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Public Finance and Education Performance Evaluation: A Comparative Analysis of Compulsory Education in Hong Kong and Guangzhou

Yuchun Huang

Faculty of Business and Economics, The University of Hong Kong, Pokfulam, Hong Kong, 999077, China

ABSTRACT
This study is based on the CIPP (Context, Input, Process, Product) framework to compare the financial input and governance mechanisms in the compulsory education stages of Hong Kong and Guangzhou, and examines how the input structure and quality accountability affect educational equity, quality, and efficiency. Hong Kong's financial system is characterized by school-based resource allocation and performance accountability (such as OEBG/EOEBG and the SSE/ESR quality assurance framework), supplemented by tuition fee remission and transparency measures in the Direct Subsidy Scheme (DSS). The education expenditure budget for 2024/25 is approximately HKD 115.7 billion, accounting for 14.9% of total government spending. Relying on the national unified benchmark quota of public funds per student and local government matching funds, along with the "2+2+1" quality improvement action, Guangzhou allocated about CNY 64.75 billion for education in 2024, accounting for 23.3% of the general public budget expenditure. In the same year, approximately 79,000 new public primary and secondary school places were created to ease the pressure on enrollment(degree shortage). The results of the study show that simply increasing the scale of financial inputs does not effectively improve the quality of education; the structure of inputs (such as recurrent funding, teacher and learning support) and governance tools (such as school-based management, quality cycles, and needs-weighted fiscal transfers) play a more critical role in improving classroom accessibility and narrowing opportunity gaps. Hong Kong's performance in the PISA 2022 was significantly higher than the OECD average, which reflects a more stable transmission efficiency between the system and the classroom. In contrast, Guangzhou has significantly alleviated capacity constraints through expansion and is currently transitioning from "increased quantity" to "improved quality."

KEYWORDS
Public finance; Education performance evaluation; Hong Kong, Guangzhou; CIPP framework; Comparative analysis

1 Introduction

With the development of society and the growing focus on educational equity and quality, the study of education fiscal policy has gradually become an important topic in academic circles. As a public good, the positive externalities and social benefits of education make the government's financial input crucial in promoting educational equity and improving education quality. Especially at the stage of compulsory education, the design of the financial system directly influences the extent and quality of educational provision, which in turn determines the effectiveness and equity of the education system.

As the core cities of Guangdong-Hong Kong-Macao Greater Bay Area, Hong Kong and Guangzhou are facing similar economic development background, but there are significant differences in their educational finance systems and policy practices. With a high degree of financial autonomy under "One Country, Two Systems" framework, Hong Kong has implemented a school-based resource allocation and quality accountability mechanism. In terms of funding, there are merged categories such as OEBG/EOEBG (Education Bureau, 2024), and a flexible lump-sum funding system that can be adjusted within the fiscal year; in terms of quality, there is a "plan-implement-assess-improve" cycle consisting of school self-evaluation (SSE) and External School Review (ESR) (Education Bureau, 2025), which improves the accessibility of funds to the classroom. According to the Hong Kong Government (2024), the education expenditure for 2024/25 is expected to be HKD 115.7 billion, accounting for 14.9% of total government expenditure, mainly for school operations and teacher workforce development. In addition, the Direct Subsidy Scheme (DSS) requires schools to establish transparent tuition remission and scholarship policies (DSS schools must allocate at least 10% of their tuition income for tuition remission and scholarship programs), to help students from economically disadvantaged families obtain more educational opportunities (Legislative Council, 2015; Education Bureau, 2025).

In contrast, Guangzhou relies on a unified national financial system, with a focus on the expansion and balance of educational resources. Especially in addressing the educational needs of migrants in the process of urbanization, Guangzhou ensures the fair distribution and supply of educational resources through a model of " benchmark quota of public funds per student + local government matching funds" (Ministry of Finance & Ministry of Education, 2016). In 2024, Guangzhou's education expenditure was approximately CNY 64.75 billion, accounting for 23.3% of the public budget expenditure (Guangzhou Municipal Bureau of Statistics, 2025), and through initiatives such as "new construction/renovation/enrollment expansion," the city added 79,000 new public degrees to ease the degree tension (Guangzhou

*** Corresponding Author:** Yuchun Huang, yuchun0928@outlook.com

Municipal People's Government, 2025). In terms of enrollment policies, Guangzhou implements a "guaranteed enrollment + point-based enrollment" system and emphasizes the supply of "public-oriented" degree, particularly focusing on educational opportunities for migrant children (Guangzhou Municipal Human Resources and Social Security Bureau, 2023). However, despite these policies have achieved some success in improving educational equity, Guangzhou still faces challenges in teacher distribution, enhancing educational quality, and efficiency improvement.

