Study on Optimizing the Input Structure of Higher Education and Improving the Quality of Higher Education in China

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Abstract: In recent years, China's total input in higher education funds has continuously increased, and the sources of input have tended to be diversified. While higher education has achieved a series of achievements, there are still some practical problems such as the increase in student-teacher ratio in colleges and universities, the decrease of every student's higher education average funding for education, the decrease of some basic conditions that every student has for running a school and so on. These problems make education quality need to be further improved. This paper studies the impact of higher education input and its structure on the quality of higher education, and put forward suggestion to improve the quality of higher education such as optimizing the financial allocation structure for educational funds in colleges and universities, increasing the sources of input in college education funding, coordinating the balanced development of higher education in all regions, reasonably arranging the ratio of students to teachers in colleges and universities, giving play to the role of private higher education schools and so on.

1. Intoduction

1.1 Study on Optimizing the Input Structure of Higher Education and Improving the Quality of Higher Education in China

With the development of China's education, its higher education has achieved a series of results. In 2016, the total input in higher education in China was 1010.1 billion yuan, an increase of 6.22% over the previous year. There are 2,880 colleges and universities in China, and the total scale of higher education is 36.99 million, which accounts for 20% of the total scale of higher education in the world. It has become the largest country in the world in higher education. The gross enrollment rate of higher education is 42.7%, and it is moving toward the generalization of higher education. In 2016, a total of 11.93 million graduates were sent to the society.

With the rapid development of higher education today, while achieving results, there are still many problems that need to be resolved. Ma Luting mentioned that although the total amount of funds invested by the government has continued to rise, the amount allocated to the income of universities has been decreasing. In addition, there is still a problem of high fees in the financial system of higher education that China is now implementing. Wang Lihua proposed that the conflict between the lack of public expenditure and the huge financial demand for higher education in China is gradually deepening. China's higher education financial allocation has increasingly attached importance to the performance of special funds, especially the special funds for the 985 and 211 projects. However, it is still necessary to improve the openness and operational efficiency of these special funds and raise the concept of cost and benefits, so as to improve the quality of education. Researches by Chen Gong and Luo Xiaohua found that China should focus on the benefits, merits, competition of higher education cost division, and strive to rectify the funding system and funding methods. From this perspective, a reasonable education input structure is very important in the development of education. Zhang Ying found that from 1996 to 2006, the total amount of social donation funds has increased year by year, but the proportion of total funds for higher education has

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been low, and it has shown a trend of decreasing. Urban and rural tuition research found that many rural age-appropriate students are difficult to accept higher education. This not only violates the principle of fair education, but also hinders the expansion of the scope of higher education and the development of higher education, making it difficult to guarantee the quality of higher education. Wang Qian found that the proportion of financial allocations in the basic categories of expenditures which the local colleges can dominate autonomously in Zhejiang province continues to decline, while the proportion of government funding allocated to project expenditures has continued to rise, which accompanied by a large amount of surplus. Unused funds not only waste the resources of financial, but also occupy other areas of financial input. 0n the one hand, unfinished or even unreasonable financial education input structures waste the resources and on the other hand it make things difficult to improve the quality of local higher education.

From this we can see that whether the input structure of higher education is reasonable or not will affect the quality of higher education in China. Therefore, it is particularly important to study whether the educational input structure is reasonable from the standpoint of improving the quality of higher education in China.

1.2 Education Input and Its Structure Determines Whether the Development Goals of China's Educational Power Will Come True

Optimizing the input structure of higher education and improving the quality of higher education is not only an important measure to solve the current problems of higher education, but also a key measure for complying with China's supply-side reform and implementing related policies to further develop a large education country and a powerful education nation.

As early as in July 2010, the Ministry of Education promulgated the "National Long-term Education Reform and Development Plan Outline (2010-2020)", which explicitly proposed the task of optimizing the input structure of higher education and improving the quality of higher education. The outline points out that improving higher education quality is the core task of higher education development and the basic requirement for building a strong country of higher education. By 2020, our China’s higher education will be more rational in structure and more distinctive in its characteristics. The overall level of personnel training, scientific research, and social services will be upgraded. A group of high-profile institutions with distinctive characteristics and high standards will be established. Several universities will reach or approach the level of world-class universities, and the international competitiveness of higher education will significantly increase. In March 2016, China promulgated the "Key Tasks of the Ministry of Education in 2016" to clarify that in the field of higher education, "we must strengthen and improve moral education; we must optimize the mechanism for cultivating personnel in institutions of higher learning; we must further advance innovation in entrepreneurship education in universities and colleges; we must build a modern vocational education system; we must optimize the layout and structure of higher education."

