

# Study on Improving the Development Level of New Quality Productivity in Guangzhou

Zhen Zhang<sup>1</sup>, Yan Zhang<sup>2</sup>

<sup>1</sup>Department of Economics, Party School of the CPC Guangdong Provincial Committee, Guangzhou, China

<sup>2</sup>School of Marxism, Guangdong Finance and Trade Vocational College, Guangzhou, China

Email: zhangzhen2017jndx@163.com

**How to cite this paper:** Zhang, Z., & Zhang, Y. (2025). Study on Improving the Development Level of New Quality Productivity in Guangzhou. *Open Journal of Social Sciences*, 13, 498-510.

<https://doi.org/10.4236/jss.2025.134030>

**Received:** April 2, 2025

**Accepted:** April 27, 2025

**Published:** April 30, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

---

## Abstract

Based on the theoretical connotation and evolutionary logic of new quality productivity, this paper combines the real needs of Guangzhou as the core city of Guangdong-Hong Kong-Macao Greater Bay Area, constructs a five-in-one evaluation system of “innovation-coordination-green-openness-sharing”, systematically analyzes the level of development of Guangzhou’s new quality productivity and proposes development paths such as the construction of the “three-chain fusion” innovation ecosystem, the improvement of digital twin empowerment system, and the supply of institutional innovation, which provide strategic references for the high-quality development of cities in the Greater Bay Area. It also proposes development paths such as the construction of “three-chain integration” innovation ecosystem, the improvement of digital twin empowerment system, and the supply of institutional innovation, providing a strategic reference for the high-quality development of the Greater Bay Area cities.

## Keywords

New Quality Productivity, Factor Endowment, Development Path, Regional Differences, Guangzhou

---

## 1. Introduction

Against the background of global industrial change and the accelerated development of digital economy, the new quality productivity, as the core driving force to promote the high-quality development of the city, is reconfiguring the production system of human society with unprecedented depth. The theoretical construction of this concept is rooted in the framework of the dialog between Marx’s produc-

tivity theory, Schumpeter's innovation theory and contemporary digital economy research, showing a paradigm leap from the linear view of productivity to the complex system view of productivity. Marx's productivity theory emphasizes that productivity is the ability of human beings to transform nature and acquire material resources, which consists of laborers, labor resources and labor objects, and emphasizes that qualitative changes in productivity can promote the evolution of social form through the change of production relations. Schumpeter's innovation theory introduces the mechanism of "creative destruction", and incorporates elements such as technological change and industrial restructuring into the dimension of productivity analysis. Guangzhou, as the core growth pole of the Guangdong-Hong Kong-Macao Greater Bay Area, is facing the dual transformation pressure of the decay of traditional growth momentum and the evolution of the competitive pattern of the Bay Area. 2023 data show that the growth rate of traditional industries such as equipment manufacturing and textile and apparel has dropped to 4.1%, highlighting the unsustainability of the reliance on traditional paths. At the same time, Shenzhen digital economy core industry added value accounted for the proportion of GDP exceeded 30%. This development potential difference forced Guangzhou to reconstruct the innovation ecology. During the strategic window of "accelerating the cultivation of new quality productivity" explicitly mentioned in the national "14th Five-Year Plan", Guangzhou needs to break through the "manufacturing city" strategy and upgrade its path, so as to provide decision-making references for the transformation of the core cities in Guangdong, Hong Kong and Macao Greater Bay Area.

## **2. The Progress of Theoretical Research on the Development of New Quality Productivity**

### **2.1. Theoretical Connotation of New Productivity**

New quality productivity, as an advanced productivity form in the digital era, is a productivity leap achieved with the help of technological innovation (e.g., AI, blockchain), factor restructuring (marketization of data elements), and organizational change (platform economy), oriented to the enhancement of total factor productivity. Its core features are manifested as follows: first, technology-driven. The new quality productivity takes frontier technologies such as artificial intelligence, blockchain, quantum computing and so on as the core driving force, introduces new technologies, new processes and new equipment, breaks through the traditional technological boundaries, and promotes the transformation and upgrading of industries and the transformation of the mode of economic development. For example, the proportion of strategic emerging industries in Guangzhou's GDP in 2024 has increased to 32.3% of the city's GDP, showing the important role of technological innovation in industrial development. Second, factor mobility. The new quality productivity emphasizes the free flow and efficient allocation of factors, especially the market-oriented trading and cross-regional flow of data factors. As an important production factor, the mobility of data has a direct

