Research on the Synergy of Green Economy and Digital Economy Based on Stimulation Policies

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Abstract: This article will focus on the background of the global economic slowdown caused by the epidemic, and use stimulus policies as the research entry point to analyze the synergy between the green economy and the digital economy. Summarized the characteristics of green stimulus policies, manifested as long-term, avoiding the "brown" rebound in the economic recovery process, and also bringing environmental and economic benefits. Therefore, it is proposed that in the future, we should follow the laws and characteristics of digital economy activities, adhere to the path of collaborative integration of green economy and digital economy, and form a strong global resource allocation capacity for green digital economy, in order to maximize the synergistic effect of green economy and digital economy.

Keywords: Stimulus Policies; Green Economy; Digital Economy; Synergy

1. Introduction

The digital economy is an economy that combines intelligence, knowledge, and creativity to create wealth. It is a key force in restructuring global factor resources, reshaping the global economic structure, and changing the global competitive landscape. Since Don Tapscott proposed the concept in his book "The Digital Economy: Promises and Crises in the Age of Network Intelligence" in 1996, it has become the pinnacle of global economic theory and practical competition[1]. The "14th Five Year Plan for National Informatization" emphasizes "deepening the construction of green, intelligent, and ecological civilization, and promoting the coordinated development of digitalization and greening". In 2021, the Ministry of Science and Technology and the Beijing Municipal Government will take the lead in formulating and implementing the "14th Five Year Plan" for the Construction of the Beijing International Science and Technology Innovation Center, proposing that Beijing should be built into a global digital economy benchmark city. The "Implementation Plan of Beijing on Accelerating the Construction of a Global Digital Economy Benchmark City" specifies that Beijing will be built into a global digital economy benchmark city by 2030.

2. Overview of green stimulus policies

Firstly, the impact of economic stimulus policies has a long-term nature, and green development is a necessary condition for long-term sustainable economic development. From the perspective of long-term sustainable development, taking green stimulus measures is an inevitable choice to avoid the world from one crisis (COVID-19) to another (climate warming). Secondly, green stimulus can effectively avoid the "brown" rebound during the economic recovery process. The "brown economy" is opposite to the "green economy" and typically represents economic activities that are high in carbon and pollution. The economic downturn caused by the epidemic has increased the "brown economy" The risk of a comeback is often due to the fact that after a significant economic downturn, a rapid short-term recovery of the economy will become the primary goal, neglecting the requirements of ecological environment protection. This will make the subsequent transformation and upgrading of economic and industrial structures more difficult, and the effective protection and governance of the ecological environment more difficult[2]. Therefore, in this special period, emphasizing green stimulus is very important, Only by adhering to green development can we resolve the short-term difficulties

caused by the economic downturn and eliminate the risk of a resurgence of the "brown economy". Furthermore, green stimulus will not only bring environmental benefits but also greater economic benefits. By supporting a large number of green economic activities, green stimulus will have a significant driving effect on overall economic growth and employment. Especially green stimulus involves a large amount of infrastructure construction investment, and as a developing country, China's infrastructure construction has a significant driving effect on the economy, which is mainly reflected in two aspects: firstly, infrastructure investment and construction activities themselves will drive the development of their industrial chain, thereby increasing national output value and driving economic growth; The second is the driving effect of the increase in other economic activities brought about by the completion of infrastructure.

3. The Collaborative Development Path of Green Economy and Digital Economy

3.1 Following the Laws and Characteristics of Digital Economy Activities

Different economic activities have different location choices because of different production function. Compared with industrial economy, digital economy has different production function, and must have its own characteristics of location selection laws. At present, although there is relatively little specialized research in this area, from my personal observation and analysis, the location selection of digital economic activities has at least three regular characteristics.

One is historical path dependence. Data as a factor of production is the biggest feature of the production function of the digital economy[3]. Where is the data generated? Although there are different answers to this question, there is a consensus that data is a product of human production and consumption activities. This means that wherever human production and consumption activities are located, data production is there, and there are activities such as data collection, mining, and rights confirmation; The more developed production and consumption activities are, the more abundant data generation and endowment are, and the more developed activities such as data collection, mining, and rights confirmation are. Therefore, the location selection of digital economic activities has a strong dependence on the historical path of economic development.

The second is talent orientation. As a knowledge-based economy, the digital economy is driven by innovation, and the three major technological innovations of data, algorithms, and computing power are its core driving forces. This means that wherever innovation is, the digital economy is there. As we all know, innovation depends on the amount of research and development (personnel, capital) investment and knowledge stock. Considering that capital pursues talent, talent controls knowledge, and especially the vast majority of "tacit knowledge" in the knowledge stock, innovation driven is essentially talent driven. Therefore, wherever talent is, innovation is everywhere. Wherever talent is, innovation is everywhere, and there is the digital economy.

