A Sustainable Fiscal Guarantee Mechanism for Preschool Education

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Abstract. The sustainable development of preschool education relies on the long-term stability of fiscal guarantee mechanisms and the equitable and efficient allocation of resources. In recent years, China's public funding for preschool education has steadily increased, reflecting the government's heightened attention to early childhood education. Based on a review of China's current fiscal guarantee system and the advanced practices of OECD countries, this paper proposes several optimization strategies: Establishing a diversified funding mechanism led by the government with broad social participation; Improving the budget formulation and supervision system to enhance transparency and accountability in fund usage; Strengthening the central government's coordination over local governments to promote equitable resource distribution among regions; and advancing performance management and open access to financial data, ultimately building a fiscal support system that is inclusive, stable, and fair across urban and rural areas. These measures aim to comprehensively support the high-quality development of preschool education in China.

Keywords: Preschool education; Fiscal guarantee; Government responsibility; OECD countries.

1. Introduction

As the starting point of basic education, preschool education plays a crucial role in the holistic development of children and the realization of social equity. It also has a profound impact on national human capital accumulation and economic growth. In recent years, China's investment in preschool education has continued to increase, significantly improving both enrollment and participation rates. However, the current fiscal guarantee mechanism still faces numerous challenges, such as a lack of funding stability, significant regional disparities, and inefficient use of resources [1,2].

Extensive international research has demonstrated that investment in early childhood education yields substantial social returns and serves as an effective means to achieve both educational equity and economic efficiency [3]. OECD countries widely adopt government-led fiscal support systems to enhance the quality and accessibility of preschool education, offering valuable lessons for China [4]. The sustainability of fiscal guarantee mechanisms is directly linked to the coverage and quality of preschool education.

Therefore, it is of pressing practical importance to investigate the current state and challenges of China's preschool education financing and to explore potential institutional improvements. Such efforts are essential to promote educational equity and enhance the overall quality of early childhood education.

2. The Development and Current State of Preschool Education Fiscal Investment in China

China's total fiscal investment in preschool education has shown consistent growth. Over the past decade, government funding for kindergartens has risen steadily--from RMB 175.8 billion in 2013 to RMB 538.2 billion in 2023--marking nearly a threefold increase. National kindergarten education expenditure has shown year-on-year growth, with the most significant surge occurring in 2021. As shown in Table 1, Guangdong has consistently ranked first in preschool education revenue, followed by developed provinces such as Jiangsu, Zhejiang, Shanghai, and Beijing, which also show steady and high investment levels. Meanwhile, several central and western regions such as Tibet and Hunan have shown accelerated growth, gradually expanding access to educational resources. Although low-income regions like Qinghai and Ningxia started from a lower base, they have experienced large proportional increases, partially narrowing regional disparities.

In terms of human resources, the growth in fiscal investment has been accompanied by an expansion in teaching staff. From 2014 to 2021, the total number of teaching personnel rose from 2.08 million to 3.5 million, with an average annual increase of around 200,000. This reflects a positive interaction between scale and quality in the development of preschool education [5].

Table 1. Preschool education revenue by region (in 1,000 RMB).

	Region	2018	2019	2020	2021	2022
Preschool Education Revenue by Region (in 1,000 RMB)	Beijing	16,921,087	18,862,800	16,951,653	21,575,756	20,843,713
	Shanghai	17,768,628	20,313,501	19,011,235	20,342,610	20,568,916
	Jiangsu	26,275,605	29,439,805	30,082,054	38,592,869	404,40,302
	Zhejiang	26,720,215	30,392,,853	29,173,942	34,031,103	34,942,153
	Guangdong	48,616,983	50197,840	40,257316	61,985,260	83,016,650
	Fuijian	13,524,520	14,724,155	14,454,326	16,664,607	16,103,094
	Hunian	12,567,098	13,934,754	15,948,323	17,745,582	18,021,606
	Xizang	2,704,478	3,016,924	3,513,110	4,139,288	4,414,665
	Qinghai	1,743,613	1,893,210	1,981,341	2,488,488	1,873,873
	Ningxia	1,773,826	2,159,841	3,018,000	2,472,271	2,557,791
Data Source: Ministry of Education of China, National Bureau of Statistics of China						

