Analysis and Reflection on the Optimal Allocation of Higher Vocational Education Finance--Take Wenzhou, Zhejiang Province as an Example

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Abstract. The unreasonable financial investment structure of Higher Vocational Education in China has been widely discussed. This paper analyzes the problems existing in its financial allocation, such as insufficient participation of social capital, a single source, and a lack of energy efficiency. Taking Wenzhou, Zhejiang Province as an example, this paper explores its corresponding practices in terms of financial investment and the scale structure of education and teaching, talent supply, integration of industry and education, technology improvement, and professional reform, and concludes that the reasonable allocation of financial allocation is conducive to promoting the development of its education system and regional industrial synergy. Based on this, the paper further puts forward some measures to improve the development of higher vocational education, such as encouraging social capital to participate in the construction of industrial education, strengthening the structural and stability adaptation of financial investment, paying attention to differential support for the cultivation of talents with important needs, and establishing an incentive mechanism to enhance the strength of teachers.

Keywords: Higher vocational education; financial input; regional industry.

1. Introduction

Vocational education is an indispensable part of the national education system. With the acceleration of the Chinese-style modernization drive, it continues to grow. Today, China has built the world's largest vocational education system. In recent years, with the continuous promotion and expansion of the construction of high-level Higher Vocational Colleges in the new era, the financial allocation has increased. According to statistics, in 2013, there were 1321 higher vocational colleges, which increased to 1489 by 2022; In 2013, their fiscal revenue from education funds reached 82.367 billion yuan, rising to 228.724 billion yuan by 2022 [1]. It shows that in the past decade, the development trend of higher vocational colleges is good, and the financial strength has increased significantly, but their unreasonable structure is still widely concerned. Some studies focus on the unbalanced financial allocation of higher vocational colleges. For example, Zhao and Hu studied the structure of financial investment in education in different types of colleges and universities. The study found that, from 2015 to 2020, the financial funds for general undergraduate education in most provinces in China showed an upward trend, while the funds for higher vocational colleges decreased [2]. Some researchers have analyzed the problems of a single financial source and unreasonable structure in higher vocational colleges. For example, Zhu used statistical analysis to find that in several regions across the country, the growth rate of budgetary allocations for higher vocational education is significantly lower than the growth rate of the number of students in school. This paper expounds the relationship and impact of financial investment in the budget, including institutional expenditure and infrastructure expenditure [3]. It can be said that domestic scholars have paid attention to the exploration of education finance and have formed certain research results. At present, there is still a lack of empirical research on the mutual development of higher vocational education and financial allocation. Taking Wenzhou, Zhejiang Province as an example, this paper discusses the significance and path suggestions of financial allocation adapting to the construction of the vocational

education system through the research on the adaptation of talent supply, production and education integration, scale structure, technology improvement and other aspects between the two.

2. Problems of Higher Vocational Education Funds in China

2.1. Single Financial Source

At present, the education funds of higher vocational colleges mainly come from financial investment and tuition income. The state's investment in this area is still insufficient, and the school's self-financing channel is single. Although its financial investment has increased steadily, due to the small base, it still accounts for a small proportion of the national education funds, which can not meet the needs of its development to a large extent. According to statistics, in 2013, the national financial education revenue of Higher Vocational Colleges (junior colleges) was 82.367 billion yuan, which increased to 228.724 billion yuan by 2022, with an average annual growth rate of about 12%. In 2013, the number of students in Higher Vocational Colleges (junior colleges) increased from 3.6995 million to 16.9377 million by 2022, with an average annual growth rate of about 18% [1]. It can be seen that the growth rate of appropriation in the budget of higher vocational education is also significantly lower than the growth rate of the number of students.

2.2. Configuration Mode Lacks Energy Efficiency

Higher Education Funds adopt the allocation method of "base+development", and the allocation base is determined by the Ministry of Finance and the competent department of colleges and universities according to the size, quantity and expenditure of colleges and universities. As the main body of colleges and universities, it lacks the actual right to speak on the standard of budgeting [4]. It can be seen that the standard of budgeting based on the established historical development model is likely not to match the development direction, target requirements and task implementation of higher education in the new era, resulting in the inefficient allocation of financial investment.

2.3. Insufficient Participation of Social Capital

At present, the number of students in higher vocational colleges accounts for nearly half of the total number of students [5]. However, the development of higher vocational education is faced with many difficulties and challenges, such as low social status, low social identity, a lack of enthusiasm for enterprises to participate in running schools, and limited development of skilled talents, which leads to insufficient participation of social capital. According to statistics, from 2013 to 2022, the total income of higher vocational education funds nationwide increased from 145.239 billion yuan, increasing to 338.975 billion yuan. Among them, the financial education funds increased from 82.367 billion yuan to 228.724 billion yuan, accounting for 56.7% to 67.48%; Social capital investment dropped from 2.379 billion yuan to 1.166 billion yuan, accounting for 1.64% to 0.34% [1]. It shows that due to the economic and social development, the scale system of higher vocational education is expanding, but the participation of social capital is further shrinking.

