ISSN: 2688-9323

Study on the Impact of the Development Level of Digital Economy on Green Development in Yangtze River Economic Zone

Songtao Dong

School of Anhui University of Finance and Economics, Bengbu, 233000, China

Abstract

In the context of China's relatively stable economy nowadays, environmental issues will become one of the bottlenecks of China's economic development, so it is urgent to realize the greening of the economy. China's digital economy is booming and is at the forefront of the world's digital economy development level. With the advantages of greening, diversification and sharing, the green economy can bring opportunities for new dynamics of China's economic development. However, while developing the digital economy, we should pay more attention to the environmental problems that may be brought by the digital economy, and consider the ecological environment and economic development on the same footing, so as to achieve the synergistic development of ecological environment and economy. Taking the Yangtze River Economic Belt as an example, this paper analyzes the direct and indirect impacts of the digital economy on regional green development and finally puts forward reasonable policy suggestions.

Keywords

Digital Economy; Green Development; Yangtze River Economic Belt; Policy Recommendations.

1. Introduction

In recent years, China's international status has become deeper and deeper, but at the same time as our economy is rapidly improving, there are significant differences in other aspects of our development, especially in the level of green development. Since China has entered a new stage, the Party Central Committee and local government departments have paid particular attention to the development of the Yangtze River Economic Belt, and it has been included in the national key agenda. As early as 2005, the Yangtze River Economic Belt Cooperation Agreement signed by the seven provinces and two cities along the river, spearheaded by the Ministry of Transport and Communications, basically framed the development of the Yangtze River Economic Belt linkage. Although the country created the Leading Group for Promoting the Development of Yangtze River Economic Belt in 2014, it was unable to constitute a more efficient inter-provincial collaboration and deliberation system, both in terms of institutions and togetherness. As each province and city in the river section has its own socio-economic development performance assessment and different eco-environmental protection norms, there are certain barriers between provincial and municipal government departments in terms of environmental management, regional development, and collaboration on rights and interests. In practice, on the one hand, the current industry deployment of provinces and cities in the Yangtze River Economic Belt appears relatively homogeneous, and the industry development policies of each region cannot be further based on their own factor endowment and core competitiveness, which in turn leads to a relatively large consumption of resources; on the other hand, due to the uneven socio-economic development of the 11 provinces and cities in the Yangtze River Economic Belt, some regions focus excessively on the economic benefits of industry migration while ignoring On the other hand, due to the uneven socio-economic development of the 11 provinces and cities in the Yangtze River Economic Zone, some regions

ISSN: 2688-9323

focus too much on the economic benefits of industry relocation and ignore their own natural environmental load, causing a series of product environmental problems such as green paradox and bottom-to-bottom competition, such as natural environmental regulations that do not match the green development link of the region are likely to fail to reasonably reduce the discharge of environmental pollution by companies, and lead to the relocation of environmental pollution companies to areas with looser control, prompting the spread of environmental pollution. The law is not precise and the overall policy cannot be reasonably implemented. Central legal regulations usually macroeconomic policy as the key way, but the Yangtze River economic zone within the river section of all kinds of complex conditions, can not be targeted to the actual difficulties of the actual analysis; furthermore, the local mechanism, although in the countermeasures and direction of specific guidance is stronger, but its grounded implementation must still be more practical institutional support.

In 2015, the big data development strategy was elevated to the national development strategy, and at the G20 summit held in Hangzhou, China took the lead in defining the "digital economy" as a key proposal and listed it as an independent and innovative G20 improvement plan. 2017, some scholars at the International Development Forum of China's Digital Economy emphasized that the current digital The digital economy is characterized by high, deep and fast development, and the basic construction of the "digital ecological complex" can generate new momentum for socio-economic development. Since 2015, various units of the state and all sectors of the society have been promoting the development of "Internet+" together, and after the report of the 19th Party Congress clearly put forward the new goal of building "Digital China", "Internet+" has continued to grow in depth in various industries. The "Internet+" has continued to grow in depth in various industries, creating many development opportunities, and the digital economy has also shown newer development trends. During the G20 summit, Tencent's official research institute published a report showing that the Internet is beneficial to China's economic development and more balanced and comprehensive social development. Digital economy development has become a new way of modern economy, and it has long become the current overall economic way. All over the world, the digital economy is being explored in depth, and China also regards the digital economy as a key development strategy for social and economic development.