3. Major Problems in Preschool Education: Fiscal Guarantee

3.1. Issues in the Sustainability of Fiscal Input

Although China's overall preschool education expenditure continues to grow, the disparity in regional investments and unequal distribution remains prominent. As shown in Table 2, the share of preschool education funding in government fiscal expenditure decreased from 0.81% in 2010 to 0.48% in 2023, indicating a decline in its budgetary priority. The uneven allocation of government funding across regions, in significant urban-rural disparities. Rural preschools still face major infrastructure and funding shortages, leaving many children without sufficient educational resources [6,7]. In contrast, OECD countries have established more stable and institutionalized fiscal support mechanisms by allocating a fixed budget percentage and encouraging long-term participation from social forces, ensuring sustainability and fairness [8].

Table 2. The proportion of preschool education funds in government fiscal expenditure and GDP.

	2010	2011	2020	2021	2022	2023
The proportion of preschool education funds in fiscal expenditure	0. 81	0. 93	0. 49	0. 51	0.51	0. 48
The proportion of educational investment in GDP	0. 12	0. 21	0. 12	0. 11	0. 11	0. 10
Data Source: National Bureau of Statistics of China						

China's fiscal investment in preschool education is severely insufficient and falls below international standards. China's public investment in preschool education has long been at a low level, lacking both intensity and stability. The share of preschool education funding in GDP decreased from 0.18% in 2010 to 0.10% in 2023, consistently below the OECD average of 0.5%-0.6%--only one-eighth to one-tenth of that in Nordic countries (0.8%-1%). For example, in 2021, Germany's preschool education funding was 0.09% of GDP and Finland's was 0.11%, both similar to China's 2023 figure of 0.10%, which is less than one-third of the OECD average.

As Table 3 shows, China's share of preschool education in fiscal expenditure declined from 0.81% in 2010 to 0.51% in 2023, far below the OECD average of 1.66%. In the same year, both Germany and Finland exceeded 2.04%, four times China's level. In contrast, Nordic countries and France treat preschool education as a core public service, with governments bearing the main costs. France guarantees free access to preschool for children aged 3- 5 through legislation, covering over 90% of funding and achieving nearly 100% enrollment. In China, the weakening of public fiscal responsibility has led to heavy burdens on families and an inadequate supply of affordable preschool education.

Table 3. Proportion of educational funding in public expenditure for preschool education (%).

	2010	2011	2012	2013	2018	2019	2020	2021	2022	2023
Austria	-	-	1. 02	1. 06	1. 24	1. 28	1. 21	1. 20	-	-
Denmark	-	-	2. 08	2. 11	1. 88	1. 92	1. 88	1. 99	-	-
Finland	1. 87	1. 92	1. 95	1. 95	2. 02	2. 12	2. 01	2. 04	-	-
France	1. 16	1. 15	1. 14	1. 22	1. 24	1. 21	1. 15	1. 15	-	-
Germany	1. 14	1. 25	1. 37	1. 46	1. 86	1. 97	2. 02	2. 04	-	-
Italy	-	-	0. 88	0. 89	0. 98	1. 01	0. 84	0. 75	-	-
Japan	-	0. 24	0. 24	0. 25	0. 25	0. 31	0. 31	0. 31	-	-
Netherlands	0. 78	0. 81	0. 79	0. 81	0. 82	0. 83	0. 80	0. 82	-	-
Poland	1. 11	1. 20	1. 28	1. 37	1. 69	1. 76	1. 59	1. 74	-	-
OECD average value	-	-	1. 47	1. 52	1. 72	1. 76	1. 66	1. 66	-	-
China	0. 81	0. 93	0. 53	0. 52	0. 48	0. 47	0. 49	0. 51	0. 51	0. 48

Furthermore, China's preschool education investment lacks stability, has insufficient policy implementation, and lacks long-term planning. Countries like Germany and Poland have established legal mechanisms to ensure steady increases in preschool funding. For instance, Germany's preschool expenditure as a share of fiscal spending rose from 1.14% in 2010 to 2.04% in 2023; Poland's "Education Law" mandates a 5% annual budget growth for preschool education. By contrast, China's ratio declined from 0.81% to 0.51% over the same period. It lacks an independent budget mechanism, and preschool education funds are often compressed or reallocated.