impact on productivity enhancement. Guangzhou has taken the lead in promoting the market-oriented reform of data elements, formally issued the Guangzhou Municipal Data Ordinance in 2025, and implemented the chief data officer system and the public data resource list management mechanism to break down inter-departmental data barriers and promote the flow of data elements, so as to provide effective support for the development of new-quality productivity. Third, ecological openness. New quality productivity focuses on the openness and synergy of the ecosystem, builds open innovation platforms and cooperation networks, and promotes the sharing of innovation resources and complementary advantages. The Guangzhou-Shenzhen-Hong Kong Innovation Corridor has seen a 67% increase in patent cooperation, demonstrating the synergistic effect of the regional innovation ecosystem. Fourth, value multiplicity. New quality productivity multiplies value by improving production efficiency, reducing production costs, and optimizing products and services. The application of digital technology has reduced manufacturing costs by 22%, demonstrating the huge potential of new quality productivity in enhancing economic value.

## 2.2. Progress in Domestic and International Research

In terms of international research, the crucial role that innovation plays in the evolution of productivity is directly reflected at the level of technological progress.

Freeman, in *Technology Policy and Economic Performance: The Experience of Japan's National Innovation System (NIS)*, introduced the concept of the “national innovation system”, which emphasises the interaction of public-private sector networks to facilitate the development, introduction and diffusion of new technologies (Freeman, 1987). This theory is composed of four core elements: institutional structure, incentive mechanism, participants' skills and cultural characteristics. Brynjolfsson et al. suggest that AI with machine learning at its core represents a new generation of key general-purpose technologies that have the potential to be widely applied, to be iteratively upgraded, and to generate a range of complementary innovations (Brynjolfsson et al., 2017).

In terms of domestic research, the digital economy empowers the development of new quality productivity. As a new economic form, the digital economy has changed the traditional path of economic development and injected new momentum into economic growth. Zhang Sen proposed a three-dimensional analysis framework of “demand side - supply side - environmental side”, verifying that the digital economy drives new quality productive forces through disruptive technological innovation and strategic emerging industries (Zhang & Wen, 2024). The GAC Aion Intelligent Ecological Factory is the only “lighthouse factory” in the global field of new energy vehicles, always placing scientific and technological innovation at the core, and vigorously implementing the results of the innovation-driven development strategy. After years of exploration and practice, the GAC Aion new energy pure electric dedicated factory has been upgraded to an intelligent ecological factory. In terms of high intelligence, the factory integrates artifi-

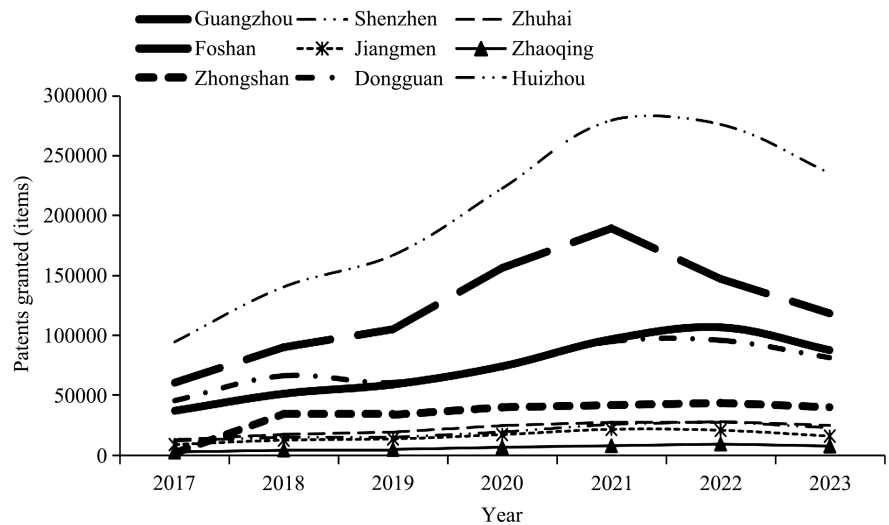
cial intelligence, big data, robot technology, and intelligent solutions for quality management, logistics transportation, etc., all of which make the factory very intelligent. The production lines of the “lighthouse factory” are highly flexible and have a very high compatibility. At its peak, one production line can accommodate the mixed production of seven or eight models of SUVs, sedans with rear-wheel drive, front-wheel drive, and all-wheel drive.

