

Impact Analysis of Chinese Government Leadership in the Construction of a Public Service System of Preschool Education¹

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Abstract

Investment in preschool education is increasingly seen as a policy priority in middle and high-income countries due to the early benefits it provides children in their educational journeys. This article discusses the impact of recent increased investment in preschool education in China which has served as a correction to relative historical neglect. In this study a parental satisfaction survey evaluated the cost-sharing, equity of enrollment and quality of preschool education in a local urban governmental-led and multi-participant public service system of preschool education. In the context of the continued challenges of bridging gaps between policy and practice, results show that Government investment is beginning to have positive effects in terms of cost-sharing of preschool education with benefits to family incomes and significantly increasing the quality of preschool education. Parents of children in public provincial kindergartens provided higher satisfaction ratings for students' development than parents of those in private provincial kindergartens. The article

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concludes by discussing the differing, but related roles of the Government and private providers in Chinese preschool education including the development of what is termed a 'High-Quality Collaborative Education Ecosystem'.

Key Words: preschool education; public service system; impact study; collaborative education ecosystems.

1. Introduction

Preschool education has the dual characteristics of social welfare and education in China. The report of the 17th National Congress of the Communist Party of China in 2007 announced the guiding ideology of attaching importance to preschool education. Subsequently, in the report of the 18th National Congress of the Communist Party of China in 2012, the new requirement of improving the quality of preschool education was further emphasized.

The report of the 19th National Congress of the Communist Party of China once again stressed the need to improve the quality of preschool education while ensuring universal access to childcare into the thought and basic strategy of socialism with Chinese characteristics in the new era as an important issue in peoples' livelihoods.

These policy developments signaled increased the Party Central Committee's focus and a greater government role in the development of preschool education (Xing Ma, 2014). However, whether these policy pronouncements can be realized is related to the vital interests of the public and people's satisfaction with China's preschool education.

Several Opinions of the State Council on the Current Development of Preschool Education (GF (2010) No. 41) pointed out that "efforts should be made to establish a public service system of preschool education covering both urban and rural areas with a reasonable layout, to ensure that school-age children access basic and quality preschool education." This was the first time China explicitly insisted that preschool education should be included in the social public service system.

The Opinions also clearly stipulated that local governments have the responsibility to promote preschool education and respond to the 'kindergarten crunch'- understood as the difficulties parents experience enrolling their child in kindergarten - and that governments at all levels should budget for the funds used for preschool education (General Office of the State Council of the People's Republic of China, 2010, Page 1).

In 2012, the "*Twelfth Five Year Plan*" of the National Basic Public Service System included "inclusive preschool education" in the scope of public education services and established a government-led, social participation kindergarten system, simultaneously developed by both state and private sectors (The Central People's Government of the People's Republic of China, 2012).

With the Government's emphasis on preschool education, China's financial investment in it has increased significantly in recent years, reaching 17 billion yuan in 2019. Public funds are obtained through special investments in public or inclusive private kindergartens. As with any rapid process of expansion, the overall situation of preschool education development needed to be monitored continuously to guard against the popularization of low-quality preschool education. The quality monitoring

and evaluation of preschool education is a necessary method to ensure the effective use of public funds, providing the required basis for government performance accountability, helping to continuously improve the quality of kindergartens and practitioners and provide information for public and scientific decision-making (Bi Yin Hu and Kejian Li, 2012).

In 2012, the Ministry of Education promulgated the *Interim Measures for Preschool Education Supervision*, which further promoted the progress of the assessment of preschool education supervision and evaluation in various regions. However, the current reality is that the supervision and evaluation of preschool education is still a weak link of the government function and the value of the function of "promoting guidance by supervision and construction by evaluation" has not been fully exploited (Lin Li, 2014).

The remainder of this paper is organized as follows. Section 2 presents a review of relevant literature. Section 3 introduces the data sources, variables used, and research methods employed in this study. Section 4 presents the results of the data analysis. Section 5 provides suggestions and Section 6 concludes by summarizing the main results.

2. Literature Review

2.1 The positioning transformation and government investment of preschool education public service

In the past, from an economic perspective, academia has judged that preschool

education is a "quasi-public good," with special emphasis on its "nonexclusive" and "noncompetitive" characteristics. Based on the assumptions of scarcity and efficiency in Western economies, the theory proposes public goods as a supplement to market supply (Francis, 2001). Whether a good is provided by the government or the market, following the orientation of "instrumental rationality," the main consideration is to maximize the efficiency of resource allocation and pay attention to means-ends rationality (Xia Jiang, 2017). Public service is a public product in the sense of social welfare maximization, which implies value judgment.

In fact, the value judgment of a service occurs before the service becomes a public good (Ping Lv, and Xinyue Fu, 2013). Preschool education as a "public service" can be seen to be based on "value rationality," which focuses on whether preschool education is in line with the public interest. The public interest generated by preschool education activities is the ultimate goal of policy services.

Several Opinions of the State Council on the Current Development of Preschool Education pointed out that preschool education "is the beginning of lifelong learning and an important part of the national education system"; "is crucial for the healthy growth of hundreds of millions of children, for the vital interests of thousands of families, and for the future of the whole country and nation" and affirmed the important position of preschool education in the national economy and for people's livelihood because these early interventions can close class gaps in later education.

Judging from the international situation of preschool education development, it has become the mainstream trend in various countries to incorporate preschool education

into the public service system (Jiang *et al.* 2022). In related strategic policies, it is clear that the Government is primarily responsible for the development of preschool education (Zheng Huang, 2010; Liyan Huo, Li Sha, and Yan Zheng, 2011).

Compared with the following stage of education, the investment return of preschool education has a time lag, so the funds that preschool education can raise through social capital investment and reasonable family cost-sharing are relatively limited, making preschool education more dependent on government financial investment (Shuijuan Wang, and Tan Bai, 2013).

