

A Study on the Evolution of the Economic Structure of Tianhe District Since the Reform and Opening-up

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Abstract. Since China's reform and opening-up in 1978, Guangzhou's Tianhe District has undergone significant economic restructuring, reflecting broader national urbanization and marketization trends. Tianhe's economic metamorphosis from agrarian to service-innovation nexus demonstrates significant sectoral realignment (1978-2020). Empirical analysis reveals tertiary dominance, expanding from 35% to 92% GDP share, propelled by strategic urban development initiatives and policy reforms. The Zhujiang New Town and Software Park developments served as primary catalysts for this structural transformation. Findings reveal that Tianhe's economic growth correlates with industrial diversification, talent attraction, and global integration, though challenges like spatial inequality and industrial overconcentration persist. The investigation underscores the function of adaptive governance mechanisms in equilibrating accelerated progress with impartial resource distribution. This case underscores the interplay of state-led strategies and market forces in shaping regional development, contributing to debates on sustainable urban transformation in emerging economies.

Keywords: Digital, Manufacturing, Globalization, Informatization, Innovation

1. Introduction

The economic reform and opening-up policy initiated in 1978 has acted as a catalyst for China's unprecedented urban transformation. Tianhe District, a pivotal nexus within Guangzhou, exemplifies the reciprocal dynamics of national policy instruments and localized strategic adaptations in its economic structural metamorphosis. The industrial architecture evinces a progressive attenuation of the primary sector's proportional representation, a concomitant surge in the secondary sector, and a subsequent contraction within the tertiary sector. Since the late 1970s, economic construction has become the focus of work. Various industrial sectors of Guangzhou's national economy have developed unprecedentedly, and the industrial structure has changed tremendously. The overall trend is that the proportion of the primary industry continues to decline. By 1995, the proportion of GDP has dropped to 2.6%, while the proportion of employment has dropped to 10.05%, a decrease of 1.23 and 11.53 percentage points respectively from 1978; While maintaining absolute growth, the relative position of the secondary industry has begun to weaken, especially since the 1990s when the tertiary industry surpassed it. At the same time, the connotation of industry is gradually shifting towards a higher level. Compared with 1978, the GDP proportion of the secondary industry decreased by 21 percentage points to 45.04% in 1995, and the employment proportion decreased by

about 7 percentage points to 38.59%. By 1995, the GDP and employment proportion of the tertiary industry had increased from 30.02% and 33.24% in 1978 to 52.29% and 51.36%, respectively, and had gradually become the new leading industry sector in Guangzhou. The manufacturing-based economy commenced a metamorphosis into a service-driven paradigm [1]. Existing scholarship predominantly examines the Pearl River Delta's industrialization at the macro scale, yet scant attention has been paid to the micro-dynamics of sub-district economic restructuring. This study bridges this gap through a mixed-methods approach, synthesizing urban political economy theory. Three questions were identified : (1) Innovation-driven and digital economy lead industrial upgrading (2) Globalization and foreign investment promote the deepening of economic opening-up (3) The key role of government planning and policy guidance.

The research findings have a more modern perspective, in which factors such as state-led infrastructure investment, market-driven entrepreneurial spirit, and integration into the global production network are intertwined. This study enriches the theory of transition economies and provides feasible recommendations for revitalising post industrial cities in developing countries.