### 3. Analysis of Guangzhou’s New Quality Productivity Development Level

At present, in terms of the setting of the index system for evaluating the high-quality development level of regional economy, scholars mostly focus on dimensions such as economic vitality, innovation efficiency, coordinated development, green development, economic benefits, open development, and shared development (Zhang et al., 2021). Based on previous studies and the actual situation of Guangzhou, this research mainly selects seven dimensions including the level of economic development coordination, green level, open level, shared level, degree of talent aggregation, and digital economy development level to analyze the development of new quality productive forces in Guangzhou. Through in-depth analysis of these aspects, we can have a more comprehensive understanding of the development status of new quality productive forces in Guangzhou and provide strong support for formulating targeted policies and measures.

#### 3.1. Innovation Level of Economic Development

Innovative development focuses on solving the problem of development momentum. In recent years, Guangzhou has made remarkable achievements in economic development innovation. In terms of patent application and authorization, for example, from 2017 to 2023, the number of patent applications and authorizations in Guangzhou showed a significant growth trend, presenting a strong innovation capacity among the cities in the Guangdong-Hong Kong-Macao Greater Bay Area. **Figure 1** and **Table 1** show that Shenzhen, Guangzhou and Dongguan contribute relatively more among the cities in the Guangdong-Hong Kong-Macao Greater Bay Area city cluster from 2017 to 2023, and the combined share of patent application authorization among the three cities has risen from 84.31% to 88.60%. Guangzhou ranks second among the three cities in terms of patent applications (118,000), only 50% of that of Shenzhen (235,000), but higher than that of Dongguan (81,000); the proportion of invention patents is ahead of the others, showing that there is a certain amount of technological accumulation in some fields, with higher quality, but the number of PCT applications is low, and the international competitiveness of technological output is insufficient, so it is necessary for the future to shift from “expansion of scale” to “quality”. In the future, it is necessary to shift from “scale expansion” to “quality breakthrough”, and improve the investment in basic research and the efficiency of the transformation of industry, academia and research.



**Figure 1.** Authorized patent applications in Guangdong, Hong Kong and Macao Bay area.

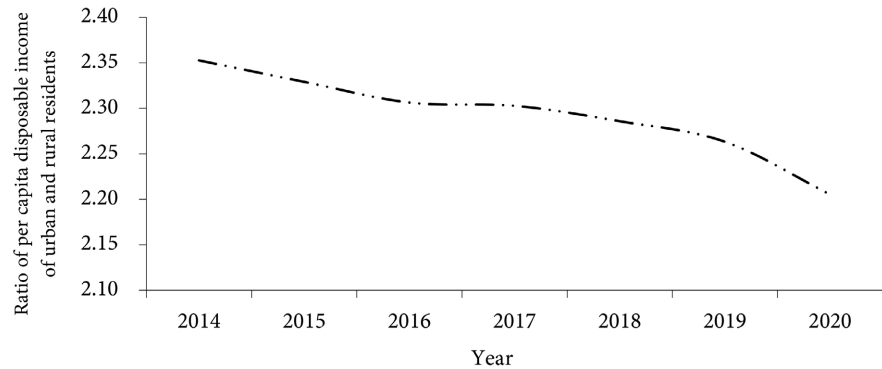
**Table 1.** Comparison table of science and technology innovation-related indicators of Guangzhou, Shenzhen and Dongguan.

Indicators	Guangzhou	Shenzhen	Dongguan
Patent applications (pieces)	118,070	235,112	81,117
Percentage of patents for inventions	31%	26%	16%
PCT international patent applications (pieces)	1857	15,854	3257
Intensity of R&D investment (% of GDP)	3.44%	6.46%	3.46%

### 3.2. Level of Coordination of Economic Development

Coordinated development focuses on solving the problem of unbalanced development. In the process of Guangzhou's economic development, the income gap between urban and rural areas in Guangzhou has continued to narrow, entering a new stage of urban-rural development. **Figure 2** shows that it has decreased from 2.36 in 2017 to 2.09 in 2023, with an average annual decrease of about 1.8%, which is better than the national average (the national urban-rural income ratio will be about 2.39 in 2023), so it can be seen that the policy of coordinated development of urban and rural areas in Guangzhou has been effective; in terms of the change of the absolute income, the per capita disposable income of the urban residents has risen from 55400.5 yuan to 80500.9 yuan. In terms of absolute income changes, the per capita disposable income of urban residents has risen from 55400.5 yuan to 80500.9 yuan, with a growth rate of 45.3% in urban areas, and the per capita disposable income of rural residents has risen from 23483.9 yuan to 38606.7 yuan, with a growth rate of 64.4% in rural areas. On the one hand, both urban and rural per capita disposable incomes showed an upward trend of a certain magnitude, and on the other hand, it showed that rural incomes grew at a faster rate, reflecting the effective implementation of the strategy of rural revitalization. However, the

absolute gap between urban and rural incomes widened from 32,000 yuan in 2017 to 42,000 yuan in 2023, with an average annual expansion of 4.7%, and there is still an obvious gap between urban and rural incomes in terms of structure and quality.

