

# The Impact of Singapore's Financial Investment Strategy in Preschool Education on the Teacher-Student Ratio of Different Types of Kindergartens and Its Implications for China

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**Abstract.** In recent years, Singapore's "fair and high-quality" oriented financial investment mechanism for preschool education has attracted much attention. This article takes Singapore's financial investment strategy in preschool education as the research object, exploring the impact of its differentiated investment mechanism on the teacher-student ratio of kindergartens of different natures. Research has found that Singapore adopts a three-in-one financial investment mechanism of "classified funding, performance binding, and dynamic adjustment", and formulates tiered funding standards according to the nature of kindergartens, linking the achievement of teacher-student ratio standards with financial subsidies. In contrast, there are problems with China's financial investment in preschool education, such as "heavy emphasis on public institutions over private ones" and "heavy emphasis on hardware over manpower", resulting in a relatively high and unstable teacher-student ratio in inclusive private kindergartens. Based on this, this article proposes to dynamically match financial investment with the nature of park operation, education quality, and "basic subsidies+performance rewards", establish a special subsidy fund for teacher-student ratio tilted towards private inclusive parks, and clarify the lower limit of personnel expenditure in preschool education funds. This study draws on the experience of Singapore and is of great significance for China to achieve the goal of "inclusive supply and high-quality services".

**Keywords:** Optimizing teacher-student ratio; kindergarten nature; financial subsidies; inclusive preschool education.

## 1. Introduction

### 1.1. Research Background

With the global education governance sparking a 'quality revolution', the precision of preschool education resource allocation has become the key to measuring educational equity. In 2023, the gross enrollment rate of preschool education in China will reach 91.1%, achieving the goal of the 14th Five-Year Plan ahead of schedule. However, there are deep-seated contradictions in inclusive preschool education: there is a large gap in the teacher-student ratio between public and private inclusive kindergartens, and the average annual turnover rate of full-time teachers differs by more than 5 percentage points, presenting a situation where "scale coverage" and "quality imbalance" coexist. This is due to the shortcomings of China's fiscal investment mechanism, which is not adapted to different types of parks and lacks constraints on human capital investment. Singapore's diversified park management system is mature, with private institutions accounting for about 70%. Its "financial investment quality standards dynamic feedback" mechanism, which regulates quality through financial subsidies, provides new ideas for China.

### 1.2. Research Objectives and Significance

This study focuses on the financial investment strategy for preschool education in Singapore, using methods such as policy text analysis, data analysis, and case studies to analyze its impact mechanism on the teacher-student ratio of different types of kindergartens, revealing the logic of optimizing educational resource allocation through fiscal leverage, and providing reference for improving the rationality of the teacher-student ratio in China. In theory, linking flexible fiscal subsidies with the improvement of the teacher-student ratio enriches the relevant theoretical system and provides a new

research perspective. In practice, China is promoting the high-quality development of inclusive preschool education, and drawing on Singapore's experience can help formulate scientific fiscal policies.

## **2. The Current Situation and Shortcomings of the Development of Inclusive Kindergartens in China**

### **2.1. Development Status of Inclusive Kindergartens**

The policy system for inclusive kindergartens is becoming increasingly complete. In recent years, China has initially established a financial support system for inclusive preschool education through policy measures such as per capita funding and special subsidies. Most regions have established clear funding standards and responsible parties for inclusive kindergartens, and public financial investment policies have achieved key breakthroughs at the institutional level [1]. For example, the coverage of the per capita funding system has been expanded, and some regions have optimized their fiscal expenditure structure, prioritizing the enrollment of children from vulnerable groups in kindergartens. At the same time, fiscal investment continues to increase, and from the perspective of public finance, the total expenditure on preschool education is showing an upward trend. The central and local governments have increased their investment in inclusive kindergartens year by year, especially in public and demonstration kindergartens, with a significant increase in the proportion of funds allocated for infrastructure construction and teacher training. Some developed regions alleviate the financial pressure of converting private parks to inclusive parks through special transfer payments [2]. In addition, the coverage of inclusive resources is wider, the number of inclusive kindergartens is rapidly increasing, and the gap in urban-rural coverage is gradually narrowing. Public kindergartens rely on policy preferences to increase opportunities for low-income children to receive financial assistance, while private kindergartens lower their fees under the guidance of government subsidies [3]. In addition, some regions have utilized the "price constraint" mechanism to promote the transformation of private kindergartens towards inclusive education and increase the supply of inclusive preschool education resources [4].

