

The Impact of New Infrastructure Construction Investment on High Quality Economic Development in the Yangtze River Delta Region

Yuhan Wei ^{1, *}, Zejiong Zhou ²

¹ School of Finance, Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China

² School of Economics, Anhui University of Finance and Economics, Bengbu, Anhui 233030, China

*Corresponding Author: Yuhan Wei (Email: 3246815995@qq.com)

ABSTRACT

This article aims to explore in depth the impact mechanism of new infrastructure investment on high-quality economic development in the Yangtze River Delta region, providing useful references for policy makers. The Yangtze River Delta region has invested a large amount of funds in the field of new infrastructure, including 5G networks, data centers, intelligent transportation, new energy, and other fields. These investments not only promote the optimization and upgrading of regional industrial structure, but also lay a solid foundation for high-quality economic development. The impact of new infrastructure investment on high-quality economic development is reflected in the following aspects: promoting traditional infrastructure reform and promoting the transformation of old and new driving forces; Promote supply side structural reform and optimize resource allocation; Promote diversification of financing channels and stabilize capital structure; Generate spillover effects, increase employment opportunities, and improve people's well-being. Finally, we propose several policy recommendations.

KEYWORDS

New infrastructure investment; High quality economic development; Spatial spillover effects; Digital reform.

1. INTRODUCTION

1.1. Research background

The new infrastructure represented by information, technology, and digitalization is a strong support for economic structural transformation and digital development, and has a profound impact on China's socio-economic development. In traditional concepts, infrastructure mainly refers to engineering facilities that provide public services for production and daily life. With the technological revolution and industrial transformation, the concept of "new infrastructure" has emerged. The new infrastructure recognized by the National Development and Reform Commission mainly includes three aspects: information infrastructure, integrated infrastructure, and innovative infrastructure. Among them, information infrastructure is the most important part of new infrastructure, including 5G, Internet of Things, industrial Internet and other communication facilities, artificial intelligence, blockchain and other technology facilities, data center, cloud computing, intelligent computing center and other computing infrastructure. The construction of new infrastructure, represented by information infrastructure, is receiving attention from many regions in the Yangtze River Delta.

Over the past five years, the integrated development of the Yangtze River Delta has become a national strategy, and the strong and active growth pole has been continuously consolidated and enhanced. According to the work report of the three provinces and one city governments in the Yangtze River Delta region, the total economic output of Shanghai, Jiangsu, Zhejiang, and Anhui in 2023 exceeded the 3 billion mark, further enhancing their support for high-quality development in the country. The Yangtze River Delta region is one of the most active, open, and innovative regions in China's economic development. Since 2018, the proportion of GDP in the Yangtze River Delta region to the country has remained at around 24%, showing a stable development trend. Three provinces and one city, with a land area of 4%, have created nearly a quarter of the country's total economic output.

The global spread of the COVID-19 has seriously affected the world economy, and China's economy has also been affected to a certain extent. Under the background of the huge pressure of economic downturn, investment is of great significance to promote economic development. In the process of investment, infrastructure investment accounts for a large proportion in fixed assets investment. Infrastructure construction investment, with its strong controllability, has become an important lever for stabilizing economic growth in China. It can achieve stable economic growth in the short term and is an important support for economic and social development, playing a significant role in supporting economic development. The investment in new infrastructure construction in the Yangtze River Delta region can greatly promote the economic recovery and development of the three provinces and one city in the post epidemic era, enhance their endogenous driving force for economic development, improve their risk resistance ability for stable economic operation, and achieve the transformation of old and new driving forces. This is an important factor related to the high-quality development of the Yangtze River Delta region's economy.

1.2. Research significance

Investing in new infrastructure has a countercyclical regulatory effect in the short term, and can also adapt to the requirements of high-quality economic development in the long term. It not only provides strong support for sustained economic growth, but also provides strong impetus for innovative economic development. How to promote high-quality economic development through new infrastructure investment is currently a key issue of concern. Overall, the research significance of this article is as follows:

1.2.1. Theoretical significance

New infrastructure, as an important component of new infrastructure construction, requires in-depth theoretical exploration of the impact mechanism and effect of its investment on economic growth. By studying new infrastructure investment in the Yangtze River Delta region, relevant theories can be further improved and developed, providing new ideas and methods for future research.

1.2.2. Practical significance

The construction of new infrastructure is relative to the traditional infrastructure construction that mainly focuses on the construction of "railway public infrastructure". Since the reform and opening up in 1978, traditional infrastructure investment in China has increased significantly, reaching an unprecedented level. This has contributed significantly to the rapid growth of the Chinese economy and the significant improvement of people's living standards. However, the marginal benefits brought by traditional infrastructure construction investment are gradually decreasing. The effect of traditional infrastructure construction investment on driving economic growth is constantly weakening, resulting in prominent problems such as overcapacity, uneven regional distribution, and serious damage to the ecological environment. Therefore, when investment is needed to stabilize economic growth but traditional infrastructure construction cannot continue to be increased, new infrastructure construction becomes the best choice. New infrastructure, with digital technology as its core, will become a new engine driving China's economic growth. Under the impact of the epidemic on China's economy, investment in new infrastructure construction has a particularly