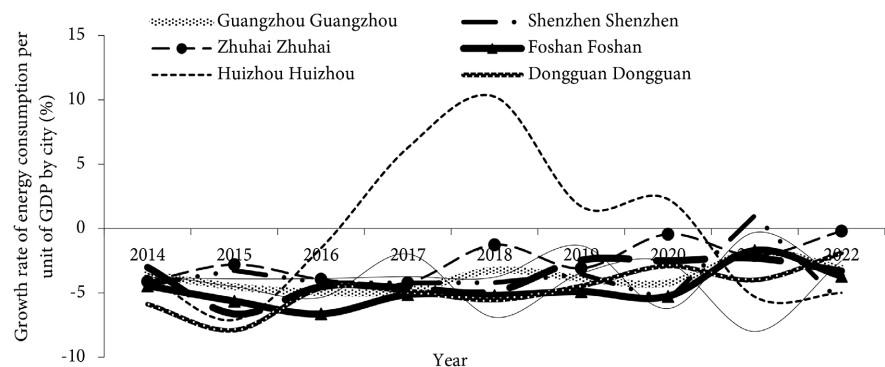


**Figure 2.** Percentage of disposable income per capita of urban and rural residents in Guangzhou City.

### 3.3. Green Level of Economic Development

Green development focuses on solving the problem of harmony between human beings and nature. The PRD city cluster is developing relatively rapidly, and is facing increasingly severe problems of tightening resource constraints, serious environmental pollution and degradation of ecosystems in terms of ecological environment, as well as the people's pursuit of better taste in living environment. **Figure 3** shows that from 2010 to 2020, the growth rate of energy consumption per unit of GDP in the cities of the PRD urban cluster will generally show a fluctuating downward trend, and only Huizhou and other cities will show large fluctuations and increases. Guangzhou's unit GDP energy consumption growth rate declines from  $-3.52\%$  in 2014 to  $-3.1\%$  in 2022, and unit GDP energy consumption continues to grow negatively during the 2014-2022 period, with an average unit GDP energy consumption growth rate of  $-4.2\%$  during 2014-2018; and an average unit GDP energy consumption growth rate of  $-3.25\%$  during 2019-2022, reflecting that Guangzhou's unit GDP energy consumption growth rate is  $-3.25\%$ , reflecting that Guangzhou's unit GDP energy consumption growth rate is  $-4.2\%$  during 2014-2018; and  $-3.25\%$  during 2019-2022.  $3.25\%$ , reflecting the continuous improvement of Guangzhou's energy utilization efficiency and the high level of greening of its economic development. It has the best stability among the cities in the Guangdong-Hong Kong-Macao Greater Bay Area, with no rebound in energy consumption in Shenzhen ( $+1\%$  in 2021) and Huizhou ( $+6.28\%$  in 2017), which also indicates that Guangzhou is relatively stable in green transformation and shows strong green regulation capability. In promoting industrial transformation and upgrading, Guangzhou has gradually formed an industrial structure dominated by modern service industries and supported by advanced manufacturing industries, with low energy-consuming industries such as finance and infor-

mation technology replacing traditional high-energy-consuming industries such as steel and cement. These industries consume less energy than traditional heavy industries, and their carbon emission intensity is relatively small, which helps to continuously promote the improvement of the ecological environment. In the future, it is necessary to break through the bottleneck of consumption reduction by deepening industrial digitization, energy cleanliness and institutional innovation, so as to further consolidate the advantages of sustainable development.

