

A Study on The Fairness of Educational Finance of Middle Schools Affiliated To "Double First-Class" Universities

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Abstract. Nowadays, educational equity is regarded as an important cornerstone of social equity, and educational financial equity is the key guarantee for achieving educational equity. With the continuous optimization of educational resources, key middle schools, especially those affiliated with Double First-Class universities, have become an important area of educational financial investment due to their unique resource advantages and policy inclinations. This study takes the Affiliated Middle School of Fudan University and the Affiliated Middle School of Southwest University as typical cases. It combines the comparative analysis of regional ordinary key middle schools to explore their financial sources, expenditure structure, and the mechanism of their role in educational equity. The study found that: first, there are regional differences in the "affiliation" of affiliated middle schools; second, the implicit resource allocation has aggravated the inter-school differentiation; third, the "nominal" trend of university support has emerged, and some affiliated middle schools rely on public financial grants, and the input of university resources is limited. Based on this, this paper puts forward policy recommendations from three aspects: first, strengthen the regional radiation function of affiliated middle schools and promote the co-construction and sharing of inter-school resources; second, improve the differentiated fiscal investment mechanism and enhance the adequacy of educational finance in underdeveloped areas; third, establish a dynamic evaluation system to guide the transformation of implicit resource allocation to balance.

Keywords: Education finance; education equity; key middle schools; affiliated middle schools.

1. Introduction

Educational equity is an important cornerstone of equity in modern society, and educational financial equity is the core guarantee for achieving this goal. Since the Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020) proposed "promoting educational equity and rationally allocating educational resources" [1]. China's basic education reform has always regarded balanced development as the core task. However, in practice, some key middle schools have gradually become the focus of educational financial investment due to their unique policy support and resource advantages, which has also triggered widespread controversy over the fairness of resource allocation [2].

The key middle school system originated in the early days of the founding of the People's Republic of China. At that time, to rapidly improve the country's education level and cultivate high-quality talents, the country began to plan and concentrate resources to build a number of key middle schools. After the reform and opening up, with the gradual reform of the education system, the policy of key middle schools has been constantly adjusted. In 1985, the "Decision of the Central Committee of the Communist Party of China on the Reform of the Education System" clearly proposed to gradually abolish the key middle school system and promote the balanced development of compulsory education [3]. However, due to historical reasons and the limited educational resources, some key middle schools continue to maintain their dominant position in terms of education quality and social recognition.

In 2015, the CPC Central Committee and the State Council issued the "Overall Plan for Coordinating the Construction of World-Class Universities and First-Class Disciplines", marking the official launch of the "Double First-Class" construction [4]. This policy aims to improve the overall level and international competitiveness of China's higher education by focusing on supporting several universities and disciplines. In this context, some key middle schools have become a special existence

in secondary education due to their status as affiliated middle schools of "Double First-Class" universities [5]. Existing research by domestic and foreign scholars has provided a solid theoretical and empirical basis for the fairness of education finance. Most of the research focuses on the fairness issues of ordinary key middle schools and regions or the uniqueness of "Double First-Class" universities, but not enough attention has been paid to special key middle schools [6-7].

Against this background, this study takes the "Double First-Class" university-affiliated middle schools as the starting point to explore the fairness of education finance from the perspective of key middle schools, which has both theoretical and practical significance. In theory, this study can supplement the gap in the existing literature in the field of "special key middle schools" by analyzing the financial structure of university affiliated middle schools and their impact on educational equity; In practice, around the policy of "promoting inter-school resource co-construction and sharing", the research results can provide policy references for optimizing the fiscal allocation mechanism and curbing the excessive concentration of resources, and help achieve the goal of "fair and quality education".

2. Case Analysis

2.1. Research Subjects

This study focuses on the affiliated middle schools of "Double First-Class" universities, with Fudan University Affiliated Middle School (Shanghai) and Southwest University Affiliated Middle School (Chongqing) as the core cases. These two schools not only have significant advantages in education quality and reputation, but also as affiliated middle schools of "Double First-Class" universities, they are typical and representative in policy orientation and resource allocation. Fudan University Affiliated Middle School benefits from the high-quality educational resources and policy support of universities, and its education quality and scientific research capabilities have an important influence nationwide. Southwest University Affiliated Middle School represents the development status of "Double First-Class" university-affiliated middle schools in the central and western regions, and has unique regional characteristics and policy backgrounds in terms of education resource allocation and education equity.

At the same time, for comparative analysis, this study selected ordinary public middle schools in the same province or city as the control group, which are similar in size and development level to the case schools. Through comparison, the differences between the middle schools affiliated with "Double First-Class" universities and the middle schools affiliated with "Double First-Class" universities can be reflected. Through comparative analysis, the special status and role of middle schools affiliated with "Double First-Class" universities in the fairness of education finance can be more clearly revealed.