Many developed countries exercise their functions in the development of preschool education by increasing public financial investment. The average expenditure on preschool education in OECD member countries accounts for 0.4% of GDP. Among them, government finance accounts for an average of 80.2% of preschool education expenditure for children over three years old. This indicates the emergence of a pattern of mainly government investment. Moreover, public investment in preschool education in many developing countries is increasing year-by-year (Tan, Gupta and Wilgus, 2019). Therefore, the Government's recent financial investment can be seen to be in line with these global trends to achieve strategic development goals in preschool education.

Historically, China's seriously insufficient investment in preschool education has failed to guarantee fair and balanced development. In 2010, China's financial input of preschool education accounted for only 1.3% of the total investment of the National Education Fund. This is far from not only the ratio of 10% in developed countries,

but also the global average of 3.8%, which includes African countries. Moreover, the very limited public financial funds were directed mainly to a few public kindergartens in cities, and most parents had to bear the rising cost of childcare services and education without assistance (Yan Liu, 2009).

The Government can use different mechanisms, such as market mechanisms, to provide basic public services, reduce costs and improve efficiency. However, if the financial investment in preschool education is too small, no matter which supply mechanism is used, it is difficult to guarantee the quality of these basic public services. To establish a high-quality basic public service system for preschool education, it is necessary to clarify and fulfill the Government's responsibilities to provide sufficient funding to the continuous development of preschool education.

2.2 Popularization, equity and quality of the public service system of preschool education

Through the research and analysis of the development strategies and policies of preschool education in various countries, as well as the world education and preschool education development reports published by UNESCO, the OECD and other international organizations, we can see that the construction goals of the international preschool education public service systems has focused on three key themes - "popularization, equity and high quality" (Lijuan Pang, Jing Xia, 2013).

Popularization - providing access to kindergartens is the basis of popularizing preschool education. The state has to ensure that all school-age children have access to basic public services of preschool education. Ensuring a reasonable cost of

attendance is the key to building a quality basic public service system of preschool education because it will affect the actual availability of entrance opportunities (Jinxia Yuan, 2013).

In most studies in developing countries, there is a direct linear relationship between family income and the opportunity to enroll in kindergarten (Bennett, 2008; Foguel and Veloso, 2014). Based on the mixed panel data of nine provinces included in the China Health and Nutrition Survey (CHNS) and the study of migrant children's preschool education choices, it has also been found that the high income of urban children and families significantly increases children's opportunities to enroll in kindergarten (Gong, Xu, Han, 2015; Yun Xing, Yongmei Hu, 2015).

Equity - the construction of a public service system for preschool education should ensure the equity and justice of the distribution of educational opportunities. Education equity plays a fundamental role in social equity. Governments worldwide have focused on children's equal access to preschool education in their preschool education development plans and vigorously promoted preschool education equity with the government as the dominant factor, trying to break the intergenerational transmission of poverty and promote social stability and development by helping children in vulnerable families receive childcare services equally (Lijuan Pang, Jing Xia, 2013).

In the case of China, in 2012 the report of *the 18th National Congress of the Communist Party of China* called for "vigorously promoting education equity" (The Central People's Government of the People's Republic of China, 2012). With the

guidance of national policy, it stated that the Government should take the major responsibility of realizing the equity of preschool education, guaranteeing the basic right to education and development of all preschool children according to law and prioritizing the provision of universal and basic public services for preschool education for the most vulnerable groups (Lijuan Pang and Jiangying Feng, 2014).

High quality - preschool education is an educational activity carried out in a certain period in the child development process. Only a high-quality preschool education can promote children's healthy growth and lay a solid foundation for the sustainable development of society as a whole. However, following the 2010 pronouncements, preschool education in China was popularized with the support of policies, but at the expense of overall quality (Yu She and Dasheng Shan, 2019).

The concept of "overall quality" of preschool education can be seen to comprise three dimensions: *input quality*, or the material, environment and supportive conditions for implementing preschool education activities; *process quality*, or the quality embodied in the process of education implementation, which includes curriculum and the practice of teaching, the teacher-child relationship and parental participation; and *outcome quality*, or the progress of children's development and their learning achievements (Hughes, 2010).

China has not yet established a unified monitoring standard for the quality of preschool education in relation to "overall quality," though. In the past, regions mainly strengthened the supervision of the quality of preschool education by formulating evaluation criteria for the quality of Chinese kindergartens, which led to an

overemphasis on investment in facilities at the cost of attention to the core elements of the education and teaching process (Lixiang Liu, 2016). It follows, therefore, that to improve the overall quality of preschool education in China, more attention should be given to the three quality dimensions of structure, process and outcome.

2.3 Division of labor between the government and the market in the public service system of preschool education

A global priority – the national development strategic value of preschool education and its public welfare nature require governments of various countries or regions as the main providers of public services to become the leaders in developing preschool education and expanding the coverage of preschool education public services, thus mainly relying on public institutions to promote the popularization of preschool education. For example, in most OECD countries, public institutions represent more than 50% of all preschool institutions. In Mexico, Russia, Cuba, Brazil, North Korea and other countries, public institutions are also the main providers of preschool education (OECD, 2022). Many preschool education researchers and workers in China have proposed the idea of public preschool education and even equated public preschool education with public welfare.

Insufficient finances - China's educational finances have been insufficient, and government investment alone is not enough to provide an adequate number of preschool education services, leading to the argument that the Government should continue to meet the people's growing demand for diversified public services. The report of the

19th National Congress of the Communist Party of China revealed that the principal contradiction currently facing Chinese society is that between the people's ever-growing needs for a better life and the country's unbalanced and inadequate development (Central People's Government of the People's Republic of China, 2017). Professor Ostrom of the United States believes that the Government faces many limitations in providing public goods, and its decision-making reflects the preferences of "median voters" (Jing Li, 2007).