In summary, it is very important to improve quality of higher education, develop a strong country of education and improve the international competitiveness of higher education in China by studying the structure and problems of higher education input.

2. The Status Quo of China's Higher Education Input Structure

In the past decade or so, the rapid development of higher education in China has improved the input structure of higher education. At present, the main share of China's higher education expenditures is the state, society, and individuals. Basically, the education cost sharing and fund-raising system consisting of the government's fiscal appropriation, social donation and personal tuition and fees sharing are basically formed.

2.1 Analysis of the Trend of the Change in the Total Funding of Higher Education and the Growth Rate of China's Higher Education

According to the "Statistical Yearbook of China's Educational Funds Statistics" and data compiled by the National Bureau of Statistics, the total amount of investment in higher education

and the growth rate of China's higher education from 2010 to 2015 have been changed. The change of total funding for higher education in China can directly reflect the adequacy of funding for higher education. The total investment in China's higher education funds has increased from 562.9 billion yuan in 2010 to 951.8 billion yuan in 2015, and the increase is increasing.

The overall trend of the increase in the total funding for higher education has been declining in recent years. From 2011 to 2013, the growth rate of higher education funds has decreased significantly, from 24.7% to 2.0%, which is a decrease of 22.7 percentage points. By 2014 and 2015, there has been a small elevation of 2015 increased to 8.7%.

2.2 Analysis of Changes in State Funding for Higher Education

From the current point of view, although the source of funding for higher education is showing a clear diversification trend, the government's investment in higher education is still the main source of funding for higher education. Ensuring that government finance invests in higher education is conducive to the development of higher education in China.

Statistics show that the proportion of state-financed higher education funds in total higher education funding from 2010 to 2015 has found that the government's scale of financial investment in higher education has greatly increased. The absolute number of state-funded higher education funding inputs has steadily increased. From 2010 to 2015, the state's fiscal higher education funding increased from 232.7 billion yuan to 526.3 billion yuan, an increase of 293.6 billion yuan, with an average annual growth of 48.9 billion yuan. The proportion of state-funded higher education funds in total higher education funding has also continued to rise, rising from 48.66% in 2010 to 60.54% in 2015, a total increase of 11.88 percentage points, an average annual increase of 2.38 percentage points. This means that, in the funding structure of higher education, funding from finance has grown rapidly, which is consistent with the growth rate of total investment in higher education. The financial appropriation still occupies its original core position in the mechanism for raising funds for higher education.

2.3 Analysis of Changes in Social Donation Funds for Higher Education

Social donation is an important source of funding for university education. It can effectively alleviate the strain on higher education funds and is an important factor in promoting the construction and development of colleges and universities.

From 2010 to 2015, the changes in the social donation funds for higher education in our country can be seen that, although donations for higher education don't always increase, they have basically shown an upward trend, rising from 2.639 billion yuan in 2010 to 4.041 billion yuan in 2015. The share of higher education social donation funds in the total funds for higher education has risen and declined, from 0.55% in 2010 to 0.62% in 2012 and then to 0.46% in 2015. While the total funding for higher education in our country continues to increase, social donation funds do not increase at the same proportion, but show fluctuations, indicating that society's awareness of donations to higher education has not been fully awakened, and social donations have not yet become China's stable source of funding for higher education. To better develop higher education, social donation funds also need better and faster development.

2.4 Analysis of Changes in Tuition Fees for Higher Education in China

According to the cost-sharing theory, students, as beneficiaries of higher education, should share part of the costs of higher education. With the continuous development of the economy, the people's income level continues to increase, the number of college enrollment continues to expand, the cost of higher education increases, Objectively, students are also required to bear some of the cost of education.

From 2010 to 2015, the general trend of the total funding and tuition income of colleges and universities across the country increased year by year. Tuition fees rose from 159.391 billion yuan in 2010 to 202.465 billion yuan in 2015. However, the proportion of higher education tuition as a percentage of total tertiary education has been declining, falling from 33.33% in 2010 to 23.31% in 2015.

3. The Issue of Investment in Higher Education in China

Higher education is a complex social subsystem. There are many factors that affect the development of higher education and the quality of higher education. One of the most important factors is the input structure. In the process of the rapid growth of higher education, although in recent years China has increased its investment in education, the total amount of teachers, funds, and other school hardware has increased. However, due to the overall weaker overall national strength of China, the educational resources invested are still far from meeting the needs of the rapid growth of higher education, and there are also certain deficiencies in the structure of input. There are some problems in China's investment in higher education.

