Research on the Equity of Higher Education in China from the Perspective of Public Finance

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Abstract. Equity in higher education is an important content of social equity, as well as an extension of social equity in the field of higher education and a crucial approach to achieving social equity. Ensuring fairness in higher education is not only necessary for adhering to the scientific development concept and implementing the people-oriented governance concept, but also a momentous cornerstone for building a socialist harmonious society. This article introduces the background and significance of the issue of fairness in higher education. Through its manifestations, empirical analysis is used to analyze the basic theories of public finance. Then based on the analysis of the total amount, structure, and allocation methods of financial investment in higher education, important factors affecting equity in higher education are explored, in order to address the existing phenomenon of education inequality in China, afterwards propose policy recommendations to promote educational equity from the perspective of public finance.

Keywords: Equity of higher education, public finance.

1. Background

1.1. Concept of Educational Equity

With the promulgation of the “Education Development Outline”, China has clarified the education work policy of “priority development, education people-oriented, reform and innovation, promotion of fairness and improvement of quality”, and the establishment of this policy has pushed the research of “educational equity” to a new height. The development of higher education has always been one of the priorities of government financial support, and “educational equity” has always been the soul of higher education financial support policies.

1.2. Necessity and Value of Public Finance

As the scale of higher education continues to expand, the number of students enrolled has increased significantly, and the demand for education funding has also increased. Relative to the demand for education, educational resources are always scarce, education funds in the field of public finance are always in short supply while the quality of education cannot be deteriorated. To solve this problem, it is necessary to strengthen the planning and management of this part of the funds, increase income and reduce expenditure, and improve its utilization efficiency, which is precisely the proper intention of higher education finance. Therefore, the public finance of higher education has a very important significance and role in the development of higher education, and the problems of unfairness in its investment and uneven allocation of university resources are prominent.

2. Higher Education Equity: Current Status in China

Since the implementation of the educational reform, the development of China's higher education has made remarkable achievements. At a press conference of the Ministry of Education on September 27, 2022, Liu Changya, director of the Development Planning Department of the Ministry of Education, said, the proportion of national financial investment in education to GDP has remained above 4% for ten consecutive years, and education has become the largest expenditure of the general public budget. Although the contradiction between the demand for higher education and the insufficient supply has been alleviated to a certain extent, there are still many problems in the fairness of higher education in China, mainly the imbalance of public financial investment in higher education.

2.1. Diverse University Funding: Discrepancies Among Institutions and Fields

In the case of insufficient total financial funds, there are also great differences between the state and local investment in institutions of higher learning at different levels. As we all know, the universities under the Ministry and the key construction of the “211 Project” and “985 Project” can get the key support of the state finance, while many colleges and universities that rely on local financial investment, especially vocational colleges, can rarely get the support of the state finance, and private universities can hardly enjoy the financial support of the state and local governments, so there will be a Matthew effect. Due to the unfairness of financial investment, China's higher education system is unreasonable, so that educational resources cannot reach the Pareto optimal, thus ultimately undermining the equal right of every citizen to education.

2.2. Regional Disparity in University Resource Allocation

According to authoritative data released on the official website of the Ministry of Education: from the total number of colleges and universities, it will increase from about 2,500 in 2013 to more than 3,000 in 2022, an increase rate of more than 20%; Although the number of higher education institutions in China has increased significantly, the distribution of colleges and universities has been uneven.

Therefore, the existence of inequities in higher education is objective, and the existence of these inequities is not conducive to the fairness of higher education and the construction of a harmonious society, so it is indispensable to analyze the factors that lead to inequality in higher education from a fiscal perspective, so as to seek a good solution to it.

3. Public Finance for Educational Equity

3.1. Basic theories of public finance

The so-called public finance refers to the distribution activities or economic activities in which the state and the government concentrate a part of social resources for providing public goods and services to the market and meeting the public needs of society. It mainly focuses on meeting the public needs of society and making up for the shortcomings of "market failure".

3.2. The Role of Public Finance in Educational Equity

We know that the core of public finance is to use financial funds to provide public goods or public services. Judging from the nature of education as a product or service, education actually has the characteristics of both private products and public products, and it exists as quasi-public goods. On the one hand, education has positive externalities, and the whole society can benefit from a higher level of education; On the other hand, educational resources are limited. Education is competitive. If an individual receives a good education, he and his family can directly benefit from it, and its effectiveness is exclusive.