Mixed investment patterns - it is difficult for the Government, the market or society alone to meet the increasingly strong and multi-level public demand for high-quality and diversified preschool education services. It has been suggested that in multi-supply patterns, governments should play the leading role while simultaneously introducing market competition mechanism and social voluntary mechanism (Yan Liu, 2019). The public service system of preschool education, which adheres to the principle of "one majority, many elements", that is, "government-led, with market and social participation", has now become a distinct policy orientation of the country.

The present relationship between the Government and the market regarding preschool education in China is complementary, but their roles and positioning need to be further distinguished and clarified (Ziying Zheng and Deqing Wang, 2012). At the level of public service demand, preschool education public services can be classified into basic and non-basic services.

The basic public service of preschool education is the general or universal preschool education service provided by the Government to all school-age children and

their parents, which is suitable for the level of economic and social development. Non-basic public services refer to preschool education public services that exceed the standards of the basic public service level. Their primary aim is to meet diversified public needs, and the target population focuses on preschool children whose families seek more than the basic public services for preschool education (Lijuan Pang, Meihong Sun and Jing Xia, 2014).

The hierarchy of preschool education public service needs determines the division of responsibilities between the Government and the market for preschool education public services. On the one hand, reliance on market profit-seeking risks aggravates the unfair distribution of resources. On the other, the current situation of economic and social development in China has resulted in a contradiction between the people's growing demand for public services for preschool education and the ability of the Government to meet this multi-level and diversified demand.

2.4 Parents' satisfaction and quality evaluation of the public service system of preschool education

Judging from the practical needs of the public for preschool education, diversified services, nearby enrollment and quality assurance are often the prime concern of parents. In the past, the Government's supply of preschool education was based on efficiency considerations, and public needs and interests were sometimes ignored. For example, some local governments blindly merged rural kindergartens and concentrated on building large-scale township central kindergartens. However, the resulting

expansion of the service radius has resulted in great inconvenience for parents in picking up and dropping off their children. Therefore, the public service system of preschool education should fully consider people's satisfaction. It has been argued that the government should support and manage preschool education as a public service based on the needs and interests of service beneficiaries, and whether the public demand is met should be regarded as an important basis for judging the effectiveness of supply in preschool education (Xia Jiang, 2017).

Parents as stakeholders - parents are regarded as the most important stakeholders in preschool education. Their choices regarding the way their children receive education and the quality of the preschool education institutions, deeply affect the development of children's cognitive and noncognitive ability in the future and further affect the next stage of education choice and the supply-demand relationship. At present, the quality evaluation providers of preschool education institutions in China are mainly authorities, such as administrators, political decision-makers, and third-party supervisory organizations, while other stakeholders (such as children's parents) have been basically excluded from the evaluation process (Shuang Huang, 2018).

The quality of preschool education can be roughly understood as the sum of the characteristics of relevant stakeholders' needs, and the relevant stakeholders are diverse. According to the *Preschool Education Guidance Program (Trial* "administrative staff, teachers, children and parents are all participants in preschool education evaluation, and the evaluation process is the process of mutual participation, mutual support and cooperation". With the increasing public demand for multi-level, multi-type and

diversified quality preschool education, single-standard kindergartens are increasingly unable to meet the demands of economic and social development and people's needs.

The report of *the 17th and 18th National Congress of the Communist Party of China* clearly pointed out that we should "strive to run satisfactory education for all citizens" (The Central People's Government of the People's Republic of China, 2007) (The Central People's Government of the People's Republic of China, 2012). Since 2013, the Ministry of Education has officially started the nationwide evaluation of education satisfaction, reflecting the determination of the Education Department to provide people with satisfactory preschool education.

Aims of the study - this study takes the preschool education public service system involving government leadership and mainly public kindergartens established in a prefecture-level city as the research object. Through a questionnaire survey on the education satisfaction of parents of kindergarten-aged children, it systematically evaluated the cost-sharing, enrollment equity and education quality of the public service system of preschool education so that the related roles of the government and the market in the construction of a preschool education public service system can be reasonably distinguished.

3. Data and Models

Background to the study and chosen data collection methods - the data used in this study come from a questionnaire survey on parents' satisfaction with education in seven districts of a prefecture-level city in Jiangsu Province in June 2015. A total of 6,289

parents and their children were included. The sampled city has a developed economy and high population mobility.

In October 2010, the city was identified by the State Council as a pilot area for the reform of the national preschool education system. Since then, the Municipal Party Committee and the Government have taken the national preschool education reform pilot as a key project in the happiness project for people's livelihood. The key components of the reform encompass clearly defining educational responsibilities, establishing robust regulatory mechanisms, moderately boosting investment in education resources, ensuring the stable operation of preschool education institutions, and enhancing the quality of educational services. The objective of the reform is to construct a comprehensive, fundamental, and high-quality preschool education service system.

Substantial breakthroughs and innovations have been made in policy making, planning layout, construction, funding input, teacher development and quality improvement. A public service system for preschool education, characterized by "five mainstays" (namely, kindergartens are mainly public, preschool teachers are mainly public teachers, preschool education investment is mainly public financial investment, kindergartens are mainly high-quality kindergartens, and public kindergartens are mainly headed by education administrative departments), was initially formed. In the sample area, the developed public service system of preschool education has proved suitable for testing the policy effect of the government-led system with public kindergartens as the main body and private kindergartens as the supplement.

The study - focuses on the factors influencing parents' choice of kindergartens with different systems and grades. Classified by system, kindergartens have been divided into those sponsored by education departments, those sponsored by collective departments and private kindergartens. Classified by grade, they have been divided into provincial-level excellent demonstration kindergartens, municipal-level excellent demonstration kindergartens and qualified kindergartens. Considering the system and grade of kindergartens, this study has divided kindergartens into four categories: public provincial excellent kindergartens (71.5%), public nonprovincial excellent kindergartens (8.0%), private provincial excellent kindergartens (10.8%) and private non-provincial excellent kindergartens (9.8%).

