

# Study on the Structural Change and Influence of Educational Financial Input Under the Double Reduction Policy

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**Abstract:** With the implementation of the "double reduction" policy, the educational financial input has also undergone significant changes, and the education field is facing unprecedented changes. Through the analysis of the structure of educational and financial investment, it is revealed that under the "double reduction" policy, the investment of public educational resources is more inclined to the compulsory education stage. Fund redistribution exists in many fields, including infrastructure construction, teacher training, curriculum research, and development. As for the policy optimization suggestions, the study proposes to increase the investment in improving teachers' quality, strengthen the on-campus curriculum's construction, and optimize the education evaluation system to provide feasible suggestions for education reform under the "double reduction" policy.

## 1 INTRODUCTION

In recent years, as the problem of extracurricular training for primary and secondary school students has become increasingly severe, the Chinese government has issued a series of policies to deal with it. In July 2021, the Central Committee deliberated and approved relevant documents on "double reduction," marking the official implementation of the "double reduction" policy. The "double reduction" policy aims to effectively reduce students' heavy homework and off-campus training burden in compulsory education and promote the all-round development and healthy growth of students (He, 2021). Introducing this policy changes the structure of China's educational and financial input and profoundly impacts educational equity. Education, as the most considerable livelihood, affects the overall situation of national development and social stability. China's financial input in education has been increasing for a long time, but the input structure is not reasonable, and the efficiency of using funds is not high. Since the implementation of the double reduction policy, the situation has significantly improved. Although the double-reduction policy is limited to the compulsory education stage, its focus is on the higher education stage, and its implementation will have a significant impact on the equity and

quality of higher education (Chen & Wang, 2022). Therefore, the change in educational financial input brought about by the double-reduction policy will have a far-reaching and lasting impact on educational equity.

According to the data released by the Ministry of Finance, the education expenditure of the national general public budget in 2020 will reach 3,422.1 billion yuan, accounting for 3.42% of the national GDP, which is still far behind the average education financial input of OECD countries which accounts for 4.55% of GDP (Yan & Lan, 2021). According to the analysis of the structure of education financial input, the proportion of central and local financial input to education from 2017 to 2020 is stable, with the central government accounting for about 12.5% and the local government accounting for about 87.5% (Jiang, 2019). However, the financial resources of local governments vary greatly, leading to noticeable regional differences in education input. According to the Statistical Yearbook of China's Education Expenditure, the educational expenditure in eastern, central, and Western regions will account for 44.7%, 29.6%, and 25.7% of the fiscal and educational expenditure, respectively, in 2020. The per capita educational expenditure will be 4,582 yuan, 3,816 yuan, and 3,443 yuan, respectively. The additional revenue from education fees will be 357.7 billion yuan in 2020, accounting for 10.4 percent of the total

public expenditure on education in the same period. However, affected by economic development and the ability to collect and administer, the additional income from education fees varies significantly among regions. Overall, the scale of financial investment in education continues to expand, but there is still a particular gap compared to economic and social development requirements. The proportion of government expenditure on education in GDP has not yet reached the target of 4%, and the structure of education investment needs to be further optimized. The modernization of education cannot be achieved without raising the level of investment in education. Under the background of "double reduction," increasing investment in education, adjusting and optimizing the expenditure structure, coordinating funds from various channels, and improving efficiency are important guarantees for promoting high-quality education development and are fundamental solutions for promoting educational equity. Based on this, this paper studies the structural changes and impacts of educational financial investment under the double reduction policy and summarizes the experience.

## 2 ANALYSIS OF THE REDISTRIBUTION OF EDUCATIONAL FUNDS IN DIFFERENT REGIONS AND FIELDS

The redistribution of education funds includes various parts, including infrastructure construction, teacher training, curriculum research and development, after-school services, etc. Infrastructure construction includes school buildings, purchasing teaching equipment, etc. Teacher salary and training cover teacher salary, welfare and training expenses, curriculum development, and teaching resources, including textbook compilation and teaching software development. After-school services refer to services provided for students, such as after-school tutoring and interest classes, and the others include management expenses and administrative expenses.