As a quasi-public goods, education belongs to social welfare undertakings. Education improves social and economic development by improving the quality of workers and brings social and economic benefits, that is, the positive externalities of income. Therefore, the allocation of education resources should be dominated by public finance, and the provision of funds should be included in the fiscal budget, which means that public finance is the main provider of education, quasi-public goods. Hence, we hope to explore the means to promote educational equity from the perspective of public finance.

4. Key Factors in Higher Education Inequity: A Fiscal Perspective

4.1. Analysis of the total financial investment in higher education

In terms of the total amount, in recent years, China's education at all levels has developed rapidly, and the education funds have also increased rapidly. As far as higher education is concerned, with the great attention of our government, the funds for higher education have also increased substantially through the formulation and implementation of a series of relevant policies and measures.

Table 1. Total Investment and Public Financial Input in Higher Education in China (2010-2020), with Growth Rates

Year	Total Investment (100 million yuan)	Growth Rate (%)	Public Financial Input (100 million yuan)	Growth Rate (%)
2010	5,629	17.69	2,965.32	27.41
2011	7,020.87	24.72	4,096.33	38.14
2012	8,011.91	11.12	4,866.63	18.8
2013	3,178.61	4.83	4,933.40	1.37
2014	6,936.66	6.3	5,263.21	6.68
2015	5,518.18	9.48	5,930.00	11.86
2016	11,246.44	6.37	6,287.85	6.03
2017	10,947.00	7.74	6,899.07	9.72
2018	12,013	8.15	5,455.98	9.37
2019	13,464	11.99	5,517.16	12.87
2020	13,999	3.99	\	\

Table 1 shows that although the financial investment in higher education in China fluctuates slightly, the total investment is on the rise. From 2010 to 2020, the total investment in higher education in China increased by 14.23% annually, with the highest value of 24.72% in 2011 and the lowest value of 3.99% in 2020. The financial investment in higher education increased by 10.22% annually on average, with the highest value of 38.14% in 2011 and the lowest value of 1.37% in 2013. By 2019, the amount of funds for higher education in China reached 1,346.4 billion yuan, and the financial investment in higher education reached 851.716 billion yuan; In 2020, the amount of higher education funds reached 1,399.9 billion yuan, and the total investment in higher education increased by 3.99%. The sustained growth shows that China is paying more and more attention to the planning and development of higher education. It also reflects that higher education plays an increasingly important role in the national development strategy and its contribution to the economy and society is becoming more and more prominent.

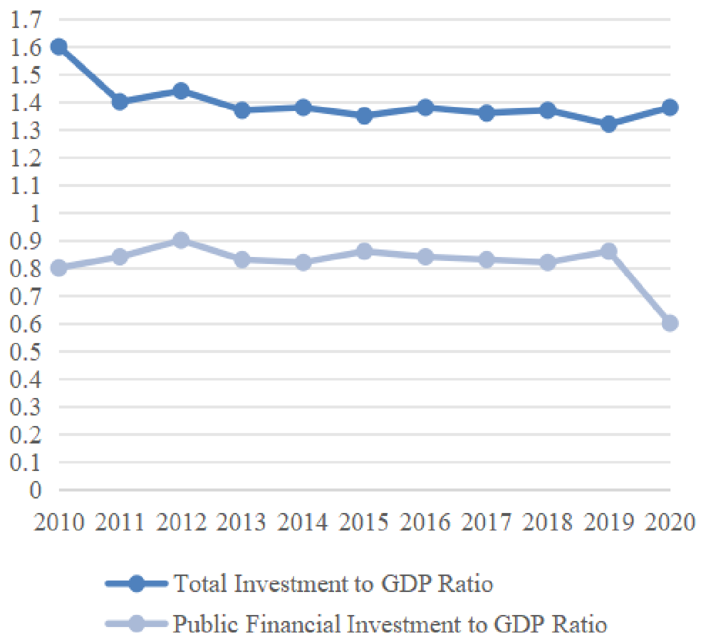

Figure 1. Trends in Investment and Public Spending as a Percentage of GDP

As can be seen from the figure, the proportion of China's total investment in higher education in GDP showed an upward trend in 2010-2012, and reached the highest value in recent years in 2012, and then it fluctuated as a whole, but it did not exceed 1.45%, and reached the lowest value in recent years in 2018. At the same time, we can see that the changing trend of the ratio of total fiscal input to GDP in China is similar to that of total fiscal input to GDP. This shows that in China, the amount of financial investment in higher education affects the total amount of investment in higher education. At the same time, compared with the rapid economic development in China, the financial investment in higher education is the most important investment in China, and its growth in recent years is unstable. Relevant research points out that after counting the total investment in higher education in the world, the overall average of WEI countries is about 1.3% and that of OECD countries is about 1.4%; after counting the financial investment in higher education, the average of WEI countries is about 0.8% and that of OECD countries is about 1.1%. Compared with this data, China's investment in higher education is still insufficient compared with that of developed countries, especially in financial investment in higher education.