Green development is a key dimension in considering high-quality development. In October 2021, the "Action Plan for Carbon Peaking by 2030" was announced, establishing a clear proposal to promote the intelligent and green development of industrial production units, and under the environment of carbon peaking and carbon neutrality, China's high energy-consuming fields must accelerate the pace of upgrading, and the deep combination of digital economy and green development has become the goal of achieving carbon peaking and carbon neutrality and promoting The combination of digital economy and green development has become the key pillar to achieve the goal of carbon peaking and carbon neutral development and promote high quality economic development. The "Proposal on Promoting Green Development of Urban and Rural Construction" clearly puts forward the response idea from the perspective of green energy-saving construction, and thinks that ultra-low energy consumption and near-zero energy consumption engineering construction should become the key direction in the future. The "14th Five-Year Plan" for green construction of industrial production clearly puts forward the goal of green development, stipulating that carbon emission intensity and environmental pollutant emission intensity must be continuously reduced, and at the same time, electric energy efficiency should be improved.

Thus, the digital economy will become one of the key drivers to achieve high-quality green development in the Yangtze River Economic Belt, but the socio-economic development of the Yangtze River Economic Belt also shows an uneven trend due to the differences in ecological resource standards, education levels, infrastructure construction, technological innovation

ISSN: 2688-9323

levels and economic policies among the provinces and regions in the Yangtze River Economic Belt. This imbalance is a serious obstacle to the realization of high-quality green development in the Yangtze River Economic Belt. Therefore, measuring the level of digital economy development in the Yangtze River Economic Zone and analyzing the impact of digital economy on green development are of key significance to the high quality green development of the downstream economy of the Yangtze River.

2. Literature Review

Considering the characteristics of the digital economy, information management, as one of the characteristics of the digital economy, can immediately or indirectly upgrade traditional industries by improving the efficiency of resource allocation, the efficiency of professional knowledge mobility, and the quality of employees, etc. At the same time, the information and communication technology innovation caused by the digital economy can promote the development of international trade, accelerate the traditional economy and social structure of At the same time, ICT innovation caused by digital economy can promote the development of international trade, accelerate the transformation of traditional economy and social structure, promote the green development of social economy and improve the quality of daily life. From the perspective of natural environment regulation, Internet promotion has increased the level of public participation in ecological environmental protection, broadened the way of participation, and to a certain extent can influence the direction of the effect of natural environment regulation on the company's environmental pollution discharge by government departments. From the perspective of environmental pollution emission reduction, the Internet, based on combining its own information dissemination ability with network economy, promotes the technical improvement of industrial production in towns and cities, changes production methods, and improves the natural environmental quality of towns and cities by increasing the efficiency of factor output rate, and by using this method, digital technicality can not only reduce the amount of environmental pollutants discharged from towns and cities, but also get rid of the fortress of regulations combined with industry digital It is also possible to improve the effect of emission reduction. In addition, in terms of social awareness of environmental protection, the more developed digital high technology can also change the mindset of citizens on environmental protection, and thus enhance the environmental literacy of social citizens, which can immediately influence the behavior of the public, so that they can integrate environmental logic thinking into their lives and company control. Thus, the digital economy can have a key impact on regional green development at multiple levels.

From a green development perspective, the EU, China, Japan and the UK are proactive in promoting a circular economy. Currently, the circular economy is felt to be the most attractive for companies to achieve sustainable development. However, the circular economy is still very rarely chosen by companies. As a support for the fourth technological revolution, the digital economy is considered to have a refreshing impact. Scientific research has long confirmed that digital technology can contribute to the flourishing of the circular economy during epidemics of new crowns that have a more serious negative impact on the world economy, the natural environment and society. Since the technological revolution, carbon dioxide environmental pollution has long become the most critical reason for hurting global green development. The generalized socio-economic development method has caused a large amount of greenhouse gases such as carbon dioxide to be discharged, causing a significant increase in the composition of greenhouse gases in the air, which in turn has led to a more serious global warming. With the rapid development of computer technology, the digital economy as a new type of socio-economic development is slowly With the rapid development of computer technology, the digital economy as a new type of socio-economic development is slowly becoming a module of

ISSN: 2688-9323

economic development, and the introduction of the digital economy as a technological development into the Solow enhancement model can confirm the inverted U-shaped relationship between CO2 emissions and the digital economy.