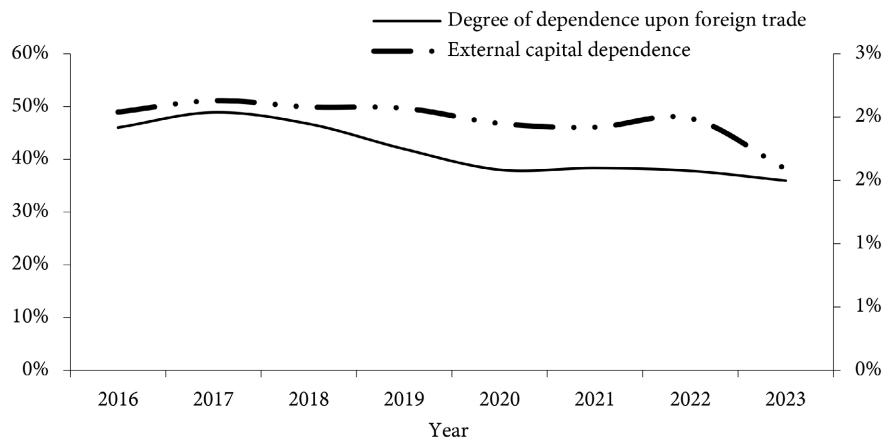


**Figure 3.** Growth rate of energy consumption per unit of GDP in the cities of Guangdong, Hong Kong and Macao Greater Bay Area.

### 3.4. Level of Openness in Economic Development

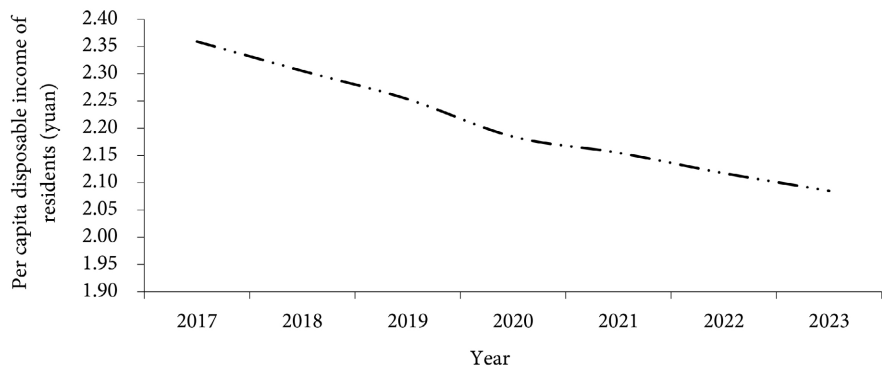
Open development focuses on solving the problem of internal and external linkages in development. The utilization of two international and domestic markets and two types of resources by the PRD urban agglomeration in the early stage provided the necessary conditions for its rapid economic development, and was also conducive to enhancing China's ability to cope with international economic and trade frictions and international economic discourse. **Figure 4** shows that the overall fluctuating downward trend of Guangzhou's foreign trade dependence and foreign capital dependence from 2016-2023. Specifically, Guangzhou's foreign trade dependence decreased from 46.02% to 35.95% in 2016-2023, and total imports also increased from 338.226 billion yuan to 441.153 billion yuan, while total exports rose from 515.877 billion yuan to 650.157 billion yuan. It shows that the competitiveness of Guangzhou's manufacturing industry and its participation in the global industrial chain have increased. It reflects the gradual shift of Guangzhou's economy from "outward dependence" to "internal and external dual-wheel drive". In terms of external capital dependence, Guangzhou has decreased from 2.04% to 1.59% in 2016-2023. Despite the continuous growth of real foreign direct investment, it is still small compared with the growth of total GDP, and the overall share has declined. GDP has increased from 1855.973 billion yuan to 3035.573 billion yuan, significantly faster than the growth rate of imports and exports, indicating that the pulling effect of domestic demand (consumption and investment) on the economy has increased. It can be seen that in the process of high-quality development of Guangzhou's economy, it is still necessary to deepen the

reform and opening up, and accurately improve the level of opening up to the outside world, so as to ensure the sustained development of the economy and the enhancement of international competitiveness.



