entrepreneurs, allowing agricultural products and handicrafts to be sold directly to the national and even global markets. Secondly, the digital economy has promoted the optimization and upgrading of the rural industrial structure, prompted traditional agriculture to develop in the direction of modernization and informatization, and created more high-value-added employment opportunities. In addition, the digital economy has also promoted the development of rural service industries, such as rural tourism, e-commerce services and information technology services, enriched rural employment types and positions, and improved the employment structure of rural labor. Therefore, the digital economy has promoted the transfer of rural labor and the improvement of employment quality by optimizing the entrepreneurial environment and diversifying the employment structure.

3.4. Employment matching and enhanced mobility

The digital economy has also played a key role in improving the efficiency of job matching and enhancing the mobility of rural labor. First, the application of intelligent matching algorithms and big data technology enables recruitment platforms to more accurately match job seekers and recruitment needs, improving the efficiency and success rate of job matching. Rural labor can quickly find jobs that match their skills and interests through these platforms, reducing the time and cost of blind job hunting. Secondly, the rise of remote work and flexible employment models has broken geographical restrictions, allowing rural labor to provide services to urban companies or overseas customers without leaving their hometowns, increasing the mobility and flexibility of the labor force. In addition, the digital economy has promoted the transparency and fairness of information in the labor market, reduced intermediary links and information asymmetry, and improved the market competitiveness of rural labor. Therefore, the digital economy has promoted the effective transfer of rural labor and employment stability in improving the efficiency of job matching and enhancing mobility.

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4. Case Analysis

4.1. Selection of typical cases and background introduction

This case study selected Lishui City, Zhejiang Province as a typical region to analyze the specific impact of the digital economy on the transfer of local rural labor. Lishui City is located on the southeast coast of China. It is a relatively remote mountainous city in Zhejiang Province. Its rural economy has long relied mainly on traditional agriculture. In recent years, Lishui City has actively promoted the development of the digital economy and used e-commerce, Internet + agriculture and other means to promote the transformation and upgrading of the local rural economy. The government strongly supports the development of rural e-commerce and encourages farmers to engage in online sales and e-commerce entrepreneurship through policy guidance, financial support and skills training. At the same time, a number of e-commerce industrial parks and rural e-commerce service stations have been built locally, providing one-stop services from product packaging, logistics distribution to market promotion, which has significantly improved the employment and entrepreneurship opportunities of rural labor.

4.2. Impact Analysis and Summary

Combined with specific data and facts, the development of digital economy in Lishui City has had a profound impact on the transfer of rural labor. First, through e-commerce platforms, many farmers have successfully achieved online sales of agricultural products and increased their income. For example, the "Online Agricultural Expo" platform in Liandu District has helped hundreds of farmers to exceed one million yuan in annual sales, greatly driving the employment and income growth of local rural labor. Secondly, the development of the digital economy has promoted skill training and human capital improvement. The government has cooperated with a number of Internet companies to open e-commerce training courses, covering e-commerce operations, online marketing, customer service, etc., to improve farmers' digital skills and employment competitiveness. Data shows that in 2023, Lishui City has trained more than 20,000 rural laborers, effectively improving their professional quality and employment ability. In addition, the digital economy has also improved the local entrepreneurial environment. Many returning young people choose to start their own businesses using e-commerce platforms, creating a large number of employment opportunities and changing the employment structure in rural areas. Through the case analysis of Lishui City, it can be seen that the digital economy not only provides more employment opportunities and development paths for rural labor, but also improves their skill level and market competitiveness. In summary, the digital economy plays an important role in promoting information circulation, skill training, improving the entrepreneurial environment and improving employment matching efficiency . For other regions, they can learn from the experience of Lishui City and promote rural labor transfer and sustainable development of the rural economy through government support, skills training and digital infrastructure construction.