Based on the current overall situation, there will be differences in the implementation of policies between different regions in China, and there are representative places that have done well. For example, this paper takes Wenzhou, Zhejiang Province as an example to explore its innovative methods of financial allocation.

3. A Case Study of Wenzhou, Zhejiang Province

3.1. Basic Situation of Zhejiang Higher Vocational Education Finance

Since 2016, Zhejiang Province has effectively implemented a series of distinctive major reforms, such as the "double high" construction project, the action plan for innovative development, quality improvement and excellence, and the Ministry and Province jointly building a "dynamic platform"

innovation highland. During this period, the allocation of financial resources has played an important role in promoting the reform and development of higher vocational education. According to statistics, in 2020, the total investment in Higher Vocational Colleges in Zhejiang Province was 12.65 billion yuan, an increase of 3.46 billion yuan or 37.65% compared with 2016 [6]. On the whole, with the promotion of the construction of a modern vocational education system, higher vocational education is changing from the extension and expansion of scale to the sustainable development of connotation, and on the whole, finance effectively supports its all-round development.

3.2. Financial Optimization Practice of Wenzhou Higher Vocational Education

In 2021, the Ministry of Education and the People's Government of Zhejiang Province jointly built a new highland for the integration of production and education of "dynamic Wenzhou Taiwan". After that, Wenzhou issued a series of innovation policies. The following are the relevant practices of Wenzhou's financial innovation measures.

3.2.1 Financial investment and the scale structure of Higher Vocational Education

Wenzhou has effectively realized the adaptation of scale and structure by optimizing the total financial volume and improving the balance deviation of higher vocational development. According to statistics, the number of full-time students in five colleges and universities in Wenzhou will be 43414 in 2020, and will increase to 60296 in 2022 [7]. At the same time, its financial investment is about 929 million yuan, which will increase to 1.11 billion yuan in 2022, accounting for 4.32% of the financial expenditure on education in Wenzhou that year [7]. In 2022, the average student financial allocation reached 18409 yuan/person, which was much higher than the national average annual student financial allocation of 13688 yuan/person. It can be seen that the total level of Wenzhou's financial investment in higher vocational education is closely coordinated with the growth of its scale structure.

3.2.2 Financial investment and talent supply structure

Wenzhou has improved the systematic deviation between talent training types and social needs through the optimization of financial structure. Wenzhou cultivates advanced applied talents at the forefront of production, management and service, benchmarking with the "5+5+n" modern industrial system of "traditional+emerging+future". The specific work of optimizing the talent supply structure and the allocation of special financial projects will be optimized, such as giving special financial awards and subsidies to the school to create provincial and national platforms. Explore the joint training of professional degree masters in Higher Vocational and undergraduate colleges, promote the improvement of talent quality structure, and optimize the local financial assistance method of "tuition free+grants+Scholarships" [8]. It can be seen that the optimal allocation of financial investment is to promote the development of the talent training platform and the connection of the education system, and then adapt to the talent supply structure.

3.2.3 Financial investment compatible with the integration mechanism of production and education

Wenzhou improves the in-depth cooperation between industry and education, and improves the quality of talent training and the in-depth coordination of scientific and technological reform through the allocation of fiscal and diversified policies. For example, it will strengthen the combined incentives of "Finance+Finance+land+credit", and banks will give priority support in terms of credit interest rate and credit scale. For the policy support of "if the investment in the establishment of vocational education meets the requirements, the enterprise's education surcharges and local education surcharges payable in the current year can be credited at a proportion of 30% of the investment amount". For the production and education integration enterprises recognized at the municipal, provincial and national levels, the local finance will give a one-time subsidy of 50000 yuan, 200000 yuan and 500000 yuan respectively [8].

3.2.4 Financial investment and technical service capacity

Wenzhou improves the practical deviation of specialty setting in Colleges and universities and improves the transformation ability of technological achievements through financial dynamic optimization. Based on the local industrial system, Wenzhou strengthens the municipal overall planning, improves the dynamic adjustment mechanism of colleges and universities, strengthens the abolition of "old" and "duplicate" majors, and supports the construction of emerging majors. Colleges and universities are encouraged to participate in the distribution of income using valuing scientific and technological achievements as shares, and the proportion of rewards for those who have made important contributions to the completion and transformation of scientific and technological achievements can be higher than 80% of the total income from the transformation of achievements [8]. It can be seen that the dynamic optimization of Wenzhou's finance is compatible with the professional setting and the transformation of technological achievements, and the dynamic adjustment mechanism of specialties is constructed to stimulate the transformation efficiency of scientific and technological achievements.