**Figure 4.** Guangzhou's degree of dependence on foreign trade and foreign capital.

### 3.5. Shared Level of Economic Development



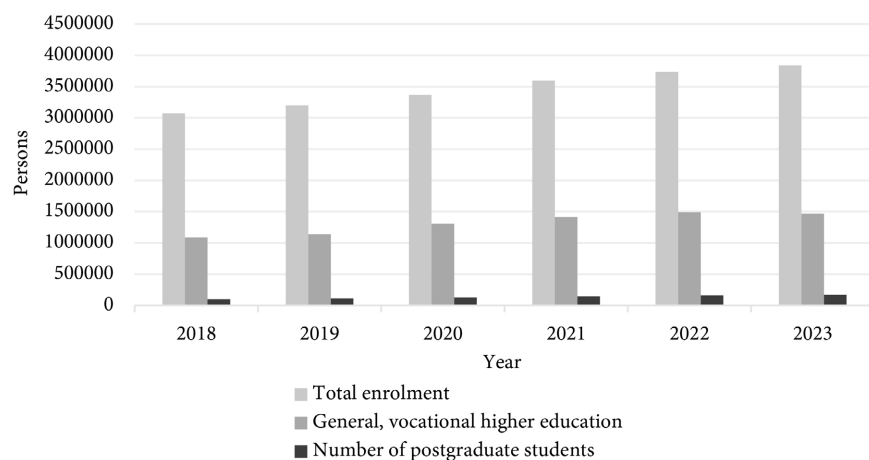
**Figure 5.** Per capita disposable income of residents in the PRD city cluster.

Shared development focuses on solving the problem of social justice. In recent years, the size of the Guangzhou economy has continued to grow, with the gap between the level of public services in urban and rural areas and the problem of unfair distribution becoming increasingly apparent, and there is still a lack of sharing of the fruits of reform and development and of universal access to the fruits of reform and development. To a large extent, these problems rely on the continuous improvement of residents' consumption capacity, i.e. per capita disposable income of residents. According to the data in **Figure 5**, the per capita disposable income of Guangzhou residents increased continuously over the seven-year period from 2017 to 2023, from RMB 50782.2 to RMB 74836.7, with a cumulative increase of 47.4 per cent and an average annual growth rate of about 5.8 per cent. This remarkable growth reflects the continuous improvement of Guangzhou residents' actual consumption ability, the economic living standard of residents is

improving, and the fruits of economic development continue to be transformed into residents' incomes; at the same time, the foundation of Guangzhou's sharing level is solid. With the increase in per capita disposable income, the ability of Guangzhou residents to consume, save and invest has increased accordingly, which also reflects that Guangzhou has always focused on the concept of sharing in the process of economic development, and endeavored to allow all residents to share the fruits of economic development more equitably.

### 3.6. Degree of Talent Development Agglomeration (Students with Bachelor's Degree or Above)

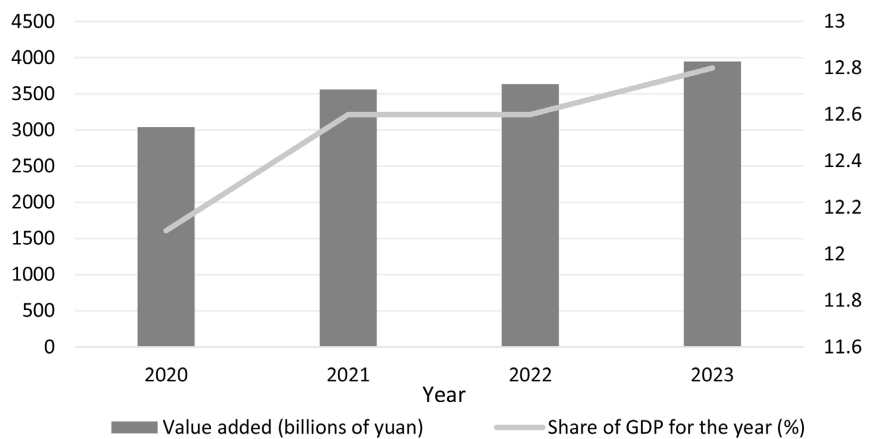
In the context of developing new-quality productivity and promoting high-quality development, human beings, as the core element of independent innovation, are the key force in promoting the conversion of productivity to new-quality productivity. Among them, high-level talents, by virtue of their excellent professionalism and innovation ability, have become the key force and main support to promote the development of new quality productivity. As can be seen from **Figure 6**, the total number of students in Guangzhou increased from 3.07 million in 2018 to 3.84 million in 2023, with an average annual growth rate of about 4.6%; among them, the number of students in general and vocational higher education increased from 1,086,400 in 2018 to 1,468,600 in 2023, with the proportion rising from 35.3% to 38.2%. This scale ranks first in the country, reflecting the accelerated popularisation of higher education in Guangzhou. Guangzhou's "talent gathering mode is higher education-driven" (Qi, Qi, & Liu, 2020), and at present, Guangzhou has four 211 colleges and universities and two 985 colleges and universities. In addition, the proportion of postgraduate students in the total enrolment has risen from 3.3% in 2018 to 4.5% in 2023, indicating that Guangzhou has been effective in cultivating and attracting high-end talents. Guangzhou's continuous optimisation of the scale and structure of higher education has provided a steady stream of talent support for the development of its new quality productivity.