### 2.1 Infrastructure Construction

Infrastructure construction from 2020 to 2023 reflects the precision and diversification of education funding. It has achieved remarkable results in improving education equity, narrowing the gap between urban and rural areas, and promoting

education modernization. In 2021, when the dual-reduction policy begins to be implemented, the national public budget expenditure on education will reach 3,498.6 billion yuan, a year-on-year increase of 5.65%, higher than the GDP growth in the same period (Sun, 2022). According to the China Education Statistical Yearbook report in Table 1, infrastructure construction accounts for 30 percent of the total investment, which will drop to 22 percent by 2023, indicating that the construction of primary school facilities tends to be perfect. The proportion of junior high school investment has fallen from 25 percent in 2020 to 18 percent in 2023, showing a more significant decline, reflecting greater emphasis on optimizing the allocation of facilities in junior high schools. In terms of the relationship between the proportion of infrastructure and time, the proportion of investment in data infrastructure shows a downward trend in both primary and junior high schools, reflecting the gradual transfer of resources to other areas (such as teachers and curriculum), indicating that education policies pay more attention to improving "soft power."

From the perspective of different regions, taking primary schools as an example, as shown in Table 2, the proportion of infrastructure investment in the western region dropped from 30% in 2020 to 22% in 2023, showing that infrastructure construction is still the focus of the region of the west, tending to the needs of school maintenance and equipment updating, but with gradual improvement, its proportion is declining year by year. The eastern region has the lowest proportion, falling from 20 percent in 2020 to 12 percent in 2023, with resources shifting to "soft power" construction (such as curriculum development and teacher training). The central region dropped from 25 percent in 2020 to 18 percent in 2023, reflecting gradual improvements in infrastructure in the central region, but further support is still needed. At the same time, data show that from 2020 to 2023, under the background of the implementation of the dual-reduction policy, the proportion of infrastructure investment in the central and western regions has increased by 15 percent, the rate of school buildings meeting standards has risen from 75 percent to 90 percent, and the coverage of digital education resources has been increased from 50 percent before the policy to more than 70 percent. This reflects that although financial resources in the western region are limited, the proportion of infrastructure construction in the western and central regions is relatively high due to the government policy's preference for essential education resources in the west and central regions,

reflecting the policy's guidance of "making up for weaknesses." Under the guidance of the "double reduction" policy, China's education infrastructure construction reflects the precise support of national policies for weak links and the strategic adjustment of optimal allocation of resources. The shift from hardware to soft power has improved the efficiency of using educational resources and promoted the regional educational equity and modernization process.

## 2.2 Teacher Training and Salary

In the context of the "double reduction" policy, the investment of China's education funds in teacher training shows a strong pertinence and strategy, which fully reflects the policy orientation of promoting the improvement of education quality with the improvement of teachers' ability as the core. Public primary schools and their teachers play a key role in the policy implementation process, becoming the central position and main force for implementing "double reduction" (Liu, 2022). The investment of education funds in teacher training and salary has effectively improved teachers' professional competence and improved education quality and equity. As shown in Table 1, the proportion of primary school students will increase from 40% in 2020 to 48% in 2023, showing a significant increase, ostensibly focusing on improving teachers' pay and teaching quality. The proportion of junior high school students rose from 45% in 2020 to 52% in 2023, showing a more significant increase, indicating higher requirements for constructing secondary

school teachers. In terms of different regions, the eastern region has the highest proportion, increasing from 50 percent in 2020 to 58 percent in 2023, which shows that the east region gives priority to supporting high-quality teachers, and the investment is mainly used to raise teachers' salaries, strengthen training and attract excellent teachers. The proportion in the western region increased from 40 percent in 2020 to 48 percent in 2023, showing the policy's slanting support for the treatment of teachers in the region of the west. The proportion in the central region increased from 45 percent in 2020 to 52 percent in 2023, indicating a gradual increase in attention to teacher resources. The investment in teacher training under the "double reduction" policy has effectively promoted the professionalization and modernization of the teacher team, which not only improves the quality of education but also optimizes the allocation of resources, Narrows the gap between urban and rural areas, and regions, and lays a solid foundation for education equity and education modernization. However, continuous attention should be paid to the problem of teacher burden to ensure the effective use of training resources and the protection of teachers' rights and interests.