3.1 The Ratio of Students to Teachers in Colleges and Universities is Increasing Year by Year

In recent years, the number of students in ordinary colleges and universities in our country has shown an upward trend, while the number of faculty members and teachers in colleges and universities has risen at a lower rate than the number of college students. According to data from the China Statistical Yearbook and the National Bureau of Statistics, the number of students enrolled in the school year increased from 31.05 million to 36.47 million over the six years from 2010 to 2015, an increase of 5.42 million, an average annual increase of 903,000 people. The student-teacher ratio (number of teachers = 1) also increased year by year, from 17.42 in 2011 to 17.73 in 2015, which means that the increase in the number of university teachers is not as fast as the increase in the number of students, teachers' attention and input from students must be reduced. The investment in the strength of higher education teachers in our country is somewhat deficient.

3.2 Reduction of the Educational Fund for Higher Education Per Students

The average per student education funds include per student expenses and per capital public funds. In 2010, the per capital education funding for higher education was 20,498 yuan. By 2015, this figure reached 29,471 yuan, an increase of 8,973 yuan, an average annual increase of 1495.5 yuan, The increase was significant. Although the absolute amount of the increase in education expenditure per student in higher education is very large, its annual growth rate does not always show an upward trend but fluctuates. The average growth rate of funding for higher education students has dropped from 20.8% in 2011 to -2.8% in 2013, showing a negative growth rate, which rose to 2.7% in 2014 and rose to 10% in 2015. In general, the total amount of education funding per student has been steadily increasing year by year, but the increase has slowed down significantly.

The expenditure per student of higher education reflects the quality of higher education to a certain extent. It is an important measure to ensure better and faster development of higher education, guarantee the steady improvement of the quality of higher education, and ensure adequate funding for higher education. Although the amount of state-funded financial allocations for higher education continues to increase, fiscal allocation revenue accounts for 50% of total university revenue, but the ratio of fiscal higher education expenditure to GDP, the proportion of fiscal higher education expenditure to fiscal revenue, and the budget the proportion of education expenditures in fiscal expenditure, the average cost of higher education students, and the average public funding are still very low. The situation of shortage of funds and financial resources in colleges and universities has not been eased. Therefore, the lack of government investment is still an important reason that affects the quality of higher education in our country.

3.3 Reduction of Some Student Average Conditions for Running a School

Over the years, even without considering the expansion of postgraduate enrollment training, the number of college students in colleges and universities has also greatly increased. In the face of such a huge expansion of colleges and universities, although the country has correspondingly increased the investment in some higher education resources, some colleges and universities have improved the basic conditions for running schools, such as expanding the campus, adding new campuses, and adding a lot of teaching and scientific research facilities. The resources for teaching and administrative housing, equipment, and books owned by undergraduate colleges and

universities are significantly reduced. Inadequate teaching facilities, outdated and backward teaching equipment, and a serious shortage of classrooms for teaching, classrooms, libraries, cafeterias, and dormitory facilities. For example, in the laboratory, resources are more strained than classroom resources, and each laboratory can only accommodate one. The class is about 30 people, and some large experiments take half a day. According to this calculation, a laboratory can accommodate up to 10 classes of experiments per week, resulting in many experimental classes that can only be scheduled on Saturdays, Sundays, and evenings. In addition, due to the lack of laboratory instruments and equipment, grouping experiments have to be carried out, making teachers repeat work, and correspondingly wasting the teaching resources of the laboratory. The contradictions in teaching arrangements and the growth rate of teaching facilities funds lagging behind the growth rate of students are still quite serious. This will inevitably affect the completion of teaching work and thus affect the quality of education in colleges and universities. According to a sample survey conducted by the Beijing University Institute of Higher Education for all kinds of material resource allocations in 616 colleges and universities across the country, the material resources allocation of most colleges and universities is in a state of deficiency. In particular, many colleges and universities are far below education. Ministry of the People's Republic of China promulgated the "Approved Standards for the Enrollment Scale of Higher Education Institutions". Insufficient funding, especially some newly upgraded or newly-created colleges and universities is extremely tight funding, these have caused a certain negative impact on the quality of college education.

4. Optimizing the Input Structure of Higher Education and Improving the Quality of Higher Education

This section introduces human capital to discuss the integration of higher education input and quality issues, then form a path to optimize the higher education input and drive the quality of higher education.

4.1 The Relationship among Education Input, Human Capital and Education Quality

The level of human capital is actually the quality of labor. The quality of the workforce is reflected in various aspects such as the quality of the workforce, the level of education, the level of morality, and the level of technology. Every aspect is formed by the laborers during their education. Therefore, the quality of labor directly reflects the level of education quality, that is, the level of human capital directly reflects the level of education quality.