3.2.5 Financial investment and the reform of the "strengthening teachers" system

Wenzhou has improved the evaluation and employment system of professional teachers and improved the social practice ability of educational achievements through financial support. Higher vocational education is an element of talent training and social needs, professional chain and industrial chain, professional core competence and post core competence, which has deeply penetrated the whole process of teaching and led to the new development. Teaching innovation is very important, and the key to innovation is "strengthening teachers".

Wenzhou explores the reform of the evaluation and employment system for professional teachers, and adopts assessment methods such as a professional skills test to address the shortage of professional leading talents. The salary of the candidates of provincial and above talent plans is listed separately in the total unit performance salary, and is not included in the approved total performance salary. At the same time, the management measures for the employment of part-time teachers were issued, and highly skilled talents were employed as part-time teachers in a proportion of no more than 30% of the total number of professional teachers. The funds required were arranged by the finance at the same level and included in the department budget [8]. It can be seen that Wenzhou's fiscal optimization policy is inclined to the construction of teachers, creating the evaluation and employment mechanism of "degrading talents without adhering to one pattern" and improving the level of teachers' professional skills.

To sum up, Wenzhou ensures the healthy development of higher vocational education through fiscal innovation, which meets the needs of modern industrial development. Practice has proved that fiscal optimization plays an important role in its development.

4. Suggestions on Improving the Optimal Allocation of Financial Investment

Based on the serious shortage of social capital investment in higher vocational education, financial allocation is the main source, and the differences in regional industrial structure, local financial capacity and regional conditions are comprehensively considered. The research puts forward the following path suggestions.

4.1. Strengthening the Stability of Financial Investment and Structural Adaptation

Implement the requirements of the vocational education law, ensure the steady increase of the proportion of financial funds for Vocational Education in GDP, establish a "dynamic adjustment+rigid constraint" mechanism, link the growth of vocational education funds with the growth of GDP and fiscal revenue, and form a high fit between financial investment and education scale. Give full consideration to the similarities and differences in regional development structure, optimize financial funds within a certain spatial range, and form a combination of "lengthening board"

and "making up for weaknesses". It is suggested to set up a provincial or municipal overall fund to balance the financial differences between cities or counties, and give special subsidies to industrial colleges in less developed areas.

4.2. Focus on Differentiation and Support Talent Cultivation in Key Fields

Financial investment should focus on the cultivation of professionals in strategic emerging industries (such as artificial intelligence and new energy) and traditional industrial upgrading fields (such as intelligent manufacturing and modern agriculture). It is suggested that higher vocational schools should carry out a differentiated per-student funding policy based on major categories. According to the talent gap in national or local key industries, set the per student funding standard, guide colleges and universities to optimize professional settings, and focus on cultivating technical talents that fit the regional industrial economic structure. At the same time, it should strengthen the performance orientation, including the rate of graduates remaining in local employment, the award of skills competition, etc., in the assessment indicators, and give incremental rewards to the colleges and universities that meet the standards.

4.3. Encourage Social Capital to Participate in School Construction and Development

Encourage private enterprises to deeply participate in the practice and research work of higher vocational colleges, and establish a profit substitution compensation mechanism for high-quality enterprises integrating production and education. Attract social capital to participate in teaching and research projects through various means such as policy subsidies, tax incentives, financing support, education surcharges reduction and exemption [9]. By promoting the PPP mode of cooperation between the government and social capital, supporting enterprises to jointly build training bases, industrial colleges, etc., the government and enterprises should work together to develop higher vocational education.

4.4. Improving the Incentive and Guarantee Mechanism and Strengthening the Teaching Staff

Encourage schools to cooperate with leading enterprises in the industry to build a "double qualified" teacher training base, and provide financial subsidies to teachers selected for national or provincial training projects [10]. Set up a special fund for special posts of industrial mentors, and encourage enterprises' highly skilled talents to teach part-time. Set up a special fund for the "famous teachers' plan for vocational education", give material rewards and professional title evaluation to teachers with outstanding teaching achievements, and promote the formation of a positive cycle of "teaching well and staying".

5. Conclusion

The optimal allocation of financial investment in higher vocational education is a practical exploration to realize the Pareto optimal state of efficiency and fairness, which is of great significance to ensure the fairness of education expenditure and improve the efficiency of financial funds. By analyzing the existing problems and taking the financial innovation practice in Wenzhou, Zhejiang Province, as an example, this paper explores and puts forward suggestions on improving the financial allocation. The research on this aspect is not only an important content of promoting the reform of the educational financial system, but also an innovative practice of local financial reform. Although there are many difficulties in the reform of education finance, it firmly believe that the road ahead is bright.

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