2. From industry to innovation: Tianhe's economic change

In the early days of reform and opening up, Tianhe District (under Guangzhou's jurisdiction) relied on its geographical advantages to transfer manufacturing in the Pearl River Delta, forming an industrial structure dominated by labor-intensive industries such as electronics and clothing. Since the 1990s, the creative economy, a novel economic paradigm predicated on knowledge and information, has materialized. This paradigm engenders economic prosperity via market-driven mechanisms and concomitantly fosters extensive employment prospects. Consequent to this burgeoning trend, Guangzhou's creative industries have undergone accelerated expansion, marked by a notable augmentation in the population of creative industry professionals and the manifestation of distinctive regional distribution patterns. Based on the data from the first economic census of Guangzhou, this study explores the spatial distribution characteristics of creative industry practitioners within the city from a geographical perspective and at a micro level. Through comparative analysis of the overall urban space, regional structure space, and distribution space of different creative industries, the study traces the regional distribution pattern of creative industry practitioners in Guangzhou. It attempts to summarise its development trend, and tries to explain the reasons for the formation of its distribution characteristics, and summarise its distribution patterns. Given the current status of research on the creative industry, both domestically and internationally [2].

Innovation-driven and digital economy lead industrial upgrading [3]. Although China's manufacturing industry has been continuously climbing worldwide for many years, it has been criticized for being at the middle and low end of the global value chain and having low innovation capabilities. The diverse research results reflect that the driving force of innovation does not depend on a single factor, but on the mutual influence and joint action of multiple factors. For China's manufacturing sector to ascend the value chain, merely leveraging conventional factor innovation is insufficient; further exploration of influential factors augmenting innovation capabilities is imperative. Therefore, innovation and digital economy are needed for upgrading, and this topic provides a good idea for implementing the national innovation driven development strategy [4].

Since the 1990s, the Guangzhou Municipal Party Committee and Government have conscientiously implemented a series of major deployments on informatization by the Party Central Committee and the State Council, actively promoted informatization, and comprehensively improved the development level of informatization in Guangzhou During the "15th Five Year Plan"

period, Guangzhou's informatization entered a stage of rapid development, achieving significant results in information infrastructure, information industry, e-government, enterprise informatization and e-commerce, social informatization, etc. Remarkable achievements were made, especially in exploring the informatization path that aligns with Guangzhou's situation. In 2005, the city's comprehensive informatization index reached 83.9%. Citizens' satisfaction with informatization ranked among the top five in 20 indicators of economic and social development. By the end of 2005, Guangzhou's information technology construction had achieved the main development goals of the "Tenth Five Year Plan", with an overall level at the forefront of the country. The "International Information Port" framework had taken shape, and the "Digital Guangzhou" prototype had begun to take shape. 2005 Guangzhou's "International Information Port" framework, including facilities such as international communication hubs and cross-border data exchange nodes, was formed. The informatization level ranks among the country's top, laying the foundation for "Digital Guangzhou".

3. Globalization and foreign investment promote the deepening of economic opening-up

The Reason Why Guangzhou is Suitable for Attracting Foreign Investment:

(1) Guangzhou has a regional economic, financial, technological, logistics, educational, and cultural center position in southern China, with a large radiation effect and high investment efficiency. It is an essential choice for foreign investment research and development centers [5].

(2) Guangzhou started its reform and opening earlier, and its institutional innovation is leading the country. And adjacent to the Hong Kong and Macau markets. Open mindedness, strong economic strength, relatively relaxed market environment, and relatively developed talent market

(3) Nearly 70% of Guangzhou scientific research and development institutions are located in enterprises, while private technology enterprises in Guangzhou are well-developed. R&D funds account for over 40% of Guangzhou's R&D expenses, with a dominant position in communication and computer software [6].

(4) The conditions for enterprise incubation and cooperation are relatively good. By the end of 2001, more than 280 Fortune Global 500 multinational companies had invested in over 520 enterprises in Guangdong, and approved the establishment of over 90000 foreign-invested enterprises. Over 100 Fortune 500 companies and nearly 10000 foreign-funded enterprises are investing in Guangzhou. There are many foreign-funded enterprises in the Pearl River Delta, but no consideration for them. Several domestic enterprises have jointly constructed a world-renowned manufacturing base, created an inclusive industrial structure, and initially formed high-tech industrial groups such as electronic information, electrical machinery, and new materials. Foreign R&D activities can obtain good supporting conditions such as technology, industry, and market demand. So, as long as the local government creates favorable conditions for foreign R&D institutions to settle in Guangzhou, it is relatively easy for R&D centers to settle in Guangzhou [7].