This study aims to fill the research gap on the differences in education finance systems and policy practices between Hong Kong and Guangzhou through a cross-regional comparison. Specifically, this study will explore the relationship between fiscal input, governance structures, and educational performance in both regions based on the CIPP framework.

1.1 Literature review

The theory of public finance provides an important theoretical framework for this study. Musgrave (1959) proposed that the three major functions of government are resource allocation, income redistribution, and macroeconomic stability. In the field of education, due to its positive externalities and social benefits, the government must intervene in fiscal distribution to ensure the rational allocation of educational resources. Tiebout (1956) emphasizes that local competition and resident mobility can improve the efficiency of public services, which is especially important in the field of education，through the theory of "voting with feet". Oates (1972) further proposed the theory of fiscal federalism, arguing that in cases of highly autonomous local governments, fiscal transfer mechanisms can effectively alleviate the problem of uneven distribution of educational resources. These theories provide the theoretical foundation for this study, helping to analyze the differences in education finance systems and governance structures between Hong Kong and Guangzhou, and how these differences affect educational performance.

Educational performance evaluation is one of the core frameworks of this study. The CIPP model proposed by Stufflebeam (2003) emphasizes the comprehensive evaluation of educational performance from four dimensions: Context, Input, Process, and Product. This model can reveal the impact of fiscal input structure and governance mechanisms on the quality and equity of education. Existing research has shown that merely focusing on the total amount of fiscal input often fails to accurately reveal its impact on educational quality and equity; input structure and governance models also play a crucial role (Hanushek, 2003; Kane & Staiger, 2002). Therefore, this study will be based on the CIPP framework and, considering the specific circumstances of Hong Kong and Guangzhou, will analyze the impact of fiscal input structure and governance mechanisms on educational equity and quality.

Recent empirical studies generally show that increased fiscal input can effectively improve educational outcomes, especially with long-term and stable investments (Jackson et al., 2016). However, many studies also point out that simply increasing funding is not sufficient to automatically improve the quality of education; the role of governance structures and incentive mechanisms can not be ignored (Hanushek, 2003). This study will explore the differences in educational performance between Hong Kong and Guangzhou under different fiscal systems through a cross-regional comparison, and further analyze how the government can optimize educational quality and efficiency by adjusting fiscal input structures and governance tools.

1.2 Research questions

This study explores how fiscal input, structure, and governance mechanisms affect educational performance by comparing the differences in education finance management between Hong Kong and Guangzhou. The specific research questions include:

(1) How do the scale and structure of fiscal input affect the quality, efficiency, and equity of education?

(2) How do governance tools such as school-based funding allocation, formulaic per capita quota and balanced transfers function in the two regions in relation to educational performance?

(3) Under different institutional contexts, are there significant differences in the impact of these financial inputs and governance structures on educational performance?

These research questions aim to fill the gap in cross-regional comparative studies of education finance, and reveal how fiscal input can effectively transformed into more efficient and equitable educational outcomes under different governance models.

2 Materials and methods

Based on the CIPP (Context, Input, Process, Product) framework, this study uses a combination of qualitative and quantitative methods to explore how public finance influences educational performance through different fiscal systems and governance structures. Qualitative analysis mainly through literature review and case studies, examining the differences in fiscal systems between Guangzhou and Hong Kong and their impact on educational performance, based on educational policy literature from both regions. The quantitative analysis involves the collection of education finance data from 2014 to 2024.

The data is sourced from publicly available statistical reports, annual work reports, and educational evaluation reports from the education departments of Guangzhou and Hong Kong. The specific data include but are not limited to: education budgets, fiscal expenditures, student enrollment, teacher numbers, expansion of school degree, teacher qualifications, class sizes, academic performance, and more. All data are converted at constant prices to avoid the impact of annual fluctuations on the results, ensuring the stability and comparability of the data.

This study uses the CIPP framework to compare fiscal input and educational performance between the two regions across four dimensions: the Context dimension analyzes the background of educational financial system and policy; the Input dimension assesses the scale and structure of fiscal input; the Process dimension evaluates the allocation and use of resources; and the Product dimension measures educational quality, efficiency, and equity. Through the analysis of these dimensions, the impact of fiscal system and governance tools on educational performance is revealed.

In terms of innovation, this study fills the gap in cross-regional comparative research on education finance by systematically comparing educational performance under two different fiscal systems in Hong Kong and Guangzhou in combination with the CIPP framework. The study goes beyond the previous focus on the scale of fiscal input, combining the structure of fiscal input and governance tools to provide a comprehensive analysis of the impact of fiscal policies on educational performance.