5. Policy Recommendations

5.1. Government level

The government plays a vital role in promoting the digital economy and facilitating the transfer of rural labor. First, the government should increase investment in digital infrastructure to ensure that rural areas have access to high-speed and stable Internet access. This will provide the necessary technical support for rural labor to obtain employment information and participate in skills training. Second, the government should formulate and implement policies and regulations that are conducive to the development of the digital economy, including tax

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incentives, financial subsidies and entrepreneurship support programs, to encourage more companies to invest and conduct business in rural areas. At the same time, the government should strengthen digital skills training for rural labor, and improve the digital skills and employability of rural labor by setting up special training funds, cooperating with colleges and universities and vocational training institutions, and providing systematic and continuous training programs. In addition, the government should establish and improve the legal and regulatory framework related to the digital economy, safeguard information security and data privacy, and maintain a fair and competitive market environment.

5.2. Enterprise level

Enterprises should also play an active role in promoting the transfer and development of rural labor. First, enterprises should use their advantages in digital technology and market operations to develop and promote digital products and services suitable for rural areas, and provide more employment opportunities for rural labor. For example, e-commerce companies can help farmers conduct online sales and increase their income by setting up rural e-commerce service stations. Second, enterprises should actively participate in the skills training of rural labor, cooperate with the government and educational institutions, formulate and implement targeted training plans, and improve the professional quality and technical level of rural labor. In addition, enterprises should invest in rural infrastructure construction and community development through corporate social responsibility projects to create a better working and living environment for rural labor. Through these measures, enterprises can not only enhance their own social image and market competitiveness, but also contribute to the development of the rural economy.

5.3. Social level

All sectors of society should work together to promote the transfer and development of rural labor. First, social organizations and non-governmental organizations should play a bridging role, coordinate cooperation between the government, enterprises and communities, promote resource sharing and information exchange, and provide more support and help for rural labor. Secondly, educational institutions should adjust and optimize curriculum settings according to market demand, provide education and training programs that meet the needs of digital economic development, and cultivate more rural labor with digital skills. In addition, the media and the public should strengthen their attention and publicity on the digital economy and rural labor transfer issues, improve the awareness and participation of all sectors of society, and create a good social atmosphere. Finally, individuals should also take the initiative to improve their digital skills and comprehensive qualities, actively participate in the development of the digital economy, and jointly promote the effective transfer of rural labor and the sustainable development of the rural economy. Through the joint efforts of the whole society, the digital economy will better promote the transfer of rural labor and promote the coordinated development of urban and rural areas.

6. Conclusion and Outlook

6.1. Research conclusions

This paper comprehensively reveals the key role of the digital economy in promoting the transfer of rural labor through the impact mechanism and case analysis of the digital economy on the transfer of rural labor. The study found that the digital economy has significantly improved the convenience of information acquisition, broadened the employment opportunities of rural labor, and enabled them to more easily obtain employment information about different regions and industries. In addition, the digital economy has provided a rich and diverse skill training resource through online education and vocational training platforms,

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which has promoted the improvement of the human capital of rural labor. At the same time, the rapid development of the digital economy has also improved the entrepreneurial environment in rural areas, lowered the threshold for entrepreneurship, enriched the employment structure, and increased employment opportunities for rural labor. The case analysis further proves that the digital economy has significantly promoted the effective transfer of rural labor and the improvement of employment quality in terms of information circulation, skill training, optimization of the entrepreneurial environment, and improvement of employment matching efficiency. Therefore, the digital economy not only provides new employment channels and development paths for rural labor, but also injects new impetus into the transformation and development of the rural economy.

6.2. Research Deficiencies and Prospects

Although this paper systematically analyzes the impact of the digital economy on rural labor transfer, there are still some limitations. First, this paper mainly relies on literature review and case analysis, lacking large-scale empirical data support. Future research can further verify the specific impact of the digital economy on rural labor transfer through field surveys and statistical analysis. Second, this paper focuses on the impact of the digital economy on information acquisition, skills training, entrepreneurial environment and employment matching, but lacks in-depth discussion on the differential impact of the digital economy in different regions and industries. Future research can be further refined to analyze the specific mechanism of the digital economy in different regions and industrial contexts. In addition, the development of the digital economy has also brought some new challenges, such as the digital divide and information security issues, which need to be paid attention to and resolved in future research. Overall, the digital economy has important potential in promoting rural labor transfer and rural economic development. Future research should continue to deepen, conduct a more comprehensive and detailed discussion on its impact mechanism and actual effects, and provide stronger support for policy formulation and practice.

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