**Figure 6.** Talent development agglomeration in Guangzhou, 2018-2023.

### 3.7. Level of Development of Digital Economy

As can be seen from **Figure 7**, the value added of the core industries of the digital economy in Guangzhou increased from RMB 303.7 billion in 2020 to RMB 394.6 billion in 2023, an increase of approximately RMB 90.9 billion, with an average annual growth rate of approximately 10.4%, and a steady increase in its share of the GDP, which indicates that the core industries of the digital economy of Guangzhou have maintained a strong momentum of growth in the past few years. In addition, the share of the core industries of the digital economy in the current year's GDP grew from 12.1% in 2020 to 12.8% in 2023, which is not a large growth rate, but has always remained at a high level and shows a rising trend year by year. This indicates that the digital economy is becoming increasingly important in Guangzhou's economy and has become a key force in promoting high-quality economic development. According to the assessment of "Guangzhou Blue Book: Report on the Development of Guangzhou Digital Economy (2024)", the comprehensive strength of Guangzhou's digital economy is ranked No. 4 among the eight major cities, which is firmly in the first echelon. This ranking situation indicates that Guangzhou has already possessed strong competitiveness in the development of digital economy, but compared with leading cities such as Beijing, Shanghai and Shenzhen, it has large room for improvement, and still needs to make further breakthroughs in key areas such as the degree of concentration of innovative resources and the driving force of leading enterprises.



**Figure 7.** Added value of core industries in Guangzhou's digital economy, 2020-2023.

## 4. Path Analysis of Promoting the Development of New Quality Productivity in Guangzhou

Based on the above analysis of the development level of Guangzhou's new quality productivity, this paper focuses on analyzing the policy measures to promote the development of Guangzhou's new quality productivity from the following aspects.

### 4.1. Building a "Three-Chain Integration" Innovation Ecosystem

In order to promote the continuous improvement of Guangzhou's new produc-

tivity, it is crucial to build a “three-chain integration” innovation ecosystem. This system includes the three core links of the innovation chain, the industrial chain and the capital chain, and through the in-depth integration and synergistic development of the three, a new model of innovation-driven economic development will be formed.

1) In the innovation chain, grasp the opportunity of the construction of the Guangdong-Hong Kong-Macao Greater Bay Area to build an innovation chain ecosystem. As the only city in China that has gathered national laboratories, comprehensive national technology innovation centers, national major scientific and technological infrastructure, international scientific programs and other major national platforms, Guangzhou should take advantages of the existing foundations, implement research and development programs in key areas such as artificial intelligence, biomedicine and other key areas, and continue to strengthen the basic research and key core technology research focusing on breakthroughs in quantum information, semiconductor materials, and other “neckline” technologies; at the same time, to promote the deep integration of scientific and technological innovation and industrial innovation; not only to strengthen the main position of enterprise innovation, support Guangzhou Automobile, Huawei and other leading enterprises to form innovation consortium, but also to deepen the integration mechanism of industry, academia and research, and to promote Sun Yat-sen University, South China University of Technology and other colleges and universities of the original innovation and industrial needs of the precise docking, the formation of innovation to lead the development of industry in a good situation.

2) Promote the cross-border integration of “automobile + ICT + energy” in the industry chain, and build a carrier for the development of new productivity. As an innovative carrier integrating new energy, artificial intelligence, cloud computing and other cutting-edge technologies, intelligent networked vehicles are an important direction for cultivating new productivity. Taking intelligent networked vehicles as the core engine of digitalization, high-end and intelligent development, the company will adopt the “chain leader + ecological synergy” development model of Tesla Shanghai Super Factory to build an integrated technology ecosystem of vehicle, road and cloud. Based on its own industrial foundation and the experience of GAC’s first lighthouse factory for new energy vehicles in the world, the company will collaborate with Huawei’s Guangzhou R&D Center (Phase I) and other leading ICT enterprises to promote the cross-fertilization of new energy, AI, big data and other technologies to form a full-chain innovation matrix covering intelligent driving, Telematics, green energy and so on. The whole innovation matrix covering intelligent driving, car networking and green energy will be formed.

3) In terms of capital chain, we have built a multi-level financial support system to empower the development of new productivity; build a capital chain around the innovation chain and industrial chain, and construct a diversified capital cir-

ulation mechanism of “government-guided + market-led + social participation”. It is proposed to set up a “new quality productivity special fund” with a scale of not less than 20 billion yuan, with a “government-led + market-oriented operation” mode, giving priority to supporting research and development in key areas such as semiconductors, new energy and industrialization.