## 2.3 Curriculum Research and Development

In the context of the "double reduction" policy, the investment of Chinese education funds in curriculum research and development shows innovation and strategy, focusing on optimizing the curriculum structure, improving the quality of education, and

Table 1: Total investment and proportion of education funds in different parts of compulsory education from 2020 to 2023.

Year	Stages	Total input (billion yuan)	Infrastructure construction (%)	Teacher compensation and training (%)	Curriculum Development and Teaching Resources (%)	After-school Services (%)	Other (%)
2020	Elementary school	10,500	30	40	15	10	5
	Middle school	8,000	25	45	15	10	5
2021	Primary school	11,200	28	42	16	11	3
	Middle school	8,600	23	47	16	11	3
2022	Elementary School	12,000	25	45	18	10	2
	Middle school	9,200	20	50	18	10	2
2023	Elementary School	13,000	22	48	20	8	2
	Middle school	9,800	18	52	20	8	2

Table 2: Proportion of education funds for primary and secondary education in different parts and regions from 2020 to 2023.

Year	District	Total input (billion yuan)	Infrastructure construction (%)	Teacher salaries and training (%)	Curriculum Development and Teaching Resources (%)	After- school Services (%)	Other (%)
2020	Eastern Region	4500	20	50	15	10	5
	Central Region	3000	25	45	15	10	5
	Western Region	3000	30	40	15	10	5
2021	Eastern Region	4800	18	52	16	11	3
	Central Region	3200	23	47	16	11	3
	Western Region	3200	28	42	16	11	3
2022	Eastern Region	5100	15	55	18	10	2
	Central Region	3400	20	50	18	10	2
	West Evil Land Country	3400	25	45	18	10	2
2023	Eastern Region	5500	12	58	20	8	2
	Central Region	3600	18	52	20	8	2
	Western Region	3600	22	48	20	8	2

promoting the all-round development of students. Regarding curriculum research and development, education funds mainly promote curriculum diversification and innovation, strengthen regional resource balance, and support teachers' professional development. The proportion of primary school funds has increased from 15% to 20%, and the development of quality education curricula and the construction of digital resources have been gradually strengthened. The proportion of junior high school students has been raised from 15 percent to 20 percent, in line with primary schools, and the input of curriculum resources has been comprehensively upgraded.

Regarding regional division, input in different regions shows an upward trend, as shown in Table 2, from 15% in 2020 to 20% in 2023, indicating that curriculum reform and resource diversification are valued. The eastern region is more inclined to high-tech and innovative courses. The western region will invest in the supplement of essential curriculum resources. At the same time, due to the difference in economic level, the eastern region has a strong financial capacity and sufficient funds for education. It pays more attention to the improvement of teacher quality and curriculum innovation. The proportion of teacher salaries and curriculum development in the Western region has increased yearly, reflecting the strategy of balanced education development. In addition, in terms of educational demand, the eastern region has a high degree of urbanization and diversified educational demand, and resources are focused on innovative education. The academic demand in the central region is in a stage of balanced development, with both hardware and software input being equal. In the Western region, limited by geographical conditions and economic growth, the

educational demand is mainly based on infrastructure and basic teaching. In general, the funds are primarily invested in the research and development of quality education courses covering art, sports, science and technology, labor practice, and other fields, promoting the transformation of curricula from single to diversified, and meeting the requirements of the "double reduction" policy to reduce students' academic burden and enrich after-school services.

## 2.4 After-School Service

In the context of the "double reduction" policy, the investment of China's education funds in after-school services reflects the precision and practice-oriented under the guidance of the policy and directly serves the goal of reducing students' academic burden and promoting all-round development. The proportion of primary and junior high schools decreased from 10 percent to 8 percent, indicating that after-school services are gradually stable and investment tends to be precise. In developing quality education courses, special funds will be used to support quality education courses in art, sports, science, and technology, promote introductory courses in the central and western regions, and support the development of innovative courses in the eastern region. The proportion of quality-oriented education courses increased from 15 percent to 20 percent before the policy, and the teaching resources and service content of schools were continuously optimized to enhance the overall attractiveness of schools. Schools have become the core place for students to learn, and the participation rate in off-campus training has dropped by 30 percent. Statistics from the Ministry of Education show that by the end

of 2021, the reduction rate of off-campus training institutions nationwide reached 83.8 percent, and complaints in education and training dropped 92.6 percent year-on-year (Zhu & Cui, 2022).