significant hedging effect on the impact of the epidemic in the short term. In the long term, it can drive the development of related industries, accelerate the optimization and upgrading of traditional industrial structures and the cultivation of emerging industries, reduce the proportion of unemployment, and improve the effective allocation of resources, Provide optimization plans for high-quality economic development. Therefore, it is necessary to conduct in-depth research on the inherent mechanism of the role of new infrastructure investment in high-quality economic development from multiple perspectives. The Yangtze River Delta region is an important engine for China's economic development, and the scale and effectiveness of its new infrastructure investment have important demonstration and reference significance for other regions in the country. By studying the impact of new infrastructure investment in the Yangtze River Delta region on high-quality economic development, it can provide decision-making references for the government and enterprises, promote the healthy development of new infrastructure investment, and promote high-quality economic development.

2. PATH ANALYSIS OF NEW INFRASTRUCTURE INVESTMENT IN THE YANGTZE RIVER DELTA REGION TO SUPPORT HIGH-QUALITY ECONOMIC DEVELOPMENT

2.1. New infrastructure investment drives the transformation and upgrading of traditional infrastructure

In the era of digital economy, the production mode that originally relied on material resource input has been replaced by the production mode that improves total factor productivity. The traditional infrastructure construction path represented by "iron roosters" and real estate can no longer meet the requirements of high-quality economic development. The new type of infrastructure will enhance the digital, networked, and intelligent transformation of traditional infrastructure, expand the scope of the role of traditional infrastructure construction in promoting economic growth and optimize the mechanism, increase the editing remuneration of traditional infrastructure or reduce the rate of diminishing marginal returns, thereby promoting long-term inclusive economic growth in the Yangtze River Delta region.

2.2. New infrastructure investment promotes supply side structural reform

2.2.1. Promote the integrated development of industries

The current emerging infrastructure sector has developed into an influential industry sector, and its main effects on industrial structure and economic development can be divided into two levels. Firstly, the expansion of infrastructure investment in new industries such as 5G, data storage facilities, and AI will widen the growth gap between these emerging industries and other industries, leading to the flow of production resources from lower output or slower growth to new industry sectors. This "structural benefit" can trigger efficiency improvement in the entire industry, assist in industrial upgrading and optimizing allocation, and further promote steady economic expansion.

Furthermore, this contributes to the healthy growth of the entire supply chain and improves its efficiency. It can stimulate the demand of the upper, middle, and lower chains to generate a multi-level expansion effect that leads many industries. The construction of new infrastructure connects various fields to build a brand new economic structure, and can improve cluster efficiency through this approach. In addition, "new infrastructure" also provides information technology support for the creation and integration of emerging energy, high-tech products, and advanced manufacturing fields, enabling various departments to achieve leapfrog development driven by emerging infrastructure and make breakthroughs in business forms and service models, thereby creating more new scientific and technological service projects to promote the new development trend of modern industrial integration.

2.2.2. Promote the transformation of new and old kinetic energy

In the context of continuous deepening of supply side structural reform and shortage of social resources, only by promoting the modernization reform of traditional industries and the development of new forces can we help economic development embark on a path of high-quality development, and promote the transformation of resource driven economic models to innovation driven economic models. The characteristics of "new infrastructure" perfectly meet the needs of China's economic industry structural adjustment, and it can comprehensively and deeply affect various industries. In new infrastructure, elements such as information technology, big data management, and artificial intelligence have been widely applied in various production processes, which helps to enhance professional division of labor and depth within the industry, thereby guiding industry development towards a higher stage of digitalization and building advanced industrial systems. In addition, "new infrastructure" has higher advantages compared to traditional infrastructure, especially in terms of funding supply. Therefore, the emerging industry forms established based on "new infrastructure" fully adapt to the demand for excess returns and high-value output required for industrial upgrading, and comply with the principles of environmental friendliness, energy conservation and emission reduction. The capacity expansion after industrial upgrading will continue to generate new economic growth points.

In order to promote the digital transformation of the industry and the development of the industrial Internet, we need to strengthen the investment in digital infrastructure, which can lay the foundation for the development of the digital economy. At the same time, it is necessary to strengthen the construction of digital infrastructure, especially in the fields of transportation, healthcare, finance, manufacturing, etc. This can achieve innovation in production methods and business models in multiple links such as production, distribution, exchange, and consumption, improve technological innovation capabilities and efficiency, expand employment scale, and fully leverage the role of the digital economy in promoting high-quality economic development.

2.3. New infrastructure investment can promote diversified financing channels

Traditional public infrastructure projects are mainly constructed at the cost of national finance. However, the construction of new infrastructure not only relies on state investment but also welcomes private investors to participate in establishing a new financing mechanism: an emerging investment and financing strategy guided and managed jointly by the state and the market. The reason why this innovative project can successfully attract more private sector involvement is that it involves a series of large-scale and sustained financial needs in high-tech fields such as fifth generation mobile communication technology (5G), intelligent network systems (IoT), and automated manufacturing equipment. At the same time, the implementation of such projects often has strong industry and commercial attributes, and requires high technical application requirements. Therefore, relying solely on treasury appropriations cannot meet the high cost expenditures and advanced technical support required for the construction of such large-scale projects. Introducing private enterprises can effectively alleviate the pressure on the central budget and increase diversified fundraising channels. At the same time, it can also improve the efficiency of financial resource utilization through more flexible market operations, thereby promoting economic development to a higher level.