4.2. Structural analysis of financial investment in higher education

The investment structure of higher education refers to the proportion of funds invested by the state, society and individuals in the total investment of higher education, which is the key to coordinate the relationship between responsibility and rights and raise funds for the development of higher education. The theory of educational cost sharing holds that higher education, as a mixed product, can benefit the country, society and individuals, and each part should bear its own educational cost according to the proportion of benefits. Therefore, the state, the society and the educated individuals should jointly participate in the investment in higher education, give full play to their own abilities, and jointly promote the sustainable development of higher education.

According to the data feedback in the table, it can be seen that while attaching importance to government investment, China is gradually strengthening the participation of non-financial higher education investment. The diversified investment pattern in which the state, society and individuals participate is gradually taking shape, which not only ensures the rapid growth of the total investment in higher education in China, but also effectively alleviates the contradiction between supply and demand of higher education and provides a strong economic guarantee for the development of higher education. Nowadays, the diversification of investment structure in higher education has become the general trend. Every country is actively exploring the investment mode of higher education in line with the national conditions, and seeking its own new development advantages in the fierce international competition.

Table 2. Composition of China's higher education investment from 2009 to 2019

Year	Total Funding	Government-funded Education	Private School Funding	Donations	Revenue from Operations	Tuition & Fees	Other Educational Funding
2009	16,502.71	12,231.09	74.98	125.5	3,527.60	2,515.60	543.54
2010	19,561.85	14,670.06	105.43	107.89	4,106.07	3,015.59	572.4
2011	23,869.29	18,586.70	111.93	111.87	4,424.69	3,316.97	634.1
2012	28,655.31	23,147.57	128.18	95.69	4,619.84	3,504.83	664.03
2013	30,364.72	24,488.21	147.41	85.54	4,926.21	3,737.69	717.34
2014	32,806.46	26,420.58	131.35	79.67	5,427.16	4,053.04	747.7
2015	36,129.19	29,221.45	187.66	87	5,809.72	4,317.36	823.36
2016	38,888.39	31,396.25	203.27	81.04	6,276.83	4,770.93	930.99
2017	42,562.01	34,207.75	225.01	85	6,957.57	5,293.28	1,086.67
2018	46,143.00	36,995.78	240.62	94.76	7,738.25	5,895.83	1,073.60
2019	50,178.12	40,046.55	220.13	101.38	8,723.50	6,686.30	1,086.56

Table 3. Proportion of investment in higher education in China from 2009 to 2019

Year	Total Funding	Government-funded Education	Funding from Private School Organizers	Donations	Revenue from Operations	Tuition and Fees	Other Educational Funding
2009	100.00%	74.12%	0.45%	0.76%	21.38%	15.24%	3.29%
2010	100.00%	74.99%	0.54%	0.55%	20.99%	15.42%	2.93%
2011	100.00%	77.87%	0.47%	0.47%	18.54%	13.90%	2.66%
2012	100.00%	80.78%	0.45%	0.33%	16.12%	12.23%	2.32%
2013	100.00%	80.65%	0.49%	0.28%	16.22%	12.31%	2.36%
2014	100.00%	80.53%	0.40%	0.24%	16.54%	12.35%	2.28%
2015	100.00%	80.88%	0.52%	0.24%	16.08%	11.95%	2.28%
2016	100.00%	80.73%	0.52%	0.21%	16.14%	12.27%	2.39%
2017	100.00%	80.37%	0.53%	0.20%	16.35%	12.44%	2.55%
2018	100.00%	80.18%	0.52%	0.21%	16.77%	12.78%	2.33%
2019	100.00%	79.81%	0.44%	0.20%	17.38%	13.33%	2.17%

At present, the investment structure of higher education is unbalanced, and there are the following problems:

(1) The proportion of public funds in the field of higher education is low. The investment structure ratio of personnel funds and public funds in the field of higher education in the world is 54: 46, while the investment ratio of public funds in higher education in China is relatively low.