4. The key role of government planning and policy guidance

Strategic government interventions significantly drove Tianhe District's transformation from a manufacturing base to a modern service and innovation hub. Key policy measures included [8]: Since the reform and opening up, Chinese cities have experienced rapid urbanization, accelerated urban renewal, and emerging new urban areas. As a metropolis in southern China and the capital city of Guangdong Province, Guangzhou is similar to New York. New town development can better reflect the practical applications of modern urban planning concepts in urban planning and construction. Since 1991, Tianhe District has emerged as Guangzhou's new core, exhibiting high

developmental density, mixed land-use, advanced public transport, and diverse sociospatial configurations [9, 10].

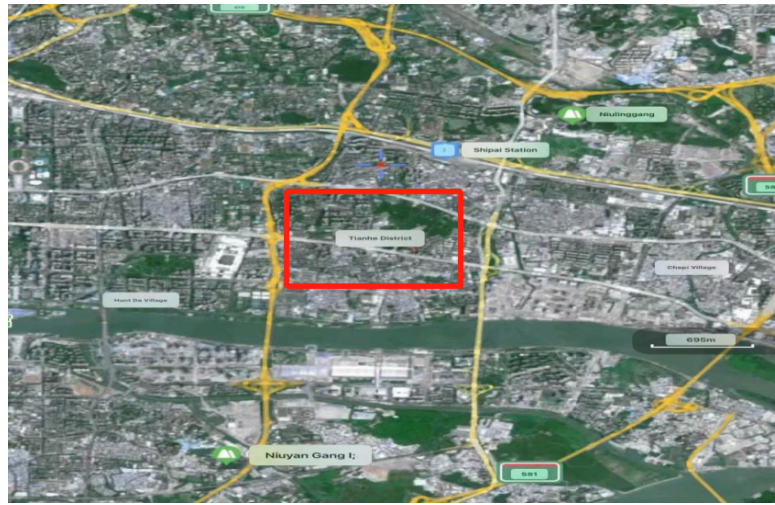


Figure 1: Tianhe District, Guangzhou

As shown in the Figure 1, Tianhe District is Guangzhou's core area of modern commerce and technology. It has seven subways (lines 1, 3, 4, 5, 6, 21 and APM lines), the first business district in South China (Zhengjia Plaza, Tianhe City, etc.) and the CBD of the Pearl River New Town. With developed transportation, a high-end service industry as the primary industry, Tianhe District has almost no industry. Tianhe District is the area with the highest degree of modernization in Guangzhou, and can be called the "City Reception Hall"

5. Conclusion

The economic transformation of Tianhe District since China's reform and opening-up exemplifies a dynamic interplay of globalization, policy innovation, and industrial evolution. Tianhe initially capitalized on its geographic position to assimilate manufacturing shifts in the Pearl River Delta, evolving from labor-intensive sectors to a knowledge-based economy characterized by creative industries and digital innovation. This shift was catalyzed by strategic government planning—evident in projects like Zhujiang New Town and Tianhe Software Park—and bolstered by foreign investment, institutional openness, and a robust talent ecosystem.

The rise of Guangzhou's creative economy, characterized by unique spatial clustering and employment growth, underscores the role of urbanization and market-oriented reforms in reshaping economic geography. Meanwhile, integrating digital technologies and innovation-driven strategies has elevated Tianhe's position in global value chains, solving historical critiques of China's manufacturing limitations. Government policies, including infrastructure development, further amplified these trends.

Tianhe's transformation demonstrates how state planning and market dynamics jointly drive sustainable urban growth. Future studies should examine digitalisation's social impacts and the role of global networks in sustaining innovation hubs. Tianhe's experience offers a model for new economies modernizing in a globalized world.

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