Research variables - the study divides the factors influencing parents' choice of kindergarten into two categories: first, individual variables: children's classes (junior class, middle class and top class); gender (male = 1); nationality (minority = 1); and registered residence types (local towns, local rural areas, nonlocal towns, nonlocal rural areas). Second, Family variables: parents' education background (illiterate/semi illiterate, low education level including primary school and junior high school, secondary education level including high school/secondary vocational/technical school, high education level including college/undergraduate/postgraduate); social stratum: according to China's social strata proposed by Xueyi Lu (2002), the occupational strata of parents can be divided into national and social managers, managers, private entrepreneurs, professional and technical personnel, clerks, individual businesses, business service personnel, industrial workers, agricultural labor and urban and rural

unemployed and semi unemployed class); the average monthly income of the family (low income below 2000 yuan, lower-middle income between 2000 and 5000 yuan, middle income between 5,000-8,000 yuan, upper-middle income between 8000 and 15,000 yuan, high income above 15,000 yuan); and parents' educational expectations (divided into high school and below, undergraduate, postgraduate).

Quality indicators - the study also discusses the differences in satisfaction with the quality of preschool education among parents in different types of kindergartens. Preschool education quality indicators include the evaluation of structural quality including satisfaction with facilities and teacher quality; process quality evaluation including early care quality evaluation, knowledge-based teaching evaluation, practical teaching evaluation and home-school collaboration evaluation; and results quality evaluation according to the *Guideline to the Learning and Development of Children Aged 3-6*, child development includes six dimensions: healthy development, social development, language development, scientific development, artistic development and quality development, with a total of 31 specific indicators used to evaluate child development in all aspects. Parental evaluations of kindergarten quality is obtained by factor analysis with a mean value of 0 and a standard deviation of 1.

Due to the systematic differences in individual and family backgrounds, ideally, a child should experience different types of kindergartens, or all children should be randomly assigned to different types of kindergartens, and then parents should evaluate the quality of preschool education.

Real life research issues - in real life, due to various restrictions, it is difficult

torandomly assign children to kindergartens, and researchers can only observe the results of a certain child entering one type of kindergarten instead of other types. This missing-data problem is called "the fundamental problem of causal inference". To estimate the impact of different types of kindergartens on children's development, we need to find another nonactual state as a substitute for individual "i"'s nonactual state in kindergarten "t".

In this study, the type of kindergarten children enter is obviously not randomly assigned. To make the type of kindergarten children enter independent of their development, a commonly used method is the matching method. This method assumes there are many differences between and among children in different types of kindergartens, but which ones students enter can be fully explained by a group of observed control variables "X".

Design approaches - using propensity score matching to make causal inferences from observed data requires step-by-step estimation of the selection equation and results equation. In the past, the intervention measures in the study of propensity score matching were generally binary. Researchers can use logit or probit models to predict whether an individual will accept the intervention. In this study the types of kindergartens are regarded as intervention treatments that are divided into four categories: public provincial excellent kindergartens, public nonprovincial excellent kindergartens, private provincial excellent kindergartens, and private nonprovincial excellent kindergartens. Therefore, because the intervention treatment becomes multivalued, the selection equation should use the multinomial logit model.

The multiple logit model has been used to predict which types of kindergartens children will enter to investigate the systematic differences among children in different types of kindergartens. The simplified form of the model is:

$$P_{ij} = \text{Prob}(y_i = \text{K-type}_j) = \frac{e^{\beta_j x_i}}{\sum_{k=1}^J e^{\beta_k x_i}}$$

In the formula, $i=1, \dots, n$, $j = 1, \dots, j$. N is the sample size, and J is the four kindergarten types. X is the vector of influencing factors to predict which kindergarten children will enter. Before estimating this model, it is necessary to select a type of kindergarten as the reference group. In the study, the children who entered the public nonprovincial kindergartens were taken as the reference group.

4. Results

4.1 The proportion of childcare expenses in relation to family income across different types of kindergartens

The proportion of childcare expenses to family income in different types of kindergartens is shown in Table. Generally, the average proportion of family parenting expenses in family income is 25.9% and the proportion is the lowest for families in public nonprovincial kindergartens, accounting for 19% followed by public provincial kindergartens, accounting for 25.2%. The proportion is higher for families in private kindergartens than for those in public kindergartens, and the proportion is the highest for families in private provincial kindergartens, accounting for 33.5%.

Table 1. Proportion of childcare expenses to family income in different types of kindergartens.

Types of kindergartens	Proportion
Public provincial excellent kindergartens.	25.2
Public nonprovincial excellent kindergartens	19.0
Private provincial excellent kindergartens	33.5
Private nonprovincial excellent kindergartens	26.8
Total	25.9

4.2 The factors influencing parental choice of different types of kindergartens

Factors that influence parents' choice of kindergarten are shown in Table 2. Compared with local rural children, children with local urban registration have more opportunities to enter public provincial excellent kindergartens ($\beta_{05}=0.701^{***}$), public nonprovincial excellent kindergartens ($\beta_{05}=1.894^{***}$) and private nonprovincial excellent kindergartens ($\beta_{05}=1.525^{***}$). There was no significant difference between nonlocal urban children ($\beta_{06}=-0.220$) and rural children ($\beta_{06}=-0.250$) in access to public provincial kindergartens, but nonlocal urban children have higher access to private provincial excellent kindergartens ($\beta_{06}=1.566^{***}$) and private nonprovincial excellent kindergartens ($\beta_{06}=1.945^{***}$).

Nonlocal rural children have higher access to private provincial excellent kindergartens ($\beta_{07}=1.320^{***}$) and private nonprovincial excellent kindergartens ($\beta_{07}=1.823^{***}$). Public nonprovincial excellent kindergartens have assumed the main responsibility of providing preschool education for local rural children.