Domestic and foreign scientific research has given a rich basis for expressing the digital economy as a driver of green development, and by summarizing the scientific research in the above chapter catalog, it can also be seen that the effectiveness of scientific research at the level of the relationship between the digital economy and green development is key to the green economy, the circular economy and its natural environment, and the results of scientific research widely feel that the digital economy can promote the development of the green economy and the circular economy, and In turn, it is widely felt that the digital economy can promote the development of the green economy and circular economy, and thus change the current situation of the natural environment, but the search for the mechanism of the effect of which seems to be rather decentralized, and thus the specific guidance effect on practical activities is limited, and most of the green development is considered by measuring the efficiency, and very little of the green development level is comprehensively reflected by building the index value management system. With the penetration of information technology such as the Internet, more and more elements can influence the effect of digital economy on green development. How to reflect the effect of digital economy on green development in all aspects is a new challenge encountered in contemporary times.

3. The Mechanism of the Impact of Digital Economy on Green Development

3.1. Direct Influence of Digital Economy and Green Development

The information technology in the digital economy has the characteristics of relatively high universality and infiltration, and the infiltration of information technology into each production unit to carry out the most improved production resource allocation can promote the improvement of its overall factor of production efficiency. Digital technology can promote the circulation of information goods, improve the ability of independent innovation and research, and integrate digital economy into the whole production process can control costs and thus improve green productivity. In addition, the use of the Internet's characteristics of full transparency, the natural environment information published on the Internet, to achieve the natural environment fully automated detection, enhance the scope of environmental protection publicity planning, build ecological and natural environmental information Internet business platform, Internet customers will become ecological and natural environment regulators, not only to achieve full supervision, but also to improve the public's awareness of environmental protection. Under the digital economy environment, blockchain technology technicality has long become very perfect technicality, and it is commonly used in various fields. The technicality can attract investment, prompt the diversification of speculative subjects, can promote the realization of the universality of the digital financial industry, build a de-core financing platform, push the development of green infrastructure construction, and then ensure that the new infrastructure construction can achieve the goal of energy saving and consumption reduction. Big data is the key to the current digital economy era, big data can not only get the superficial information of data, but also the deep-level information contained in it can be technically captured through data mining. The best capital input-output rate composition, improve the use rate of course resources and the quality of the natural environment, the previous manual production method converted to digital intelligent system production method, constitute a scientific detection management system, the previous high capital investment, high consumption of the crude production method has been upgraded to high-grade intelligent system. High-technology companies can use their own advantages to improve their

ISSN: 2688-9323

independent innovation capabilities, the company's own grasp of technicality to help the key areas to reduce air pollution, the implementation of green supply chain management, change the value chain operation mode, to achieve energy saving and consumption reduction. Digital technology can be used to improve the distance between customers and the Internet, reduce the loss in the whole process of information transmission, further drive customers and clients to improve environmental awareness, create carbon inclusive platforms and personal carbon accounts, and improve people's green daily living standards.

The digital finance industry itself is created in the era of green economy development, which can give funds to green environmental protection projects, stimulate technological innovation in the green direction, and generate excellent social repercussions. With the "Internet + government services" and other "digital government departments" basic construction, environmental protection system software of the relevant units, ecological and natural environment information and data to obtain reasonable integration, and promote the ecological and natural environment to obtain a more reasonable maintenance. On the one hand, the rate of information mobility has been accelerated, and the data barriers of the ecological and natural environment have been removed, creating an ecological business management information system that enables the successful circulation and rational use of information resources among individuals, companies, and government agencies. On the other hand, with digital technology as the focus, it can realize the supervision, inference and early warning of ecological and natural environment, and the natural environment control and management system can be improved, which is conducive to promoting green development.

3.2. Indirect Impact of Digital Economy and Green Development

There are not many discussions related to the relationship between the digital economy, industrial layout upgrading and green development. Yu Jiang et al. show that the realization of "digital industrialization" and "industry digitalization" is a necessary condition for the high quality improvement of people's economy. The development of the digital economy and the shared resource economy is a necessary condition for the high quality improvement of people's economy. The development of digital economy and shared resource economy, through the deep combination of digital economy and real economy, stimulate the potential of big data, cultivate new economic improvement points and new dynamic energy, will promote the upgrading of industry development, promote the validation of industry structure, and the continuous improvement of the equipment between assets and economies of scale, finally to the mobility of high-efficiency units, reasonably reduce the non-green energy resources in the whole process of socio-economic development. The reliance on non-green energy resources in the whole process of socio-economic development has been reasonably reduced, and thus the industrial layout has been upgraded and upgraded to be effective. Zhang Yuzhe thinks that digital economy can be applied to each stage of the whole industrial chain, which will lead to the improvement of the value of each stage, thus promoting the relative heightening of the industrial layout and giving rise to a new natural environment for the development of the industry. Zhao Xisan thinks that the digital upgrade of the processing manufacturing industry is a key part of the digital economy development era, and the digital economy can help the processing manufacturing industry to achieve rapid upgrade and accelerate China's manufacturing industry to the middle and high end of the global value chain, thus realizing the sustainable development of the green economy. The digital economy can also realize the sustainable development of independent innovation by combining with traditional industries, integrating digital technology in all aspects of the production process, and thus promoting the high level of industrial layout.