(2) The investment ratio of enterprises and social organizations is too low. In the world, the average share ratio of higher education funds from the government and the people is 39: 61, while the average share ratio of higher education funds from the government and the people in China is about 51: 49.

(3) The establishment of the sharing mechanism between the central and local governments has widened the gap between local education funds in the eastern and western regions.

4.3. Financial Investment Allocation in Higher Education: Analysis

4.3.1. Uneven Higher Education Funding Due to Lack of Financial Transfers

It is a common practice in all countries to support the development of higher education in underdeveloped areas through transfer payment. The transfer payment of higher education finance is the main way to realize the balance of financial expenditure of higher education and promote the equal development of service level of higher education in all regions. However, due to the small economic scale and limited financial resources of the government in underdeveloped provinces, the financial investment in higher education is insufficient, which restricts the development of higher education. At the same time, more and more college graduates are transferred to economically developed provinces for employment, and accordingly the funds for higher education in underdeveloped provinces are transferred to developed provinces for free. Therefore, the lack of financial transfer payment system for higher education affects the enthusiasm of local governments for financial investment in higher education to some extent.

4.3.2. Weak Enforcement of Higher Education Finance Regulations

The law of education clearly stipulates: "The growth of educational financial allocation of people's governments at all levels should be higher than the growth of recurrent financial income, and the average educational expenses according to the number of students in school should be gradually increased to ensure the gradual increase of teachers' salaries and public funds per student." However, in the actual implementation process, some provinces and regions have failed to meet the growth requirements of education investment stipulated in the Education Law for several years. Objectively speaking, the main reason is that the growth of fiscal revenue can't keep up with the demand of fiscal expenditure growth, which leads to the insufficient supply of funds that can be used to arrange educational expenditure.

4.3.3. Inequitable Higher Education Funding: Policy Analysis

Financial education funds enforce the concept of benefit badly, and there are many problems in the internal allocation of education. The allocation of financial investment in key construction still adopts administrative methods, especially the lack of competition in the allocation of funds caused by the tenure system in key universities.

5. Public Finance Strategies for Educational Equity

5.1. Stabilize Economy to Strengthen Higher Education Funding

As the material foundation of educational development, advanced economic foundation can promote the steady and healthy development of higher education. In the early stage of popularization, it is necessary to upgrade the investment system of higher education in order to realize the high-quality development of higher education, cultivate high-quality talents that conform to the development of the times and create more scientific research achievements.

5.1.1. Increase financial investment in higher education

First, we should optimize the national financial system, improve the modern public service-oriented financial system, and appropriately increase the annual financial support in the field of higher education on the basis of ensuring the steady investment in higher education finance.

At the same time, relevant research shows that increasing the proportion of government investment in college funding income is helpful to the growth of per capital funding. Based on this, in order to realize the high-quality development of higher education, the government should play a good overall planning role, coordinate various organizations and improve the level of funds. Establish a stable growth mechanism of the state's financial investment in higher education and gradually improve the level of investment in higher education. Give play to the overall leadership role of the government, increase the investment in local colleges and universities on the basis of continuing to support the development of central colleges and universities, and ensure the coordinated development of central and local colleges and universities.

5.1.2. Establish a long-term mechanism to ensure the steady growth of financial input

It is necessary to further supplement and improve the relevant policies and clarify the rights and obligations of the government, universities and society in the investment of education funds. Establish a special supervision organization to monitor the use of funds throughout the process to ensure the rational allocation of funds and maximize its benefits.

5.1.3. Strengthen the legal protection of higher education funding

Improve the supporting laws and regulations, and fundamentally provide guarantee for the reform of the investment system of higher education.

5.2. Equitable Resource Allocation for Reducing Regional Education Gaps

Facilitate the balanced development of higher education in different regions, realize the rational distribution of higher education in economically developed areas and economically underdeveloped areas, and gradually realize the basic balance of educational resources allocation.

5.2.1. Establish a balanced mechanism for the allocation of higher education resources

Coordinate urban and rural resources and establish a public education financial system. Adhere to the tilt of public education resources to rural areas, central and western regions and poverty-stricken areas, gradually narrow the gap between urban and rural areas and regional education development, and promote the coordinated development of higher education.