For parents with different educational backgrounds, compared with those who completed secondary or high school education, respondents with postgraduate education are more inclined to choose public ($\beta_{06}=0.964^{***}$) or private ($\beta_{06}=1.284^{***}$)

provincial excellent kindergartens for their children, while parents with college education are more inclined to choose public provincial excellent kindergartens ($\beta_{09}=0.546^{***}$) for their children, followed by public nonprovincial excellent kindergartens ($\beta_{09}= 0.546$), and do not tend to choose private nonprovincial excellent kindergartens ($\beta_{09}=-0.897^{***}$).

Parents with junior high school education or below have fewer opportunities to choose public provincial excellent kindergartens ($\pi_{10}=-0.678^{***}$) or private provincial excellent kindergartens ($\pi_{10}=-1.064^{***}$) for their children but choose public nonprovincial excellent kindergartens or private nonprovincial excellent kindergartens.

Compared with those from lower-middle-income families, children from high-income families have more opportunities to enter public provincial excellent kindergartens ($\beta_{16}=0.631^{***}$) and private provincial excellent kindergartens ($\beta_{16}=0.705^{***}$). The parents of middle-income families also prefer public and private provincial excellent kindergartens. Low-income parents are less likely to choose private provincial excellent kindergartens ($\beta_{18}=-0.687^{**}$) or private nonprovincial excellent kindergartens ($\beta_{18}=-0.547^{**}$) for their children.

Table 2. Factors that influence parents' choice of kindergarten.

Variables	public provincial	private provincial	private nonprovincial
Intercept	2.154	-0.567	-0.392
Grades: middle class, β_{01}	0.004	-0.059	-0.083
Grades: top class, β_{02}	-0.155	-0.153	-0.189
Gender: male, β_{03}	0.039	0.068	0.024
Nationality: minority, β_{04}	0.182	-0.096	0.318

Registered residence: local towns, β_{05}	0.701***	1.894***	1.525***
Registered residence: nonlocal towns, β_{06}	-0.220	1.566***	1.945***
Registered residence: nonlocal rural areas, β_{07}	-0.250	1.320***	1.823***
Parents' education: postgraduate, β_{08}	0.964***	1.284***	0.391
Parents' education: undergraduate/college, β_{09}	0.546***	-0.111	-1.064***
Parents' education: junior high school and below, β_{10}	-0.624***	-1.349***	-0.373
Parents' occupation: managers, β_{11}	-1.131***	-1.454***	-1.142**
Parents' occupation: private entrepreneurs, β_{12}	0.176	-0.622*	-0.669*
Parents' occupation: professional/clerks, β_{13}	0.506*	0.203	0.260
Parents' occupation: individual businesses, β_{14}	0.045	0.257	0.209
Parents' occupation: farmer/laborer/migrant workers, β_{15}	-0.849***	-1.029***	-0.514**
Household income level: high, β_{16}	0.631***	0.705***	0.385*
Household income level: medium, β_{17}	0.424**	0.488**	0.293
Household income level: low, β_{18}	-0.085	-0.687*	-0.574**
Educational expectations: postgraduate, β_{19}	0.612***	0.532***	0.222
Educational expectations: high school and below, β_{20}	-0.163	-0.780***	-0.755***

4.3 Analysis of the differences in parental satisfaction among different types of kindergartens

After inverse probability weighting, the differences in parents' evaluation of

preschool education quality for different types of kindergartens can be seen in Table 3.

Parents' overall satisfaction with public provincial excellent kindergartens and evaluation of facilities, childcare, practical teaching, teacher quality, home-school cooperation and children's development is the highest for public nonprovincial 'excellent' kindergartens, while their satisfaction is the lowest for private provincial 'excellent' kindergartens.

Table 3. Differences in parents' evaluation of preschool education quality in different types of kindergartens.

	Hardware Facility	Teacher Quality	Nursing Quality	Knowledge Teaching	Activity Teaching	Children's Development
Public provincial excellent kindergartens	.213***	.260***	.220***	-.162***	.220***	.231***
Private provincial excellent kindergartens	-.418***	-.288***	-.338***	.056**	-.474***	-.082*
Private nonprovincial excellent kindergartens	-.201***	.005	-.041*	.124***	-.160***	.113**
Intercept	-.082***	-.147***	-.113***	.112***	-.072***	-.177**

5. Discussing system improvement

5.1 Public Kindergartens: The Pillars Upholding the Mission of "Universal Access and Minimum Guarantee"

This section discusses the research findings in relation to established government priorities and how to bridge gaps between policy aims and implementation realities. Preschool education affects education equity and social equity. Vigorously developing and popularizing preschool education and striving to achieve preschool education equity have become the strategic goals of the central government's medium- and long-term education reform and development in China. Rural areas are the key

points of preschool education popularization. Many countries in the world have reformed the system of preschool education, established a reform path dominated by public kindergartens, strengthened the responsibility of the Government, and effectively expanded preschool education resources in rural areas.

However, the current situation of preschool education equity in China is still not satisfactory; notably the difficulty for rural areas to meet the needs of children's preschool education through family income and private funds. To provide basic and inclusive preschool education for children in rural areas, the research suggests that the Government should take the lead in establishing public kindergartens as the main body to develop rural preschool education. This study found that excellent public nonprovincial kindergartens meet rural children's needs regarding preschool education. Therefore, the public service system of preschool education in China must make public kindergartens inclusive and guarantee a minimum standard to truly guarantee the basic rights of all children to receive preschool education, especially the children of rural and low-income families, and promote educational equity (Yincheng Deng, 2010).

5.2 Private Kindergartens: An Important Supplement Providing Personalized Educational Services

In the preschool education in China, private kindergartens not only constitute an integral part of the public service system but also play a crucial role in providing personalized educational services. The uniqueness of this role lies in the competition and continuous innovation among private kindergartens, while their distinctive features

are the lifeline for their survival and development.