The digital economy can also achieve independent innovation and sustainable development by combining with traditional industries, integrating digital technology into all aspects of the

ISSN: 2688-9323

production process, and promoting the high level of industrial layout. With the vigorous development of China's digital economy and the acceleration of economic upgrading, the combination of traditional scale economy and digital economy has prompted the migration of scale economy from the primary industry to the secondary and tertiary industries. Industry structure effective and advanced in a certain level can improve the ecological and natural environment environmental pollution, improve social green development benefits. In addition, a number of new industries such as "micro economy" and "virtual industrial park" have been created, which can reduce the amount of environmental pollutants discharged, improve the ecology of resources and enhance the overall efficiency of environmental protection while promoting the development of these new industries, thus promoting The new industry structure is effective, and resource factors are equipped with the necessary resources. The industry structure is effective, and the resource factor is equipped with the ability to slowly tend to the most enhanced, in order to improve the use of resources, and thus reduce air pollution. When the industrial layout is skewed to the technical aggregation field, the improvement of digital technology level empowers the traditional agriculture and livestock industry to realize smart agriculture.

The digital economy gives new space for green development, but the level of digital economy development is not consistent from region to region due to the differences in the total number of economy, human capital level, urbanization level, expansion and opening level and policy system among provinces in China. Human capital is the concept of technological upgrading of the company, and it is a necessary element to improve the efficiency of green innovation and achieve green development. The level of human capital can visualize the ability of companies in each region to apply new expertise and technology, thus reflecting the level of technological innovation in each region. The high quality of human capital can in turn influence the ability of the region to attract capital, thus constituting a virtuous cycle system in which capital and human resources promote each other and bring into play the positive impact of the digital economy on the green development of the region. However, for the Yangtze River economy, which is relatively backward, most of the funds for technological R&D come from national or regional governmental allocations, and the ability of relatively backward regions to attract foreign investment is weaker than that of more developed regions, which reduces the attractiveness of highly qualified talents and reduces the technological innovation capacity and efficiency of the region, which is not conducive to green development in the region. Human capital and the digital economy both drive and control each other, and maintaining a balance between the two is a prerequisite for green and sustainable development. Currently, China is in the process of transitioning from a traditional economy to an intelligent digital economy. To achieve this excess, it is necessary to upgrade the scale of economic resources to make it more in line with the new socio-economic development approach. Human capital plays the role of a regulator between the digital economy and green development, determining the green profitability frontier of the digital economy. The level of development of the digital economy determines the transformation of the labor market requirements, and human capital as a key component of the market economy system, only when the level of human capital and the level of development of the digital economy are paired, the digital economy can play a stronger role in promoting the positive effect of green development, and can reduce the natural environmental damage generated by the capital input-output rate, while when the two are not paired, it will lead to a shortage of talent or When the two are not paired, it will lead to a shortage of talent or a relative surplus of talent, a reduction in the effectiveness of talent, a reduction in the rate of resource utilization, a reduction in the natural environmental hazards, and a reduction in the natural environmental benefits.

ISSN: 2688-9323

4. Analysis Conclusion

Based on the above conclusions, this paper puts forward the following policy recommendations:

First, the spatial imbalance in the development of digital economy in the Yangtze River Economic Belt, therefore, in order to achieve high-quality green development in the Yangtze River Economic Belt, it is necessary to adequately investigate and deeply analyze the characteristics and reasons for the spatial imbalance in the development of digital economy, promote the provinces and regions with faster development of digital economy to promote the provinces and regions with slower development, and realize the collaborative development of each region. Since the development of the digital economy is affected by the digital infrastructure construction, industry development and the technical level of independent innovation in each region, it is important to focus on reducing the differences in the level of digital infrastructure construction, improve the level of technical innovation in the region, enhance the investment in digital infrastructure construction, expand the coverage and promote the harmonious development of the digital economy.