### **2.2. Prominent Issues in the Development of Inclusive Kindergartens**

#### **2.2.1 Dual imbalance in financial resource allocation**

There is a significant "double imbalance" in the current financial investment in preschool education. Firstly, the difference in park operation leads to resource imbalance. Public parks receive higher per capita funding through policy advantages, while private parks generally have lower subsidy standards and a single form of subsidy [5]. Secondly, regional development differences have led to resource gaps, with developed regions having significantly higher per capita funding standards than underdeveloped regions. There is still a systematic gap in teacher treatment and facility levels between urban and rural kindergartens [6,7]. This differentiated investment model exacerbates the differentiation of inter-park resources and weakens the fairness of inclusive policies [8].

#### **2.2.2 Structural defects in the financial support mechanism**

The cost-sharing mechanism is unbalanced, and the proportion of preschool education costs borne by the Chinese government is much lower than the average level of OECD countries. The economic burden on families is heavy, and the participation of social capital is insufficient [9]. At the same time, the efficiency of fund utilization is low, and some regions overly focus on hardware construction investment, neglecting core quality elements such as teacher salaries and curriculum development [9]. Due to insufficient subsidies, the salaries of teachers in inclusive private kindergartens have been consistently lower than industry standards, directly affecting the stability of the teaching staff [10].

#### **2.2.3 Structural contradictions exist in the teacher guarantee system**

There is a lack of a compensation guarantee mechanism, and there is a significant salary gap between teachers in public and non-public kindergartens. Private kindergartens generally have the

phenomenon of "equal pay for equal work" [11]. The imbalance between urban and rural areas, the serious exceeding of the teacher-to-child ratio in rural kindergartens, the imbalance of teacher title structure, and the lack of professional training opportunities [6]. These structural contradictions make it difficult for inclusive kindergartens to establish a stable and high-quality teaching staff.

#### **2.2.4 Inadequate legal protection and regulatory mechanisms**

The legislative guarantee for financial affairs in preschool education is weak, and key links such as the division of financial powers and budget allocation for preschool education lack legal enforcement. There is a significant degree of arbitrariness in the implementation process by local governments [12]. Lack of regulatory mechanism: Some regions have not implemented the requirement for dynamic adjustment of per capita funding due to insufficient financial resources or lack of assessment mechanisms [5]. After the transformation of inclusive private parks, they generally face problems such as high pressure on public funds and uneven financial support, and urgently need to establish a long-term supervision mechanism [4].

### **3. Singapore Experience Analysis**

#### **3.1. Systematic Characteristics of Institutional Design**

The Singapore preschool education system has constructed a government-led diversified governance structure with "accessibility" and "affordability" as its core concepts [13]. Its institutional design presents three characteristics: hierarchical management, performance linkage, and dynamic regulation. Specifically, the Early Childhood Development Agency has established a classified funding mechanism, dividing kindergartens into three categories: core operators (AOP), cooperative operators (POP), and private institutions, and implementing differentiated financial support. As the main provider of public services, AOP is required to commit to tuition fees not exceeding SGD 640 per month (based on ECDA data in 2025), while maintaining a teacher-to-child ratio of 1:20-1:25, in exchange for financial subsidies of up to 80% of operating costs. This hierarchical management model introduces market competition mechanisms while ensuring inclusiveness. In 2024, the tuition fees for government supported kindergartens will only be 48% of the median for private kindergartens, and the actual education expenditure of low-income families will be reduced to below 2% of their income. This institutional innovation effectively balances the inherent contradiction between quality improvement and cost control through fiscal leverage, while expanding coverage and maintaining educational quality [14].

#### **3.2. Precise Allocation Mechanism of Fiscal Investment**

The "three-dimensional" financial support system constructed in Singapore reflects the characteristics of refined governance: on the demand side, income stratification subsidies are implemented through the "Kindergarten Subsidy Scheme" and "Childcare Subsidy Scheme", and the actual payment expenses of extremely poor families with monthly income  $\leq$  SGD 3000 are strictly controlled within the range of SGD 3-10/month, with a subsidy of 90%; In 2023, the government's annual per capita education expenditure will reach SGD 11250, an increase of about three times compared to 2013; On the supply side, the subsidy amount will be directly linked to the quality of the teacher-student ratio. Institutions that fail to meet the standards will face a 30% -50% reduction in operating subsidies for the following year; In the "Pre school Education Operation Subsidy Framework", private kindergartens who voluntarily participate in the "Q-Plus Program" and meet the required teacher to child ratio can receive an additional 20% tax reduction. This rigid constraint drives the government to optimize the teacher to child ratio for subsidized kindergartens from 1:15 in 2015 to 1:12 in 2024, with high-quality private kindergartens reaching an international leading level of 1:10. Moreover, the Quality Rating System (QRS) establishes a dynamic adjustment mechanism for funding coefficients, forming a positive cycle of "quality improvement funding increase". At the dynamic response level, ECDA uses "economic parameters policy response" to hedge risks even in the face of low economic growth expectations by 2025, such as adding 40000 new school places and

building new kindergartens in public housing estates. Its tuition fee regulation mechanism is more forward-looking - the upper limit of core operator tuition fees has been reduced from SGD 800 in 2019 to SGD 610 in 2025, a decrease of 23.75% [7].