Education input is the most fundamental and effective one. It is also an investment with the longest investment period and the most return on investment. It is the main form of human capital investment and the most important factor in the formation of human resources. Many scholars have found that reasonable and effective investment in education makes human capital accumulated.

The level of human capital is an important manifestation of the level of education quality. Education input and its structure have an important impact on the accumulation of human capital. Therefore, optimizing education input and its structure can improve the quality of education.

4.2 Optimizing the Structure of Higher Education Input and Improving the Quality of Higher Education

Based on the above discussion, in order to improve the quality of higher education, the following suggestions are proposed from the perspective of optimizing the input in higher education and its structure.

4.2.1 Optimizing the Sources and Expenses of College Education Costs

Optimizing financial allocation to education funding for colleges and universities. The financial costs of running colleges and universities in China basically depend on financial allocation. However, the financial allocation has different treatment for different grades or types of colleges and universities, which makes the poorly treated colleges and universities have a shortage of funds

in their operations, and then makes things difficult to improve their education and teaching quality. Therefore, finance should rationally allocate financial education funds among different colleges and universities, minimize funding gaps between different types of colleges and universities. Only in this way can the input of resources and manpower required by universities be met. The quality of higher education can be improved.

Increasing the sources of input in college education funding. The input in education funds in universities cannot rely solely on the state's financial education funding. Colleges and universities need to combine their own conditions and give full play to their own advantages to obtain funds. For example, colleges and universities can increase the income of education funds by conducting social activities or increasing cooperation with enterprises. Only the sources of educational funds continue to widen, the costs of operating and developing universities can be met to a certain extent, and the quality of education in universities can be improved.

Rationalizing the spending of education funds. Some colleges and universities have the problem of non-transparent and undisclosed expenditure on education. We must establish an effective management oversight mechanism, at the same time, accelerate the reform of personnel education in schools. Only in this way can the limited amount of education funds be really used to serve the school and students, and improve the quality of the teacher's education and the level of students' training. In addition, education costs need to be allocated reasonably between the infrastructure construction of universities, the development of science and technology, and the treatment of staff and workers to make up for shortcomings.

4.2.2 Coordinating the Balanced Development of Higher Education in all Regions

The development of higher education also has imbalances in the eastern, central and western regions of China. The long-term accumulation of resources has led to the rapid development of higher education in the eastern region, and the development of higher education in the central and western regions, especially in the western regions, is slower. This makes things difficult to improve the overall quality of China's higher education. In order to improve the quality of China's higher education, the national finance needs to increase input in higher education funds in the central and western regions, encourage more social capital to invest in the development of higher education in the eastern region, and coordinate the higher levels in all regions.

4.2.3 Making the Student-Teacher Ratio in the University More Reasonable

The student-teacher ratio is the ratio of the number of students in the school to the number of full-time teachers in the school. It represents the quality of running a school. A reasonable student-teacher ratio can meet students' needs for educational resources and make full use of them. At present, universally colleges and universities in our country have a relatively low number of students. To improve this situation, colleges and universities should enhance the visibility of schools and attract outstanding talents. At the same time, they should provide certain subsidies and encouragement policies so that the majority of the people's teachers are willing to stay and stay rooted in education.

4.2.4 Giving Play to the Role of Private Higher Education Schools and Improving the Quality of Higher Education

The emergence and development of more and more private schools have effectively promoted the quality of higher education in China. Giving full play to the role of private higher education schools will greatly help coordinate the educational resource education opportunities in different regions and then improve the quality of higher education in China. In order to bring into play the role of private higher education schools, in the higher education stage, it is necessary to establish supporting measures for students, expand the scale of enrollment in private universities, consider the reduction of tuition fees for students with family conditions, and apply for scholarships for them. These methods can encourage students to attend private colleges and universities, so as to protect the students of private colleges and universities.

5. Summary

Through the analysis of the status quo of China’s higher education investment, it is concluded that there are still certain problems in the quality of China’s higher education in terms of input, such as the shortage of teaching staff in universities, important teaching resources, and the state’s financial investment in higher education. These problems have seriously affected the quality of higher education in our country. This paper discusses the relationship between investment and quality of higher education through the introduction of human capital, so as to adopt a series of policy measures to optimize investment in higher education and promote quality improvement. Including optimizing the sources and expenditures of college education costs, coordinating the balanced development of higher education in all regions, rationally assigning the student-teacher ratio in colleges and universities, and giving play to the role of private higher education schools. However, in the optimization of our country's higher education investment, we cannot stop and satisfy ourselves. We need to constantly optimize investment according to the actual situation in the future, so as to promote the continuous improvement of the quality of higher education in China.

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