Secondly, flourishing digital economy is a reasonable way to promote green development of towns and cities, and it is necessary to promote further flourishing of digital economy through sound construction of digital infrastructure in towns and cities and promote the integration of digital economy and real economy, so as to promote the flourishing of digitalization of industrial production, digital industrialization and digitalization of society, so as to enhance the ecological efficiency of towns and cities and improve the efficiency of green development of towns and cities, and in the flourishing of At the same time of digital economy, every effort is made to maintain and enhance the green economic benefits of digital economy-enabled towns in order to achieve a win-win situation for the natural environment and economic and social rights.

Thirdly, as the industrial layout upgrading plays the effect of intermediary company in the whole process of digital economy influencing green development, thus it is necessary to promote the industrial transformation and upgrading scientifically and effectively, thus prompting the continuous improvement of industry standard, realizing the relative heightening of industrial layout, enhancing the industrial layout upgrading and modernization basic construction, making sufficient use of the positive and active effect of industrial layout intelligence to make the digital economy promote green development and Further improve the effect of promoting the digital economy. Through the renewal and transformation of traditional industries, promote the composition of new industries and change requirements side to achieve advanced industrial layout, improve the development of the natural environment of cities and towns, promote the development of ecological and economic harmony, and gradually realize the high-quality development of "economic ecology" and "ecological economy". The road of "economic ecology" and "ecological economy" is gradually realized.

Fourth, increase the investment in education and improve the quality of human capital in the whole society. To improve the standard of human capital to promote green development has a key effect, and the important to improve human capital depends on the development of education. To improve the spatial structure of education resources, the main point is to improve the teaching standard and professional knowledge quality of the teaching team in the regions where the socio-economic development is relatively backward, so as to reduce the difference of human capital level between regions. The promotion effect of digital economy on green development should take into account the level of human capital. The digital economy is a key external pillar of green ecological development, and only when the research and development team has very good technical skills can environmental protection funds be applied efficiently. The faster developing regions in the Yangtze River Economic Zone can attract high quality human capital, but the relatively backward developing regions are constrained by their location

ISSN: 2688-9323

and economic level, and are not attractive to high-level talents and expertise gathering companies, so each province must improve the management rules and regulations for the introduction of high-level high-tech talents according to local conditions, and accelerate the creation of high-quality talent gathering depots.

Acknowledgments

The research results of the key project "Research on the influence of digital economy development level on green development in Yangtze River Economic Belt" (ACJJXYZD2309) of College of Economics, Anhui University of Finance and Economics.

References

[1] Liu Chuanhui,Yang Zhipeng. Analysis of digital economy index measurement and spatial and temporal variation characteristics of city clusters--Taking six major city clusters as an example[J]. Modern Management Science,2021(04):92-111.

[2] Li Yan. Regional differences and dynamic evolution of output efficiency in China's digital economy[J]. Research in Quantitative Economics and Technology Economics,2021,38(02):60-77.

[3] Liu Chao, Ding Chenhui, Zheng Tiuyong, Li Feng. Regional differences and dynamic evolution of digital economy output efficiency in Yangtze River Economic Zone[J]. China Science and Technology Forum,2022(07):118-128.

[4] Cha Hongwang,Zuo Pengfei. Analysis of the impact of informatization on industrial structure upgrading in China--a spatial econometric study based on provincial panel data[J]. Economic Review, 2017(01):80-89.

[5] Li Kunwang,Shao Wenbo,Wang Yongjin. Informatization density, information infrastructure and firm export performance - a theoretical and empirical analysis based on firm heterogeneity[J]. Management World,2015(04):52-65.

[6] Zhang Yanbo,Kou Po. Environmental regulation, Internet penetration and corporate pollution emissions[J]. Industrial and Economic Review,2018,9(06):128-139.

[7] Guo F,Chen K. The impact of Internet development on urban environmental quality in spatial perspective--based on spatial Durbin model and mediating effect model[J]. Exploration of Economic Issues,2021(01):104-112.

[8] Peng Deyan, Li Yacheng, Li Changqi. A study on the influence of Internet use on environmental attitudes and environmental literacy[J]. Finance and Economics Science,2019(08):97-109.

[9] Qu Shen-Ning. Blockchain boosts high-quality development of real economy: model, carrier and path [J]. Reform,2020(01):39-47.

[10] Wu Yongyi. Seizing the high ground of digital economy development with the rise of big data industry cluster[J]. Shanghai informatization,2018(08):10-15.