### 3.3. Innovative Practice of Quality Assurance System

Through analysis, it is found that Singapore has achieved quality improvement through a triple mechanism of "legislative norms+standard control+process supervision". Firstly, the construction of kindergarten teachers continues to play a role, such as the "Kindergarten Teacher Salary Enhancement Plan" launched in 2022, which increases the starting salary of AOP teachers from SGD 2600 to SGD 2800 by 2024, and the upper limit of senior teacher salaries to SGD 6600, forming a competitive salary system in the market. Empirical research has shown that a teacher-to-child ratio of 1:10 can improve the quality of education by 27% [15]. Secondly, to promote the standardization of quality certification, government-funded kindergartens must pass the SPARK certification system, covering 58 indicators such as curriculum design, teacher-student interaction, and safety management. By 2023, 92% of AOP kindergartens will receive an "excellent" rating, forming a quality benchmark effect. Finally, the dynamic monitoring and evaluation is reflected in the real-time monitoring system established by ECDA, which shows that the satisfaction rate of parents in government subsidized kindergartens on the "teacher professionalism" indicator is 4.3/5, significantly higher than that of private kindergartens at 3.8/5 [16]. This full chain quality control of "input process result" ensures the stability of the quality of inclusive education services.

### 3.4. Reform Results

After years of practice, Singapore's preschool education reform has achieved significant results. In terms of universal coverage, the number of school places will reach 200000 by 2023, and it is planned to achieve 80% coverage of preschool children by 2025. The density of kindergartens in new public housing estates will reach 4.2 per square kilometer, and spatial accessibility barriers will be eliminated; In terms of quality equity, the SPARK certification pass rate of government funded parks is 34 percentage points higher than that of private parks, and the proportion of children from low-income families entering high-quality parks has significantly increased from 41% in 2015 to 67% in 2023 [2]. But institutional contradictions are gradually emerging, for example, AOP occupies 72% of high-quality educational resources but only serves 58% of children, which may lead to the concentration of public resources and insufficient market vitality; Meanwhile, strict curriculum standards have led to a 23% decrease in the number of specialized kindergartens, highlighting the inherent tension between standardized management and diversified development. [14] .

## 4. Conclusion

China can solve the current imbalance in the financial investment structure of preschool education by implementing three measures: building a classified funding model of "basic guarantee+characteristic development", establishing a performance reward mechanism of "education quality points system", and setting up a "preschool education development fund". The three-in-one mechanism of "classified funding, performance binding, and dynamic adjustment" in Singapore has effectively improved the education quality of kindergartens of different natures through differentiated financial support strategies. Its experience provides an important reference for optimizing China's financial investment mechanism. The specific implementation path should include: firstly, establishing a basic guarantee system covering all types of kindergartens to ensure that inclusive private kindergartens receive stable financial support; Secondly, by quantifying the points system, educational quality indicators such as teacher compensation and teacher-student interaction quality are linked to financial rewards; Finally, social capital is absorbed through financial leverage, forming a diversified investment pattern led by the government and involving society.

China should establish a financial investment system guided by the "ecological balance of education", which can be promoted from three aspects: establishing a classified funding mechanism of "basic guarantee+characteristic development", implementing basic guarantee type funding for inclusive private parks, and ensuring that their teacher allocation meets the national basic standards; At the same time, it will implement characteristic development oriented funding for high-quality private parks and encourage the development of personalized education projects. This dual track funding model can ensure educational equity and stimulate market vitality; Promote the construction of a performance reward system similar to the "Education Quality Points System", incorporating core indicators such as teacher child interaction quality, teacher professional development, and children's development level into the points system, and providing tiered financial rewards based on annual points. This mechanism can effectively guide inclusive private kindergartens to actively optimize their teacher structure and improve the quality of educational services; Establish a "Early Childhood Education Development Fund" to attract social capital through government guidance funds, with a focus on supporting projects such as teacher training and curriculum development in private kindergartens. The successful experience of Singapore investing in early childhood education through the Central Provident Fund shows that market-oriented operations can significantly improve the efficiency of fiscal fund utilization.

The Singapore experience has verified the effectiveness of this system, with its tiered funding mechanism maintaining a high level of teacher-student ratio in public kindergartens, and the performance-based mechanism promoting the optimization of teacher-student ratio in private kindergartens. Through the above three measures, it aims to gradually reverse the investment tendency of "heavy hardware and light manpower" and "heavy public and light private", establish a long-term financial investment mechanism directly related to the improvement of education quality, and promote the optimization and development of preschool education.

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