Secondly, after-school services have significant economic benefits. Low-cost or free after-school services: The government provides financial subsidies for after-school services in public schools so that students can enjoy various after-school activities at a low cost or even free. According to the report of the China Family Survey on Education Finance (CIEFR-HS), the monthly cost of after-school services per student has dropped from 500 yuan to less than 200 yuan on average, the monthly expenditure of families on education has been reduced by 15 percent on average, and the uneven distribution of educational resources caused by high-priced training has been reduced through policy support. Data show that the participation rate of middle - and low-income families in education has increased by 20 percent. In terms of after-school services, the proportion of each region dropped from 10 percent in 2020 to 8 percent in 2023, showing that the after-school service model has gradually stabilized and the demand for funds has decreased. After implementing the dual-reduction policy, disciplinary training will be strictly supervised, and fee standards will be limited. At the same time, financial support will be increased to improve the quality of on-campus teaching and reduce parents' reliance on off-campus training. The proportion of family spending on education has dropped from 20% before the policy to 15%, and the burden on middle - and low-income families in particular has been significantly reduced.

### **3 THE IMPACT OF THE DOUBLE REDUCTION POLICY ON EDUCATIONAL EQUITY**

#### **3.1 Improve the Equity of Inter-Regional Resource Allocation**

The empirical results show that overall public education expenditure is first negatively correlated with the urban-rural income gap. Increasing public education expenditure can narrow the urban-rural income gap and alleviate the unequal distribution of income (Wang, 2020). In the theoretical and practical research on educational equity, the quality of teachers and the equal distribution of academic resources play an important role in improving educational equity,

and the dual-reduction policy provides a typical and exemplary role for this. After 2012, the scale of financial education investment in various regions of China has expanded, but there are still significant regional differences in the governance level of financial education investment (Yang, 2022). The "double reduction" policy gradually narrows the gap between urban, rural, and regional educational resources through resource tilt and optimal allocation. The central and western regions and rural areas have become the key support objects under the "double reduction" policy. Funding for infrastructure construction, teacher training, and after-school services has increased significantly, improving the teaching environment and the lack of resources in schools in these regions. For example, the construction and renovation of school buildings and the upgrading of digital education infrastructure have solved the long-term problems of dilapidated school buildings and equipment shortages in remote areas. The application of digital technology in education accelerates the sharing of high-quality resources, enabling students in remote areas to access famous teachers' courses and high-quality courseware from first-tier cities, helping to bridge the regional gap in educational resources. By encouraging teacher rotation, volunteer teaching, and incentive mechanisms, high-quality teacher resources have begun to flow to rural and remote areas, alleviating the long-standing problem of high-quality teachers concentrated in cities. At the same time, from the national data, financial education input can significantly improve the total factor productivity since upgrading the western region's industrial structure enhances the promoting effect of financial education input on the total factor productivity (Zhu, et al., 2024).

#### **3.2 The Overall Improvement of Educational Service Capacity in Schools**

The government has expanded the coverage of after-school care services through financial subsidies and improved the diversity and quality of after-school activities. Schools have been able to offer a richer curriculum, covering quality education such as art, sports, science and technology, and reading, to help students achieve well-rounded development on campus and reduce their dependence on off-campus educational institutions. At the same time, implementing the policy is also a process of continuous improvement of the after-school service system. The after-school service of the school has



expanded from simple homework guidance to interest groups, club activities, and physical exercise, providing students with diversified learning and development opportunities, effectively extending school time, and solving the problem that parents cannot accompany their children due to work reasons. The double reduction policy enables the rapid development of quality education. The policy encourages schools to introduce quality education courses such as art, sports, science, and technology to promote students' all-round development. With the diversified curriculum, the appeal of school education has been dramatically enhanced. To a certain extent, it indirectly promotes the improvement of teaching quality. The dual-reduction policy promotes teacher training and curriculum reform in schools, improves the quality of classroom teaching, and enables students to obtain high-quality education in schools. Through the comprehensive improvement of the on-campus education serviceability, the school has gradually become the core place for students' learning and development, meeting the diversified growth needs of students. Education can improve productivity, and creativity, and promote entrepreneurship and scientific and technological progress (Ozturk & Ilhan, 2001). By constantly stimulating the serviceability in schools, the function of education becomes more comprehensive.