2.2. Difference Analysis

2.2.1 Regional differences

Education finance is an important guarantee for educational development. This article provides a basic perspective for the development of education finance for affiliated middle schools by analyzing the education finance investment of the two cities. Based on the comparative analysis of the overall high school education-related indicators in Chongqing and Shanghai in 2023 and the education funding in 2022, it is found that there are significant differences in high school finance between the two places.

From the perspective of the total amount and structure of financial investment in education, the total amount of education funding in Chongqing in 2022 is 13.147 billion yuan, of which the national fiscal education funding accounts for 10.590-billion-yuan, social donations for education funding are 111-million-yuan, business income is 2.129 billion yuan, and tuition and miscellaneous fees are 1.687 billion yuan. The total amount of education funding in Shanghai is 16.917 billion yuan, of which the

national fiscal education funding is 13.920-billion-yuan, social donations are 0.95-billion-yuan, business income is 2.654 billion yuan, and tuition and miscellaneous fees are 2.223 billion yuan. Although the total amount of education funding and the absolute value of fiscal funding in Shanghai are higher than those in Chongqing, the proportion of education funding in Chongqing to GDP has reached 4.2%, higher than Shanghai's 3.5%. This shows that Chongqing, with limited economic volume, pays more attention to ensuring education investment through fiscal means, reflecting the policy orientation towards the goals of fairness and universal access to basic education.

In terms of the efficiency of educational resource allocation, the student-teacher ratio in high schools in Chongqing is 0.07, while that in Shanghai is 0.02, which means that each teacher in Shanghai guides fewer students on average, and teachers can give students more attention and personalized guidance, reflecting Shanghai's advantage in the balanced allocation of educational resources. At the same time, the proportion of project expenditure in Shanghai is significantly higher than that in Chongqing, indicating that its financial resources are more inclined to invest in special projects such as educational innovation, curriculum development and teaching reform in addition to basic guarantees, and the efficiency and structural optimization of educational finance are higher. Chongqing and Shanghai have different regional development strategies in terms of fiscal investment and resource allocation for high school education. Chongqing pays more attention to fiscal investment to ensure the breadth of education coverage and basic balance, while Shanghai focuses on improving education quality and characteristic development by optimizing resource allocation and improving fiscal efficiency. This difference reflects not only the differences in economic development levels and fiscal capacity between the two places, but also the differences in their respective education governance concepts and policy orientations.

2.2.2 Differences like schools

Based on the comparison of the 2023 and 2024 financial final accounts and development status of the Affiliated High School of Southwest University and Chongqing Yucai High School, and the Affiliated High School of Fudan University and Shanghai High School, this article finds that there are significant differences in the financial revenue structure, expenditure structure and development goals between the affiliated high schools of "Double First-Class" universities and non-affiliated key high schools.

First, the structure of fiscal revenue varies significantly. Affiliated middle schools generally rely on government financial grants. For example, the proportion of government grants to the Affiliated Middle School of Southwest University in 2024 exceeded 99%, and the proportion of Fudan Affiliated Middle School in 2023 was 92.33%. The income sources of ordinary key middle schools are more diversified, especially Shanghai Middle School, where fiscal grants account for only 22.8% and other income accounts for 75.7%, reflecting its strong ability in market-based fundraising and social donations.

Secondly, there are obvious differences in expenditure structure. The proportion of project expenditure of affiliated middle schools is generally high. For example, the project expenditure of Xida High School accounts for 52.4% of the education expenditure, and that of Fudan High School is 40.4%. These special funds are mostly invested in curriculum development, scientific research cooperation, and teacher training, serving the innovative functions of affiliated universities. Relatively speaking, the project expenditure of Chongqing Yucai Middle School accounts for only 4.8%, and basic expenditure is as high as 95.2%, which is mainly used to guarantee daily teaching and teacher salaries. Shanghai High School supports large-scale project expenditures through diversified funds, accounting for 84.5% of total expenditures, highlighting the training of top innovative talents and international projects.

Thirdly, the development goals are different. Affiliated middle schools rely on the "Double First-Class" construction and focus on quality and innovative development. For example, Xida Affiliated Middle School focuses on special investment to improve the quality of education, while Chongqing Yucai Middle School is more inclined to compulsory education guarantee and infrastructure construction. Although Fudan Affiliated Middle School is nominally affiliated with a university, the

university's resource investment is limited, and the focus of development has gradually shifted to basic teaching guarantees. Shanghai Middle School relies on diversified income to strengthen elite education and curriculum characteristics, reflecting the "efficiency first" orientation.