3 Results (CIPP Framework)

This study compares the fiscal input and educational performance in the compulsory education stage between Hong Kong and Guangzhou from 2014 to 2024. The results are presented according to the four dimensions of Context, Input, Process, and Product.

3.1 Context

Hong Kong's institutional environment is centered around recurrent lump-sum grants (OEBG/EOEBG) and a quality cycle of school self-evaluation (SSE) and External School Review (ESR), ensuring flexibility and transparency in the use of funds. At the same time, the Direct Subsidy Scheme (DSS) requires schools to establish transparent tuition reduction and scholarship policies, supporting educational opportunities for students from economically disadvantaged families. In contrast, Guangzhou operates under a system of per capita quota shared between provincial and municipal governments, with centralized fiscal allocations. It implements a guaranteed enrollment and point-based enrollment system for migrant children, and promotes the improvement of underperforming schools and regional equity through the "2+2+1" paired assistance and school grouping approach (Guangzhou Municipal Education Bureau, 2023). Specifically, "2+2+1" refers to the pairing of central urban districts (e.g., Yuexiu District, Tianhe District) with peripheral districts that have larger populations and weaker educational resources (e.g., Zengcheng District, Conghua District). Each pair consists of two schools—one from the central district and one from the peripheral district—and an education leadership group is established within the region to coordinate and supervise the progress of school improvement efforts. Through this approach, Guangzhou strengthens inter-regional cooperation and support in educational resource allocation, promoting the improvement of weak schools and more balanced distribution of regional educational resources. Overall, Hong Kong places greater emphasis on school-based management and transparent accountability, while Guangzhou focuses more on expanding resource supply, especially in response to the educational needs of migrant populations, but the flexibility and transparency at the school level are relatively inadequate.

3.2 Input

Hong Kong's education expenditure for 2024/25 is HKD 115.7 billion, accounting for 14.9% of total government spending; the input structure focuses on recurrent funding and school-based management (Hong Kong Government, 2024), ensuring flexible use of funds. Guangzhou's education expenditure for 2024 is CNY 64.75 billion, accounting for 23.3% of the city's public budget expenditure (Guangzhou Municipal Bureau of Statistics, 2025), with more funding directed towards expanding school places and basic guarantees (Guangzhou Municipal People's Government, 2024). Both regions maintain a high level of fiscal support, but the organization of resources is different. Hong Kong has improved the efficiency of fund usage through flexible resource allocation, while Guangzhou relies on benchmark quotas and centralized funding to ensure broad coverage.

3.3 Process

At the school and classroom level, t the student-teacher ratio in public primary schools in Hong Kong is about 11.8:1, and in secondary schools, it is about 11.0:1, which allows for more individualized and high-quality interactions in teaching (Hong Kong Special Administrative Region Government, 2023). In contrast, the student-teacher ratio in Guangzhou's primary schools is around 17.91:1, it is about 13.22:1 in secondary schools, leading to greater class management pressure (Guangzhou Education Bureau, 2024). In terms of governance and resource utilization, Hong Kong's OEBG/EOEBG provides space for subject integration and school-level coordination, while the SSE/ESR system forms a continuous "improvement-verification-feedback" closed-loop to ensure the efficient allocation of educational resources. Guangzhou, on the other hand, promotes the improvement of weak schools in the teaching process through the "2+2+1" and school grouping methods, which involve sharing teaching resources, coordinating educational research, and management output (Guangzhou Municipal Education Bureau, 2023).

3.4 Product

In terms of learning quality, Hong Kong has consistently ranked at the top in international assessments. In PISA 2022, the average math score for 15-year-old students in Hong Kong was about 540, which is significantly higher than the OECD average (OECD, 2023), reflecting the efficient coordination between its educational governance and resource allocation. Xinxi Times (2024) mentioned that, through the implementation of the "2+2+1" policy, Guangzhou has significantly improved classroom teaching quality, especially in weaker regions. However, Guangzhou still faces considerable challenges in improving quality, especially the problems of large class size and insufficient flexibility in the use of funds.

In summary, Hong Kong has achieved high teaching quality and efficiency through small class teaching, school-based management, and external evaluation accountability mechanisms. Meanwhile, Guangzhou has made remarkable progress through the expansion of educational resources and regional equity, but the improvement of education quality is facing challenges due to larger class sizes and limitations in fund utilization. The educational finance paths of the two regions are complementary: Hong Kong's fiscal model can provide guidance for improving Guangzhou's funding structure and quality governance, while Guangzhou's experience in expanding capacity can offer valuable insights for Hong Kong in managing demand fluctuations.