The stability in OECD countries is largely due to institutional guarantees. For example, Germany's federal government created a "Language-Kindergarten" special fund, committing €1.1 billion over three years to expand enrollment [9]. Finland integrates preschool education into its social welfare system, with the "Basic Education Act" ensuring that public finance covers 99% of the cost. In China, funding fluctuates significantly with policy shifts. After 2010, the government's share dropped sharply, and private preschools expanded disorderly.

3.2. Imbalance in Resource Allocation

3.2.1 Uneven distribution of preschool education resources

The imbalance in preschool education resource allocation is evident in the structural mismatch between the number and distribution of staff. Significant spatial disparities in fiscal resources across regions have led to a tiered structure of educational development. This spatial gradient is not only reflected in the differences among eastern, central, and western regions, but also deeply rooted in the urban-rural dual structure. As of 2020, only 16.65% of kindergarten principals and teachers worked in rural areas, highlighting a serious structural imbalance in teacher allocation [10].

A declining birth rate has led to a sharp drop of 400,000 in total teaching staff over two years, and the number of kindergartens has decreased by 5.12% [11]. During this period, the urban-rural imbalance in teacher distribution has worsened: urban and township kindergartens dominate the increase in staff, while rural areas consistently account for less than 20% of the growth. This creates a dual dilemma of "overall decline and structural imbalance."

3.2.2 Systemic widening of fiscal input gaps

The gap in preschool education investment between urban and rural areas has expanded across all dimensions. From 2011 to 2021, the share of teacher salary and welfare expenses in urban private kindergartens increased from 72% to 80%, while rural areas stagnated at around 70%- 74%. The gap in teacher welfare spending widened from 1 to 5 percentage points. Per capita funding also showed dramatic divergence, with the urban-to-rural ratio increasing from 2:1 to 6:1 [11]. Over ten years, per capita funding in urban private kindergartens grew more than fourfold, while in rural areas it increased by less than 50%. A rising Gini coefficient indicates that urban areas have attracted fiscal resources at a rate far outpacing rural development, triggering a "Matthew Effect" in funding inequality.

3.2.3 Divergent educational challenges in urban and rural areas

Urban areas are grappling with school seat shortages and uneven quality due to the dual pressures of the household registration system and population mobility. In contrast, rural areas are caught in a vicious cycle of "low investment, weak teaching staff, and poor conditions". These divergent challenges reflect the complex contradictions in the development of preschool education between urban and rural regions. The concentration of resources in cities and the drain in rural areas create a two-way squeeze.

Overall, the imbalance in fiscal guarantee systems has evolved from local tensions into a systemic equity crisis. Over the past decade, the combined effects of widening investment gaps and spatial disparities have left rural children at a consistent disadvantage in educational opportunity. Restructuring the fiscal distribution mechanism and overcoming the urban-rural dual structure have become central to achieving high-quality preschool education [2].

3.3. Low Efficiency in the Use of Funds

Although public investment in preschool education continues to grow, many local governments still face challenges in efficiently utilizing financial resources. As shown in Table 4, from 2011 to 2021, there were significant structural changes in the composition of preschool education expenditures: the share of personnel expenditure increased steadily, while that of general operating expenses declined, and spending on capital construction nearly vanished.

Table 4. Categories of expenditure on preschool education funds (%) [11].

Expenditure Categories	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
General Expenses	40.67	42.06	40.82	38.41	37.95	37.203	36.95	36.276	36.44	37.06	36.56
Personnel Expenses	59.17	57.84	59.12	61.58	62.01	62.794	63.04	63.721	63.559	62.93	63.43
Capital Construction	0. 16	0. 1	0. 06	0. 01	0. 04	0. 003	0. 01	0. 003	0. 001	0. 01	0. 01

General operating expenditure dropped from 40.67% in 2011 to 36.56% in 2021, indicating a relative decline in funding for daily teaching and administrative operations. In contrast, personnel expenditure rose from 59.17% to 63.43%, reflecting the state's growing emphasis on improving teacher remuneration and staff development.