In addition, the "subordinate nature" of affiliated middle schools shows regional differences. Chongqing Xida High School has obvious advantages in relying on university resources, while Shanghai Fudan High School has weakened the support of universities, its subordinate nature tends to be nominal, and its financial structure is getting closer to that of ordinary key middle schools.

In summary, the nature of the school affects the school's financial sources, expenditure purposes, and development direction. Affiliated middle schools rely on policies and university resources, have a high degree of financial dependence, and special funds account for a large proportion, focusing on innovation and characteristic construction; ordinary key middle schools have diversified resources, are dominated by basic expenditures, and their development focuses more on universal benefits and balance. This difference reflects the complex manifestation of different school attributes in the issue of educational financial fairness.

3. Research Findings

3.1. Differences and Problems in Financial Investment in Affiliated Middle Schools

Affiliated middle schools in different regions show significant differences in financial investment and functional positioning, reflecting the regional weakening trend of their "affiliation". In Chongqing, the project expenditure of affiliated middle schools of "Double First-Class" universities is significantly higher than that of non-affiliated key middle schools, relying on policy inclinations to concentrate development resources; while in Shanghai, the proportion of project expenditure of non-affiliated key middle schools is far higher than that of affiliated middle schools, indicating that the connection between some affiliated middle schools and universities is gradually weakening, and resource allocation is more inclined to the independent development logic of ordinary key middle schools. Although Shanghai High School is not an affiliated middle school of a university, Fudan University and Shanghai High School have jointly promoted the "Fudan University-Shanghai High School Academic Interest and Literacy Cultivation Mentorship Program" from 2014 to the present, forming a substantive cooperative relationship.

At the same time, there are significant differences in the level of university support for different affiliated middle schools. For example, Chongqing Xida High School still retains certain synergy advantages and relies on the resources of Southwest University for development; while the university support funds for Shanghai Fudan High School account for a very low proportion of total income, and its development mainly relies on government grants, showing a trend of nominalization and functional transformation of the "affiliated" relationship. The fiscal input structure also reflects the differences in resource integration capabilities between regions: middle schools in both places generally rely on public financial grants, but non-affiliated middle schools in Shanghai have stronger diversified income capabilities to support high project expenditures, while non-affiliated middle schools in Chongqing are limited by a single financial source and have weak project expenditure capabilities, which may further widen the resource gap between schools.

In addition, although the per capita funding gap between high schools in the two places is not large, the implicit resource allocation mechanism shows a tendency towards centralization, such as Chongqing Xida High School attracting high-quality teachers through cooperation with universities, and Shanghai High School strengthening elite education through market-oriented mechanisms. These trends may exacerbate the differentiation of education quality and weaken the realization of educational equity goals.

3.2. Cause Analysis

According to the above arguments, the differences in financial structure and development direction between affiliated middle schools and ordinary key middle schools in Chongqing and Shanghai are mainly affected by the following reasons.

First, regional economic and financial capacity differences affect the development strategy of middle schools. Chongqing West University Affiliated High School relies on the dual resource guarantees of the government and universities, and funds are concentrated on improving the quality of education, showing the characteristics of "centralized quality improvement". Non-affiliated key middle schools in Shanghai rely on strong economic foundations and mature market mechanisms to obtain a large amount of funds through social donations, project cooperation, etc. For example, Shanghai Middle School's project expenditure is as high as 84.5%, reflecting the "autonomous quality improvement" path. The trend of weakening the affiliated functions of universities also manifests itself differently in different regions. Chongqing West University Affiliated High School has close cooperation with universities and significant resource sharing, while Fudan Affiliated High School has increasingly weakened ties with universities, and its fiscal revenue relies on government appropriations, and the proportion of special funds for universities is extremely low.

Secondly, the policy positioning of affiliated middle schools and non-affiliated middle schools is different. Affiliated middle schools rely on "Double First-Class" universities, undertake curriculum reform, teacher training, and the delivery of top innovative talents, and receive more policy support and special funding support, especially reflected in the high proportion of project expenditures, such as 52.4% for the Affiliated Middle School of Southwest University. Ordinary key middle schools emphasize basic teaching and compulsory education guarantees. The project expenditure of Yucai Middle School is only 4.8%, indicating that its financial focus is on basic expenditures such as daily teaching and faculty salaries.

4. Policy Recommendations

4.1. Strengthen Policy Guidance and Optimize the Resource Allocation Mechanism of Affiliated Middle Schools

4.1.1 Clarify the educational positioning and functions of the affiliated middle school

Given the particularity of the affiliated middle schools of "Double First-Class" universities, their educational positioning should be re-examined. On the one hand, the affiliated middle schools should continue to play their advantages in educational innovation, curriculum development, and teacher training; on the other hand, they should strengthen their radiation and driving role in the quality improvement of regional education to avoid excessive concentration of resources in a single school. For example, part of the project funds of the affiliated middle schools can be used for co-construction and sharing with other schools in the region to promote the overall improvement of regional education.