2.4. New infrastructure investment has spatial spillover effects on economic development

New infrastructure investment has a multiplier effect, which can bring several times the national income and social demand of the investment amount through a series of complex industrial linkages and transmission mechanisms, thereby driving economic growth. The long-term formation of infrastructure will effectively improve the efficiency of factor allocation in production and consumption, thereby reducing the cost of enterprise production and expanding and updating

production capacity. Firstly, infrastructure mainly promotes high-quality development indirectly through industrial structure optimization and resource allocation. At the same time, reducing the production costs of enterprises, most public welfare infrastructure projects in the field and scope of infrastructure investment, as public goods provided by the government, can effectively improve the quality and durability of tangible assets of enterprises, thereby reducing private maintenance costs and operating costs. Economic infrastructure not only improves production and living conditions and provides convenience, but also greatly enhances the living standards of residents, providing available funds for capital cultivation effectively improves the level of human capital. Traditional infrastructure investment is more focused on real estate, traditional manufacturing, and other fields. However, currently, real estate investment is difficult to become the main driving force for stimulating economic growth, while traditional manufacturing shows significant pro cyclical characteristics. The investment in "new infrastructure" focuses on the field of new intelligent consumption, which conforms to the development trend of digitization, intelligence, and networking. Starting from consumption, it creates more social demand, thus forming a strong investment spillover effect and providing more space for economic development.

3. POLICY RECOMMENDATIONS FOR PROMOTING HIGH-QUALITY ECONOMIC DEVELOPMENT THROUGH NEW INFRASTRUCTURE INVESTMENT IN THE YANGTZE RIVER DELTA REGION

3.1. Increase investment in new infrastructure fields

Accelerate the expansion of investment in new infrastructure. Firstly, it is recommended to introduce the national new infrastructure investment plan as soon as possible, clarify the investment scope and project list, and establish a unified and standardized new infrastructure investment management standard. Secondly, by increasing central investment to drive local and private investment, the scope of investment entities should be appropriately expanded, and local governments should be encouraged to expand the proportion of investment in new infrastructure as much as possible in their annual investment plans. At the same time, attention should also be paid to effectively preventing and controlling local government debt risks.

3.2. Optimize investment structure

It is necessary to continuously improve the investment portfolio of new infrastructure projects, establish a combination of government guidance and market driven investment approach, and promote resource flow to projects with greater growth potential. The primary task is to reduce the admission conditions for investment in new infrastructure projects, eliminate unclear factors that hinder private companies from participating in new infrastructure investment, strongly support and promote the participation of the private economy in new infrastructure project construction, and further improve the investment portfolio. In addition, we need to clarify the property nature of new infrastructure, improve the investment cooperation system between the government, state-owned enterprises, and private enterprises, and reduce the crowding out effect of central enterprise investment on private capital.

3.3. Strengthen policy coordination

We attach great importance to the ecological construction of the new infrastructure industry, adopt various preferential policies such as tax reduction and financing incentives to encourage and reduce investment risks. Strengthen the joint control and mobilization of the three provinces and one city, focusing not only on the overall planning of the Yangtze River Delta region, but also on the actual situation at the local level, to achieve information exchange and resource sharing. Increase

government support and use fiscal funds to leverage and guide social capital to invest in new infrastructure.

3.4. Optimize investment ecology

High attention should be paid to the establishment of the ecological environment in the new generation of infrastructure industry. On the basis of the good industrial network environment established on the previous industrial Internet, further promote the cooperation and progress between the upper and lower companies, and encourage market related organizations with high-tech content and sufficient funds to create a tolerant and open business community system. In addition, it is necessary to fully utilize various types of associations or other intermediary institutions to play their regulatory role, thus forming a multi-party interactive communication model that integrates "government producers researchers financiers users". And we need to increase the importance placed on the entire lifecycle of the product. From the beginning, appropriate technological innovation and financial strategies should be planned to ensure the feasibility and success rate of project implementation, and then the quality control and evaluation of products should be strengthened. Finally, it is necessary to improve the subsequent product release process and related institutional arrangements. Maximizing the utility of resources and avoiding resource waste caused by vicious competition.

3.5. Strengthen talent cultivation and introduction

Encourage and support enterprises in the Yangtze River Delta region to participate in the research and application of "new infrastructure", cultivate a high-quality talent team, and provide human resources and intellectual support for new infrastructure. Encourage innovation and enhance the technological content of new infrastructure projects. Build a talent training system, build a talent introduction platform, enhance preferential policies for talent settlement, attract talent inflows, and contribute to the high-quality economic development of the Yangtze River Delta region.

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