The third is the direction of agglomeration. The use of data has a very prominent characteristic of increasing returns. From an international perspective, due to the relatively incomplete flow of data between countries, there is a significant advantage of economies of scale in developing the digital economy compared to small and large countries; From a domestic perspective, due to the relatively high openness and free flow of data between regions, densely populated and economically sparsely populated areas do not seem to have many advantages. In other words, there does not seem to be a agglomeration economy orientation in the location selection of digital economic activities. However, the digital economy is driven by innovation, and face-to-face communication between people is a key input for innovation, while densely populated and economically dense areas significantly facilitate face-to-face communication between people, becoming the cradle and center of innovation. Therefore, compared to the industrial economy, the location selection of the digital economy has a higher degree of agglomeration direction.

3.2 Taking the Road of Collaborative Integration of Green Economy and Digital Economy

From a global, long-term, and strategic perspective, the digital economy and green economy complement each other. This is because, on the one hand, the key to the development of a green economy lies in the transformation of the energy system from fossil fuels to renewable energy. However, the large-scale development and widespread and effective application of renewable energy depend on the support of computer communication and internet technology. Therefore, the sustainable development of the green economy requires the coordinated progress of digitization and the digital economy. Because of this, Jeremy Rifkin, a futurist, believes

that the new economic reform with the new energy industry, new energy vehicles and the carbon market as the main pillars is based on the combination of the renewable energy revolution and the digital technological revolution. On the other hand, big data centers, intelligent computing centers, and continuously upgraded mobile communication networks are new types of infrastructure that support the digital economy, but they are all high energy consuming. Under current leading technological conditions, 5G energy consumption is more than four times that of 4G, which inevitably leads to higher carbon intensity. In addition, the digital economy has already and is greatly liberating productivity. If the energy system continues to be based on fossil fuels, even considering the possible decrease in energy intensity, the total energy consumption and carbon emissions of the overall economy may also increase on a large scale, making it difficult for the Earth to continue and exacerbating the climate crisis. Therefore, the sustainable development of the digital economy depends on the coordinated progress of green economy development. Based on this, we should seize the opportunity of the carbon neutrality strategy of carbon peak, promote the coordinated and integrated development of digital economy and green economy, and build a green economy benchmark for global megacities. This means that Beijing should not only become a digital economy benchmark city, but also a green and low-carbon economy benchmark city.

3.3 Strong global resource allocation capability to form a green digital economy

It is the strategic key in the new development stage to form a new development pattern with the domestic systemic circulation as the main body and the domestic and international double cycles promoting each other. The digital economy and green economy are the commanding heights of global competition, and the strong global resource allocation ability to form a green digital economy is a key strategic direction for forming a new development pattern. In China, the Beijing Tianjin Hebei region is the hub of the combination of domestic and international double cycles, and the center of global resource allocation capability. The green digital economy should be taken as the strategic focus of coordinated development in the new development stage. It should be cultivated and developed into a global carbon pricing carbon trading center, data pricing data trading center, and intellectual property trading center, focusing on the development of strategic industries and key technologies of the green digital economy, Focus on attracting and retaining key talents in the global green digital economy. It should be particularly pointed out that talents prefer areas with superior quality. Compared to the Yangtze River Delta region and the Guangdong Hong Kong Macao Greater Bay Area, the Beijing Tianjin Hebei region has some shortcomings in terms of local quality. Collaborative development should focus on vigorously improving the quality of location.

Conclusion

In short, whether in the field of green economy development or digital economy development, China has become a leading country and attaches great importance to these two major areas. Therefore, if China's stimulus policies include both green economy and digital economy in a coordinated manner, it will maximize its role in promoting economic recovery after the epidemic.

References

[1] Wei Y, Pingnan R. Research on the factors affecting synergy of enterprise innovation network based on ISM[C]// 2016 Portland International Conference on Management of Engineering and Technology (PICMET). IEEE, 2016.

[2] Ye C, Wu L. Research on the policy synergy of supply-side and demand-side environmental policies: an analysis based on green value chain of manufacturing enterprises[J]. Environmental Science and Pollution Research, 2022(31):29.

[3] Tkachenko V, Kwilinski A, Klymchuk M, et al. The Economic-Mathematical Development of Buildings Construction Model Optimization on the Basis of Digital Economy[J]. Management Systems in Production Engineering, 2019, 27(2):119-123.