4.1.2 Adjusting the logic of fiscal resource allocation

The government should strengthen the overall planning of the financial resources of affiliated middle schools to avoid relying solely on the input of university resources or policy bias. It is recommended to set up a special fund to support the collaborative development projects between affiliated middle schools and other schools in the region, such as teacher exchanges and curriculum resource sharing [8]. At the same time, supervision of the expenditure of affiliated middle school projects should be strengthened to ensure that the funds flow in a direction that is truly conducive to educational equity.

4.2. Improve the Financial Investment Mechanism and Promote Balanced Development of Regional Education

4.2.1 Enhance the fairness and flexibility of fiscal investment

In terms of fiscal allocation, the per capita funding standard should be further improved to ensure horizontal fairness in the allocation of educational resources. At the same time, differentiated fiscal subsidy policies should be implemented according to the economic development level and educational resource status of different regions. For example, affiliated middle schools in economically underdeveloped areas should receive more special transfer payments to make up for their shortcomings in infrastructure and teaching staff construction.

4.2.2 Encourage diversified sources of education fiscal revenue

Given the problem of some schools having a single source of finance, the government should encourage schools to expand their income channels through legal and compliant means. For example, support schools to carry out educational service outsourcing, social donation projects, and educational innovation projects in cooperation with enterprises. At the same time, the government should guide social forces to participate in education investment through tax incentives and incentive policies, alleviate financial pressure, and improve the allocation efficiency of educational resources.

4.3. Establish a Dynamic Fiscal Assessment and Adjustment Mechanism

Financial investment in education should be adjusted dynamically according to changes in social and economic development and the evolution of educational needs. It is recommended to establish a regular financial evaluation mechanism to conduct a comprehensive evaluation of the financial efficiency of affiliated middle schools and other key middle schools, the effect of improving education quality, and the regional radiation effect. According to the evaluation results, the direction and intensity of financial investment should be adjusted promptly to ensure the rational allocation and effective use of educational resources.

5. Conclusion

This study takes the affiliated middle schools of "Double First-Class" universities as an example to explore the issue of educational finance fairness from the perspective of key middle schools. By comparing the financial data and development goals of Fudan University Affiliated Middle School, Southwest University Affiliated Middle School and key middle schools in the same region, it is found that affiliated middle schools rely on policies and university resources, have a high degree of dependence on fiscal appropriations, a large proportion of project expenditures, and focus on educational innovation and characteristic development; while ordinary key middle schools are mainly based on basic expenditures to ensure the needs of inclusive education. The economic development level and fiscal capacity of different regions affect the differences in educational finance distribution among schools. The regional weakening trend of the "affiliation" of affiliated middle schools is obvious, and the supporting role of some universities has become nominal. Based on this, it is proposed to optimize the resource allocation of affiliated middle schools, improve the fiscal investment mechanism and dynamic evaluation system, and promote the high-quality and balanced development of regional education.

References

- [1] National Medium and Long-term Education Reform and Development Plan (2010-2020). Laboratory Research and Exploration, 2018, (6): 273.
- [2] Tian H, Wang D, Jiang J. The institutional logic of the evolution of the "super high school" phenomenon: taking Hengshui High School, Maotanchang High School, and Huanggang High School as examples. Education and Economy, 2016, (5): 3-11.

- [3] Fan G. Educational system reform and educational ecological vitality: commemorating the 30th anniversary of the promulgation of the " Decision of the CPC Central Committee on Educational System Reform". *Educational Development Research*, 2015, 35(19): 1-6.
- [4] Notice of the State Council on Issuing the Overall Plan for Coordinating and Promoting the Construction of World-Class Universities and First-Class Disciplines. *Gazette of the State Council of the People's Republic of China*, 2015, (32): 110-114.
- [5] Han S, Qiang Z, and Jing X. Understanding Chinese universities' strategic responses to the 'Double First-class' initiative and the potential outcome on higher education diversity: an exploratory study. *Studies in Higher Education*, 2023, 1624-1638.
- [6] Hu Y, Zhou W. Sufficiency and fairness: An empirical study on the fiscal investment in compulsory education in my country under the orientation of quality and balance. *Education and Economy*, 2024, 40(3): 69-78, 87.
- [7] Xing L, Wu X, Zhang W. A new DEA model and its application in performance evaluation of scientific research activities in the universities of China's Double First-Class initiative. *Socio-Economic Planning Sciences*, 2024, 101839.
- [8] Feng Z. Exploring the path of educating students in ordinary high schools from the perspective of cooperation between universities and middle schools: Taking the " Fudan-Shanghai High School Mentoring Program" as an example. *Educational Development Research*, 2021, 41 (8): 34-40.