When compared to public kindergartens, though, private kindergartens face continuing challenges in terms of government rating policies. The administrative department of education evaluates the grade of public kindergartens within its jurisdiction. Kindergartens with higher grades not only receive more financial support, but also obtain more resources for the professional evaluation, professional development and training of faculty. However, typically, even if private kindergartens participate in the grading, they do not enjoy many of these benefits. Conversely, due to the additional time and material costs required for participation in the grading without corresponding compensation, the motivation of private kindergartens to engage in the grading is not high (Hao Liu, 2014).

The prefecture-level cities in this study adopted a unified grading policy for kindergartens of different systems. However, the results show that the parents of children in private provincial excellent kindergartens have the lowest satisfaction with the quality of education. The results do not mean that the quality of education in private provincial excellent kindergartens is the worst, but that the services they provide do not meet the needs and expectations of the parents. A possible reason for this is that affluent families prefer private provincial excellent kindergartens, and they have higher requirements for preschool education. While private provincial excellent kindergartens meet the unified kindergarten evaluation standards, they do not provide personalized education services that distinguish them from public kindergartens.

Certainly, the existence and development of private kindergartens play an

indispensable role in the preschool education system. Their personalized educational services serve the public's diverse educational needs, infusing the preschool education sector with the dynamism of market competition. This will undoubtedly contribute to the construction of a more diverse, equitable, and vibrant preschool education system.

5.3 Government and market provision

The non-basic public service of preschool education is exclusive in use, competitive in consumption and relatively separable in utility. Its product attributes are close to those of private products, and its public welfare and publicity characteristics are weakening. The Government can introduce market mechanisms into the production of nonbasic public services in preschool education and carry out reasonable restraint, standardization and supervision to give full play to the efficiency advantages of market mechanisms in financing and production, promote the diversification of public services in preschool education, meet individualized needs and public interests, and finally promote the free and full development of preschool children and the long-term, coordinated development of the economy and society.

Facing the public's demand for personalized and high-quality preschool education resources, the Government should guide private and public kindergartens to choose different development paths and suitable systems according to their own positioning (Xiaodong Zeng, 2005). Regarding the quality of private kindergartens, the Government is mainly responsible for prequalification approval, and kindergartens can operate so long as they meet the basic standards in terms of venue and personnel

composition. In this context, the quality assurance of private kindergartens is mainly carried out spontaneously by institutions in communication with parents, and their motivation is to meet the market demand and beat the competition.

In short, a public service-oriented government has to handle the division of responsibilities between the government and the market and create a good external environment for market mechanisms. In the case of problems that the market can solve, the market can be allowed to act on its own, and the Government should not interfere. For problems that cannot be solved well by relying on the market mechanism, the Government must intervene (Zhou Yongming and Lin Peiling, 2010).

5.4 Diversification of Education: Increasing the Supply of Preschool Education

At present, multiple economic sectors coexist in China's economic structure, and local governments need to actively use social forces to increase the supply of preschool education institutions in various forms. Therefore, constructing a public service system of preschool education will inevitably lead to the coexistence of multiple types of schools (Haiying Wang, 2013). This study found that high income parents have tended to send their children to excellent public provincial kindergartens or private provincial kindergartens. The existence and development of private kindergartens is thus a beneficial supplement to the public service system of preschool education. On the one hand, it alleviates the financial pressure on the Government, and on the other, it offers school-age children a variety of quality preschool education opportunities.

With the acceleration of urbanization, the education problem of migrant children is

becoming increasingly serious. The *Twelfth Five Year Plan of the National Basic Public Service System* clearly stipulates that the Government should "fully consider the needs of migrant children to receive preschool education according to the planning of residential areas and the size of the resident population and set up urban kindergartens" (The Central People's Government of the People's Republic of China, 2012). As an economically developed region, the Yangtze River Delta is the main area of population inflow and has many preschool education resources that attract many migrant children.

This study found that migrant children in this area have a higher probability of receiving preschool education in private kindergartens than local registered children, revealing that because the local government is mainly responsible for the construction of the local preschool education public service system, local public kindergartens can hardly provide preschool education services for local children and migrant children at the same time. In this case, private kindergartens, as a supplement to public kindergartens, can meet the needs of many migrant children for preschool education. To better meet the basic needs of migrant children, higher-level governments should coordinate the policy standards and the allocation per student for migrant children and establish a reasonable cost sharing system.

5.5 Ensuring the Development of Preschool Education: Enhancing Government Funding and Resource Support

Although parents, society and other stakeholders have different focuses regarding the quality of preschool education, they should primarily consider children's physical

and mental health development. Therefore, preschool education activities can meet the demands of all stakeholders by promoting children's physical and mental development, which is the standard of whether the value relationship between subject and object is formed and whether the educational activities of kindergartens are valuable (Xia Liu, 2004).

The scope of basic public services for preschool education is affected by the needs of the people and the level of social and economic development. Different countries have different definitions of the scope of basic public services in different historical periods. "Ensuring the basic aspects" and "promoting progress" are two functional orientations that can be realized by the quality monitoring system of preschool education.

According to a series of government documents produced after 2010, the main focus of establishing a kindergarten quality monitoring system proposed by the state is to ensure the basic quality of preschool education and prevent the harm associated with low-quality education. For example, the *"Interim Measures for the Supervision and Evaluation of Preschool Education,"* enacted in 2012, required local authorities to "establish a preschool educational quality assessment and supervision system and mechanism and conduct monitoring and evaluation of preschool education quality" (pp) and effectively addresses issues such as deviations from the developmental norms and cognitive characteristics of young children, the premature introduction of primary school content, and the intensification of knowledge and skill training (Hao Liu, 2014).

The report of the 19th National Congress of the Communist Party of China revealed

that the principal contradiction facing Chinese society has evolved into the contradiction between the people's ever-growing needs for a better life and the country's unbalanced and inadequate development. With the alleviation of the "kindergarten crunch" and "expensive admission" problems, people's demand for preschool education public services has changed from "opportunity equity" to "quality equity". When most children have the opportunity to go to kindergarten, then the education quality matters.