5.2.2. Foster a reasonable teacher resource flow system

From the system level, it is possible for schools in different regions and with different foundations to “take turns” to get excellent teachers. We can also consider establishing a counterpart support relationship between regions and schools to help teachers in remote areas and weak schools improve their professional level. In addition, make full use of modern high-tech, so that high-quality educational resources can be shared between developed and backward areas, key colleges and universities, thus continuously narrowing the gap of educational resources between regions.

5.2.3. Reform the budget and funding methods of colleges and universities

Judging from the practice of higher education funding in some developed countries in the world, formula funding is widely used. China should learn from foreign advanced experience, scientifically and reasonably calculate the basic expenditure level of colleges and universities, and formulate practical quota standards for personnel and public funds; In the way of funding, the traditional allocation method of comprehensive quota per student is reformed, and the allocation formula considering many factors is adopted, thus promoting the fairness of higher education.

5.3. Increase the Proportion of Non-Financial Funds and Broaden the Sources of Funds

Increasing the proportion of national financial investment in higher education is not to reduce the proportion of non-financial higher education investment. On the one hand, the government should increase its financial investment in higher education, on the other hand, it should broaden the channels of capital investment according to needs. Combined with the actual situation of China's current higher education funds, we can learn from the success of foreign countries to raise higher education funds and ensure the fairness of higher education.

5.3.1. Enhance university social donations for regular funding

At present, the education foundation and social donation system in developed countries are quite mature. For example, the “financial matching donation policy” implemented in Britain has promoted the financing of British universities. Therefore, colleges and universities are encouraged to set up alumni associations and foundations, strengthen the construction of campus culture, improve the "Alma mater feelings" of graduates, and give full play to the donation ability and social influence of outstanding graduates. It can also improve entrepreneurs' sense of social responsibility and national mission and encourage entrepreneurs to make charitable donations to colleges and universities.

5.3.2. Partner with enterprises for social capital utilization in education

Colleges should give full play to their own advantages, improve their fund-raising ability and attract enterprises to inject capital; At the same time, we should strengthen the ability of self-financing, form a market-oriented fund-raising mechanism, broaden the sources of funds, give full play to the greatest advantage of social capital in education investment, and realize mutual benefit and win-win between universities and enterprises.

5.3.3. Balance tuition fees across specializations in higher education

We can appropriately lower the tuition standards of the central and western regions and higher vocational colleges, and raise the tuition standards of double-class universities and universities in the eastern region. It is also possible to widen the tuition gap between different majors: for popular majors with good employment prospects and high future income, the tuition fees should be raised;

For those unpopular majors with relatively difficult employment and low future income, the tuition level can be appropriately lowered.

References

[1] LiTing. A Study on the Equity of Higher Education from the Public Finance Perspective [J]. Think Tank Times, 2018 (44): 292 - 293.

[2] KongYan. A Brief Analysis of Higher Education Equity from the Fiscal Perspective [J]. Northern Trade, 2016 (06): 93 - 94.

[3] ZhaoQianqian. Research on the Equity of Education in China from the Public Finance Perspective [D]. Tianjin University of Finance and Economics, 2011.

[4] LiYan. Equity in Higher Education—An Analysis from the Perspective of Fiscal Resource Allocation [J]. Statistics and Decision Making, 2010 (07): 147 - 150. DOI: 10.13546/j.cnki.tjyjc. 2010. 07. 008.

[5] GaoWentao, HaoWenwu. Analysis of the Distribution of Schools, Disciplines, and Regions in China's "Double First-Class" Construction [J]. Contemporary Teacher Education, 2018, 11(01): 30-36. DOI: 10.16222/j.cnki.cte.2018. 01. 006.

[6] PangGuobin. Research on the Fairness of the Allocation of Public Higher Education Resources in China [D]. Liaoning Normal University, 2008.

[7] WangTianqi. Research on the Optimization Path of the Scale and Structure of China's Higher Education Investment under the Background of Popularization [J]. Science and Industry, 2022, 22 (11): 360 - 366.

[8] Liu Xiaofeng, Xie Yan. An Analysis of Balanced Allocation of Regional Higher Education Fiscal Expenditure: Taking the Investment in Higher Education Aid to Tibet as an Example [J]. Journal of Northwest Minzu University (Philosophy and Social Sciences), 2016 (06): 157 - 162. DOI: 10.14084/j.cnki.cn62-1185/c. 2016. 06. 027.