4 Discussion & conclusion

4.1 Explanation of key research findings

Through the analysis of education finance input and educational performance in Hong Kong and Guangzhou, this study reveals significant differences in the education finance systems and policy measures of the two regions. These differences have had a major impact on educational equity, resource allocation, and educational quality. Specifically, Hong Kong's fiscal system, through tools such as the OEBG/EOEBG mechanism and SSE/ESR quality assessment, ensures the flexible allocation and autonomous use of funds, thereby effectively improving the efficiency of educational resource utilization. In contrast, while Guangzhou's per capita quota system helps to expand the coverage of basic education, it still faces challenges in terms of educational quality and teacher resource allocation, especially in weaker regions.

4.2 Comparison with other studies

The results of this study are consistent with existing literature, providing further evidence of the critical role of fiscal input structure and governance models in influencing educational performance. Many scholars (Hanushek & Woessmann, 2007; Fuchs & Woessmann, 2004) have pointed out that the structure of fiscal input and governance models are more effective than the scale of input alone in improving educational quality. Hong Kong's efficient fiscal management model stands in stark contrast to Guangzhou's large-scale infrastructure expansion. While the latter has made some progress in addressing the issue of insufficient school places, the high student-teacher ratio and large class sizes may still affect educational quality.

4.3 Impact and challenges of the pandemic

During the pandemic, education systems faced unprecedented challenges, especially in terms of education finance and resource allocation. The pandemic not only aggravated the disparities in educational resources between regions but also exposed the impact of the digital divide on educational equity. Hong Kong effectively ensured that most students could continue their education through online education platforms and digital learning tools. However, students from economically disadvantaged families had unequal access to online education, which affected educational equity. In contrast, Guangzhou's education system faced more significant resource shortages during the pandemic. Although measures such as online learning platforms and distance education have been taken, the accessibility and fairness of education have been greatly challenged due to inadequate hardware facilities and the digital divide.

4.4 Limitations of the study and future research directions

Although this study strictly follows standard data collection and analysis methods, there are still some limitations. First, the study primarily relies on publicly available educational finance reports and statistical data, which may have issues with time lags and regional differences. Second, the unique factors during the pandemic may have influenced the research results, particularly school closures and the adoption rate of online education. Future research could explore the changes in education finance post-pandemic, especially its long-term impact on educational equity and quality. Especially how to narrow the education gap between different regions and different income groups through fiscal policy.

5 Policy implications and implementation pathways

Based on the research findings, this study proposes policy recommendations for both Hong Kong and Guangzhou. In Guangzhou, it is recommended to shift from "dispersed subject allocation" to "school-based lump-sum allocation," consolidating non-salary recurrent small items into school-level lump-sum funding to improve response speed and resource reallocation flexibility. A "hard constraint" should be set for teachers and support staff positions by establishing a funding baseline for teaching and learning support posts to avoid the issue of "having school buildings but lacking teachers." Additionally, it is recommended to upgrade the "2+2+1" paired assistance and school grouping model from organizational linkage to "teaching research and capacity-building linkage." By setting clear performance indicators and fiscal subsidies, the effect of paired assistance can be transformed from nominal to substantive. At the same time, introduce an SSE/ESR-style quality cycle and information transparency, forming a "plan-implement-assess-improve" loop through school self-assessment and external evaluations.

For Hong Kong, it is recommended to maintain the "flexibility-compliance" dual foundation of the OEBG/EOEBG mechanism and increase the proportion of classroom-direct funding to address the challenges posed by fluctuations in teacher availability and school places. A "multi-year per capita-structure priority" approach should be adopted as the budget anchor to ensure the priority protection of teacher and learning support expenditures, reducing the impact of short-term capital fluctuations on classrooms. Additionally, it is suggested to further strengthen the equity and transparency of the DSS by requiring schools to disclose the criteria and processes for tuition remission and scholarships, and incorporating the effectiveness of benefits for the target groups into the annual school report, thereby improving information symmetry and social oversight. Finally, it is recommended to focus on "retaining and developing" the teacher workforce in the labor market, using policy tools such as job combinations, professional development, and research hours to stabilize the core teaching staff, with differentiated incentives primarily implemented in peripheral areas and high-pressure subjects.

6 Academic and practical contributions

The academic contribution of this study is to provide a new perspective on cross-regional comparisons of education finance and performance. Using the CIPP framework, it systematically analyzes the similarities and differences in the education finance systems and governance tools between the two regions, filling a research gap in the related fields. From a policy perspective, this study offers actionable practical recommendations for education finance management and resource allocation in both regions, aiming to promote further optimization and development in educational equity, quality, and efficiency.

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