Notably, capital construction spending decreased sharply--from 0.16% in 2011 to just 0.01% in 2021--indicating a severe contraction in funding for the building and expansion of kindergartens. This structural imbalance suggests excessive concentration of fiscal resources on recurrent expenditures like salaries, with insufficient long-term investment in educational infrastructure, potentially constraining the sector's sustainable development.

Mitchell's research emphasizes that fiscal transparency and sound regulatory mechanisms are critical to ensuring the effective use of education budgets [12]. China must establish a performance-oriented budget management system to optimize fiscal resource allocation. International experience shows that effective linking of funding inputs with educational outcomes is essential for maximizing fiscal effectiveness. While ensuring reasonable growth in personnel costs, it is crucial to address the severe underinvestment in infrastructure and dynamically adjust expenditure structures to enhance the overall efficiency of preschool education funding.

4. Recommendations for Optimizing the Fiscal Guarantee Mechanism

4.1. Establish a Diversified Funding Mechanism with Government Leadership and Social Participation

To ensure more sustainable and robust financial support for preschool education, it is necessary to strengthen government leadership while actively encouraging private sector involvement. A diversified funding system can be developed by establishing dedicated preschool education funds, encouraging donations from enterprises and social organizations, and promoting the development of educational philanthropic foundations [5]. Tax incentives should also be introduced to attract private investment in preschool education. Additional financing channels could be explored, such as adapting social insurance models to provide more stable long-term financial backing.

4.2. Enhance Centralized Fiscal Coordination to Reduce Regional Disparities

To address the current disparities in education resources between urban and rural areas and across regions, the fiscal transfer payment system should be reformed to promote equitable distribution. Central government coordination must be strengthened to alleviate the financial burden on less-developed areas, and a dynamic regional adjustment mechanism should be established. Targeted funding should narrow investment gaps between eastern, central, and western regions, with priority given to upgrading rural preschool infrastructure and improving teacher quality.

According to policy analyses, a long-term fiscal guarantee system should be established to ensure that central transfers align with policy goals. Optimizing the structure of fund allocation can enhance both fairness and sustainability, promoting the balanced distribution of educational resources and the equalization of public services [2].

4.3. Standardize Fiscal Fund Use and Improve Transparency

To improve the efficiency and equity of fiscal spending, a transparent and accountable financial management system should be built. Regular public disclosure of fund usage reports and strengthened social oversight will enhance public trust. Supervision over private kindergartens should also be reinforced to ensure institutions receiving government subsidies meet accreditation and quality standards. Public funds should be prioritized for infrastructure upgrades, teacher training, and the development of high-quality educational programs. These measures aim to maximize the benefits of public investment while advancing educational equity.

4.4. Learn from International Experience While Adapting to China's National Context

International experience shows that diversified financing and stable public investment are key to sustainable preschool development [13]. Germany and Finland have established long-term funding mechanisms to shield education investments from economic fluctuations [14]. The U. S. created a "Child Development Fund" to incentivize enterprise and social capital involvement [15].

In Germany and the Netherlands, public-private partnerships are common, where the government supports private kindergartens through subsidies and tax relief while maintaining regulatory oversight. In contrast, China's government currently covers less than 50% of preschool education funding, significantly below the OECD average of 70%-80% [1]. To align with international standards, the share of public funding--especially from central and local governments--must be increased. Legal mandates for funding growth should be established to ensure stable, long-term investment. With public funding typically covering over 70% of preschool education costs in OECD countries, such practices offer valuable reference for China in building a government-led, sustainable investment mechanism [14].

5. Conclusion

This study examines the current state of China's preschool education fiscal guarantee system and identifies several key issues: the instability of funding, unequal regional resource allocation, and low efficiency in the use of funds. Drawing on the fiscal policy experiences of OECD countries, it proposes a series of optimization strategies, including a government-led and socially inclusive funding mechanism, diversified financing channels, centralized fiscal coordination, and standardized fund management, to enhance the sustainability of China's preschool education investment.

Moving forward, China must further improve its fiscal policy framework to ensure steady growth in educational funding and optimize the allocation of resources. These efforts are essential not only for promoting equity and high-quality development in preschool education but also for raising the overall quality of the population and supporting long-term sustainable development across society.

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