This study found that parents of public provincial excellent kindergartens have the highest satisfaction with children's development, which indicates that the effectiveness of the construction of the basic public service system of preschool education depends largely on the amount of public financial investment of the Government. Popularizing preschool education and improving its quality both require a large amount of financial support and other resources from the Government. Investment in the construction of excellent public provincial kindergartens in this region meets people's need for high-quality preschool education.

Creating – creating a **‘high-quality collaborative education ecosystem’**

Building on the previous themes of diversification of provision, clearly defined but complementary roles for public and private providers and enhancing the resource base of preschool education, this section introduces the idea of building ‘A High-Quality Collaborative Ecosystem’.

While fully understanding the need to clearly delineate the respective roles of state and market in supporting preschool provision, here we go further in our analysis of the

complementary relationship between state and market provision. If the distinction between the role of government and private provision is the first step, we suggest that the second step should focus on their reciprocal relationships. What the research shows is the benefits of state and market provision working together to meet the growing needs of the people in a region.

Literatures on ‘collaborative education ecosystems’ emphasise focusing on a ‘common mission’ embracing the different social partners and the role of ecosystem leadership (e.g. Hodgson and Spours, 2013). While collaborative education ecosystems can function as networks at the local and regional levels, there remains a strong role for government in the offering sufficient financial support and other resources. This is not only a guarantee for children, but also a demonstration of the Government's commitment to social responsibility, contributing positively to the sustainable development of preschool education in our country.

6. Conclusions

This study is based on data regarding parental education satisfaction collected in June 2015 from seven districts within a prefecture-level city in Jiangsu Province, China. It utilizes a multinomial Logit model analytical approach to examine the factors that influence parents' choices of different types of kindergarten governance systems and kindergarten grades. The study explores variations in parental satisfaction with the quality of kindergarten education across different types of kindergartens and conducts an in-depth examination of potential systematic differences among these kinds of

kindergartens concerning the diverse demographic groups of enrolled children.

The following are the main conclusions drawn in this study.

First, the proportion of family childcare expenses is lower for public kindergartens than for private ones. This indicates that government investment in public kindergartens effectively shares the cost of preschool education, significantly reduces the proportion of childcare expenses in family income, lowers the burden on families, and promotes the widespread accessibility of preschool education.

Second, public non-provincial excellent kindergartens effectively meet the demand for preschool education among rural families' children. High income parents tend to send their children to both excellent public provincial kindergartens and private provincial kindergartens. Migrant children, on the other hand, have a higher probability of receiving preschool education in private kindergartens than do local registered children. This reveals that public kindergartens fulfill their role of "universal access and minimum guarantee," effectively meeting the basic needs of local rural children for preschool education. Private kindergartens serve as a beneficial complement to public kindergartens, providing local urban residents with more diverse enrollment options.

Third, parents of children in excellent public provincial kindergartens express the highest satisfaction with their children's development. This suggests that the government's public financial support has effectively improved the quality of preschool education institutions. In the process of building a basic public service system for high-quality preschool education in China, government funding and resource support play a

crucial role.

Fourth, parents of children in private provincial excellent kindergartens express the lowest satisfaction with kindergarten education quality. This result does not necessarily indicate that the education quality in private provincial excellent kindergartens is the worst. Instead, it is possibly due to differences in parental expectations regarding preschool education. Children enrolled in private kindergartens frequently come from affluent families with higher educational expectations. While private kindergartens might closely adhere to standardized kindergarten evaluation criteria, they may not offer personalized educational services that differentiate them from public kindergartens.

Conclusion

The research findings demonstrate the benefits of has been termed a “collaborative high quality ecosystem approach” to public and private kindergarten provision in meeting the diverse needs of children from different family backgrounds for preschool education. The results emphasize the importance of increased government financial support for preschool education, as well as the influence of parental education expectations on kindergarten satisfaction rates. The research findings have important implications for government education policy formulation, equitable allocation of preschool education resources, and the enhancement of education equity, laying a crucial foundation for the establishment of a high-quality basic public service system for preschool education in China.

References

Bennett J. (2008). *Early Childhood Services in the OECD Countries: Review of the*

- Literature and Current Policy in the Early Childhood Field. Unicef Innocenti Research Centre, UN iLibrary.
- Bi Yin Hu and Kejian Li, (2012) The Quality Rating System of Chinese Preschool Education: Prospects and Challenges *Childhood Education*, 88(1) 14-22.
- Deng Yincheng, (2010). On the Equality of Educational Process and the Differences of Students. *Journal of Educational Science of Hunan Normal University*, (6).
- Foguel, M N, Veloso F A., (2014). Inequality of opportunity in daycare and preschool services in Brazil. *The Journal of Economic Inequality*, (2).
- Francis, C, (2001) Quasi-Public, Quasi-Private Trends in Emerging Market Economies: The Case of China *Comparative Politics*, 33 (3) 275-294.
- General Office of the State Council of the People's Republic of China, (2010). Several Opinions of the State Council on the Current Development of Preschool Education[online]Several Opinions of the State Council on the Current Development of Preschool Education.[Viewed 18 September 2021]. Available from:http://www.gov.cn/zwggk/2010-11/24/content_1752377.htm
- Gong X , Xu, D-Han W J., (2015). Household Income and Preschool Attendance in China. *Child Development*. 86 (1). 194-208.
- Huang Shuang, Huo Liyan, (2018). The Preschool Program Quality Assessment of America: Characteristics and its Implications. *Primary and Secondary Schooling Abroad*, (3).
- Huang Zheng, (2010). The Construction of the Public Service System of Preschool Education. *Shanghai Education*, (9).