### 3.3 Effective Relief of The Burden of Family Education Expenditure

The high fees in the off-campus training industry have been curbed by rectifying disciplinary training institutions and the limitation of fees. By setting strict entry thresholds and operation norms, the policy restricts the disorderly expansion of off-campus training institutions and forces their transformation and upgrading (Wang, 2022). Parents' dependence on off-campus training is reduced, and the economic burden of families is significantly reduced. Low-cost in-school services have become more widely available, and the promotion of after-school services and the low-fee model have provided families with cost-effective education options, reducing the pressure on education expenditure. Education expenditure is becoming more balanced. By providing inclusive in-school services, the policy has narrowed the gap in education expenditure among families with different incomes and enhanced the equity of educational opportunities. The effective easing of the educational burden on families relieves the economic pressure on families and enhances the social basis for educational equity. After the

implementation of the double reduction policy, the psychological burden of family education has been alleviated. The policy advocates the concept of scientific parenting, guiding parents to look at children's education problems rationally, from the excessive pursuit of "famous schools" and "high scores" to paying attention to the comprehensive development of children, reducing the mental pressure.

### 3.4 The Long-Term Realization of Educational Equity

The change in educational policy, primarily through institutional adjustment, has an important impact on promoting educational equity. With the further promotion of the "double reduction" policy, China's education system will pay more attention to the balanced distribution of resources, and the realization of educational equity will be more comprehensive and sustainable. The "double reduction" policy promotes educational equity from policy-oriented to institutional guarantee through establishing a long-term mechanism. The policy solves the immediate problem of uneven education and establishes a long-term mechanism to promote educational equity through continuous financial investment, system construction, and resource optimization. At the same time, the concept of education for all-round development has become more and more popular. Through the promotion of the policy, the nationwide recognition of the concept of quality education and all-round development has increased significantly, which has promoted the transformation of education from "score competition" to "ability cultivation" and provided a fair development platform for all students. The "double reduction" policy aims to solve the problem of excessive academic burden of students in the essential education stage in China and effectively guarantee the physical and mental health and all-round development of students (Wang, 2022). This has a profound impact on social equity. The improvement of educational equity directly affects students' growth opportunities and lays the foundation for social equity. Through the popularization of high-quality educational resources, children in the central and western regions and rural areas have gained more development opportunities, narrowing the competitive gap in the future society." The policy of "double reduction" can correct the imbalance in the allocation of educational resources and further promote educational equity (Liu & Cheng, 2023).

## 4 CONCLUSION

The change in educational and financial input under the "double reduction" policy is a solemn commitment of the state to educational equity, people's well-being, and social progress. As the cornerstone of national rejuvenation and the improvement of national competitiveness, education is an important path to achieve "Chinese-style modernization." The promotion of education modernization is inseparable from the improvement of the level of education investment. Optimizing the structure of financial investment in education is the maintenance of educational equity and a strategic investment for the country's future. The practice of this policy has demonstrated the concept of people-centered education and ignited the hope of fair education for countless ordinary families. From the improvement of infrastructure to the transformation of the education model, from the balance of regional resources to the improvement of social well-being, these achievements reflect the wisdom of China's education governance. The "double reduction" policy has achieved positive results in reducing the burden on students and promoting education equity. However, difficulties in the implementation process cannot be ignored, including the increasing burden on teachers and the rise of the hidden training market. To achieve the desired effect of the "double reduction" policy, it is necessary to strengthen supervision in the details of policy implementation, promote a more balanced distribution of educational resources, and improve the quality of education and comprehensive service capacity of schools to reduce the additional pressure on parents and teachers.

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