#### 4.2. Identify the Headings

The Third Plenary Session of the 20th CPC Central Committee explicitly proposed “to improve the system and mechanism for the development of new productivity according to local conditions”, which pointed out the direction for the high-quality development of Guangzhou’s manufacturing industry. As a product of the deep integration of new-generation information technology and advanced manufacturing, digital twin technology is becoming the core engine driving new productivity. Guangzhou should focus on “industrial meta-universe platform construction” and “digital employee popularization program” two key projects, build digital twin empowerment system for industrial upgrading to inject new momentum.

Pazhou pilot area as a pilot demonstration, accelerates the construction of industrial meta-universe platform. Relying on Guangzhou’s digital economic advantages, integration of cloud computing, artificial intelligence, blockchain and other technology resources, to create a digital modeling, simulation, decision-making optimization in one of the industrial meta-universe base. Through the introduction of advanced technologies such as virtual reality and augmented reality, the digital twin model is constructed to promote the digitization and intelligence of product design, manufacturing, testing and other aspects. To further promote the widespread application and synergistic development of digital twin technology in the industry, the Guangzhou Digital Twin Industry Alliance was established to support leading enterprises such as Huawei and Tencent to build innovation consortia together with the upstream and downstream of the industrial chain, and to create a “Digital Twin + Industrial Internet” industrial cluster.

Formulate a digital employee popularization plan, aiming to cover 50% of enterprises in 2025, and promote the in-depth integration of digital technology and production processes. Establishment of “university - enterprise - government” collaborative training mechanism, digital twins, industrial software and other specialized courses in vocational colleges and universities, relying on Pazhou laboratory, Huangpu Intelligent Equipment Industrial Park and other carriers to build training bases, cultivate both technical skills and industry experience of the Composite talents.

#### 4.3. Innovative System Supply

In order to promote the continuous improvement of Guangzhou’s new quality productivity, it is necessary to take a series of breakthrough initiatives to innovate system supply. First, we should learn from international advanced experience and

try out the accounting standard of “data assets in the table”. As a new type of production factor, data plays a key role in cultivating the new economy and developing new productivity. Through the institutional innovation of the “data assets in the table” accounting standard, we will promote the reform of market-oriented allocation of data factors. Second, a scientific, reasonable and comprehensive statistical monitoring system for new productivity should be established to strengthen statistical monitoring in the areas of consumption, investment and social livelihood. This system should include such elements as the digital GDP accounting module to comprehensively reflect the development level and trend of Guangzhou’s new quality productivity. Thirdly, we should draw on Singapore’s sandbox mechanism and other advanced experiences to promote the “innovation tolerance period” regulatory model. For cross-border financial technology, digital currencies and other emerging industries, a safe and controllable test area should be set up to encourage the landing of innovative products and services under the premise of protecting investors’ rights and interests, so as to enhance the vitality of financial innovation in the Greater Bay Area.

### **Funding**

The 2023 Youth Theoretical Academic Leader “Challenge Response” Project of Guangdong Provincial Philosophy and Social Sciences Planning: “Research on Promoting Coordinated Urban-Rural and Regional Development in Guangdong” (GD23XZZY04); The 2024 Co-construction Project of Guangzhou Philosophy and Social Sciences Development “14th Five-Year Plan”: “Research on Enhancing the Development Level of New Quality Productivity in Guangzhou” (2024GZGJ98).

### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

### **References**

- Brynjolfsson, E., Rock, D., & Syverson, C. (2017). *Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics*. NBER Working Paper, No. 4007.
- Freeman, C. (1987). *Technology Policy and Economic Performance: Lessons from Japan*. Science Policy Research Unit University of Sussex and Pinter Publishers.
- Qi, H. G., Qi, W., & Liu, S. H. (2020). Evolutionary Patterns and Influential Factors of Talent Agglomeration in the Guangdong-Hong Kong-Macao Greater Bay Area. *Geographical Studies*, 39, 2000-2014.
- Zhang, S. & Wen, J. (2024). Digital Economy Empowers New Quality Productivity: An Analytical Framework. *Contemporary Economic Management*, 46, 1-9.
- Zhang, Z., Wang, Z. Y., & Li, Y. (2021). A Review of Research on High-Quality Regional Economic Development in China. *Resource Development and Markets*, 37, 928-933.