- Hughes, J, (2010). Identifying Quality in Preschool Education: Progress and Challenge. *School Psychology Review*.
- Huo Liyan, Sha Li, ZhengYan, (2011). Comparative Study on the Primary Attribute of Early Childhood Education among Several Important Countries. *Comparative Education Review*. (6).
- Jiang Xia. (2017). “Quasi-public Product” or “Public Service” — Preschool Education Attributes and Supply Differences in Different Perspectives. *Theory and Practice of Education*. (11).
- Jiang, Y., Zhang, B., Zhao, Y., and Zheng, C. (2022). China’s Preschool Education Toward 2035: Views of Key Policy Experts. *ECNU Review of Education*, 5(2), 345-367.
- Li Jing, (2007). On the Performance Management of the Service-oriented Government during the Public Supply. *Huazhong Normal University Journal of Postgraduates*. (3).
- Li Lin, (2014). Exploration on the Construction of Preschool Education Supervision and Evaluation System —Taking Shanghai as an Example. *Journal of the Chinese Society of Education*. (3).
- Liu Hao, (2014). On the Quality Monitoring System of Early Childhood Education. *Studies in Early Children Education*, (1).
- Liu Lixiang, (2016). On Assessment of Preschool Education Quality. *Studies in Early Childhood Education*, (8).
- Liu Xia, (2004). Quality of Education in Preschool Institutions: Concept and

Composition. *Journal of Modern Education*. (11).

Liu Yan, (2009). On Some Essential Problems of Preschool Education: Also on the Development Strategy of Preschool Education. *Research in Educational Development*. (8).

Liu Yan, (2019). The Development Path and Direction of Inclusive Kindergarten. *Educational Research*. (3).

Lv Ping, Fu Xinyue, (2013). On the Partnership Between the Government and Private Preschool. Institution. *Studies in Preschool Education*, (10).

Ma Xing, (2014). The Analysis of and the Pondering on the Functions of the Government in “Running Preschool Education Well”. *Education and Teaching Research*, (7).

OECD, (2008). 2008 *Education Glance OECD Indicators* - <https://www.oecd.org/education/skills-beyond-school/41284038.pdf> (viewed 30 October, 2023).

OECD, (2022) *Education at a Glance - Financing of early childhood education (ECE) in public and private institutions (2019)* - https://www.oecd-ilibrary.org/education/financing-of-early-childhood-education-ece-in-public-and-private-institutions-2019_bcefc28f-en (viewed 30 October, 2023).

Pang Lijuan, Feng Jiangying, (2014). The Classification of Public Service of Preschool Education and the Design of “One Domination and Multiple” Supply Mechanism. *Journal of the Chinese Society of Education*. (7).

Pang Lijuan, Sun Meihong, Xia Jing, (2014). On the Policies and Enlightenment of

the Leading Responsibility of Government in Promoting Fairness of Early Childhood Education in Main Countries and Regions in the World. *Studies in Early Childhood Education*. (1).

Pang Lijuan, Xia Jing, (2013). International Early Childhood Education Developmental Stratagem: Universalization, Equity and High Quality. *Journal of Educational Studies*. (3).

She Yu & Shan Dasheng, (2019). Develop an Inclusive and Qualified Preschool Education System. *Administration Reform*. (2).

Tan, G., Gupta, A. and Gay Wilgus (2019). *Investment in Early Childhood Education in a Globalized World. Policies, Practices, and Parental Philosophies in China, India, and the United States* London. Palgrave Macmillan.

The Central People's Government of the People's republic of China, (2012). The 18th National Congress of the Communist Party of China. [online]. The 18th National Congress of the Communist Party of China. [Viewed 21 September 2021].
Aviliable from:http://www.china.org.cn/chinese/18da/node_7167677.htm

The Central People's Government of the People's republic of China, (2007). The 17th National Congress of the Communist Party of China. [online]. The 17th National Congress of the Communist Party of China.[Viewed 21 September 2021].
Aviliable from:<http://en.people.cn/90002/92169/index.html>

The Central People's Government of the People's republic of China, (2012). The “Twelfth Five Year Plan” of the National Basic Public Service System [online]The “Twelfth Five Year Plan” of the National Basic Public Service

System.[Viewed 19 September 2021]. Available from:http://www.gov.cn/zwggk/2012-07/20/content_2187242.htm

Wang Haiying, (2013). “The Principle of Separation Powers”and “Multiple Center Restriction” —The Opinion on the Relationship among Multiple Supply Subject of Preschool Education Public Service. *Education Research Monthly*. (1).

Wang Shuijuan, Bai Tan, (2013). The Responsibility of Governments at All Levels in improving the Development of Preschool Education: reason, question and assume. *Education Research Monthly*. (1).

Xing Yun, Hu Yongmei, (2015). Access to Pre-schooling for Migrant Children in Mainland China: With Special Reference to Socioeconomic Background and Migration Pattern. *Education and Economy Research*. (3).

Yu Yongping, (2007). On the Government’s Role in the Development of Preschool Education. *Studies in Early Childhood Education*. (1).

Yuan Jinxia, (2013). The Reflection of Constructing the Basic Public Service System of Preschool Education. *Education Research Monthly*. (1).

Zeng Xiaodong, (2005). Institutional Problems of the Development of Preschool Education in Our Country During the Transition Period. *Journal of Educational Development*. (5).

Zheng Ziyang, Wang Deqing, (2012). The Reasonable Boundary of Government Function under the Public Service System of Preschool Education. *Journal of the Chinese Society of Education*. (12).

Zhou Yongming, Lin Peiling, (2010). The System Design of the Development of

Preschool Education in Ningbo (I). *Studies in Early Preschool Education*. (2).

The Central People's Government of the People's Republic of China, (2017). Reports of The 19th National Congress of the Communist Party of China.[online].Central People's Government of the People's Republic of China.[Viewed 24 September 2021]. Available from:http://www.gov.cn/zhuanti/2017-10/27/content_5234876.htm