The Influence of National Educational Resources on Wage Level

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Abstract. According to the authoritative data survey of the National Bureau of Statistics and the provincial Statistical Bureau, the two major issues of university education and salary continue to receive wide attention in today's social background. To deeply explore the internal relationship between educational resources and salary level, we conducted a series of studies to compare and analyze the impact of educational resources on salary levels between developed and underdeveloped areas in China. Through rigorous data analysis and comparative analysis, we further verified the positive correlation between educational resources and salary level. This conclusion applies not only to developed areas but also to less developed areas. The results show that education resources have a significant impact on wages in both developed and underdeveloped areas. In developed areas, like Beijing, due to the relatively rich educational resources, people's education level is generally higher, which promotes the relatively high salary level in these areas. In less developed areas, the relative lack of educational resources leads to a relatively low level of education, which affects the level of wages in these areas. Therefore, to improve people's salary levels and promote social and economic development, the government must attach great importance to the investment and distribution of educational resources, ensure the abundance and quality of educational resources, and realize the equity and popularization of education.

1 Introduction

In China's tiered education system, universities are divided into general undergraduate, project 211 universities, project 985 universities (211 and 985 is the project of National Key Universities and colleges initiated in 1995 by the Ministry of Education of the People's Republic of China), the 985 universities also known as "double first-class" universities. This system reflects the importance attached to improving the quality of higher education and its alignment with global standards. The distribution of top universities, especially in economically developed areas such as Beijing, Jiangsu, and Shanghai, highlights the link between education quality and economic prosperity. These fields attract highly qualified students, highlighting the advantages of top college graduates in a competitive job market and potential pay outcomes. Addressing the gap in educational resources between different regions requires targeted government interventions, including increased funding for less developed regions and innovative policy reforms to ensure equitable access to quality education, thereby contributing to the quality of education and socio-economic development of the country.

2 Phenomenon

2.1 Distribution of educational resources

The geographical distribution of educational resources, especially the number of "double first-class" universities, is considered to be an important index to measure the quality of education in a region. Figure 1 and Figure 2 below show the top 10 cities with the largest number of universities and the top 10 cities with the distribution of "double first-class" universities. The Figure 1 shows the top 3 are Beijing, Wuhan, and Guangzhou. Figure 2 shows the top 3 are Beijing, Jiangsu, and Shanghai [1].

Fig. 1. Top 10 cities with the largest number of universities

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of the graduated university is also an important factor affecting the salary level [4].

2.2.1 Bachelor degree

Take bachelor degree as an example, their average monthly salary is about 6,000 yuan. This figure is indicative only, and actual salaries are affected by a variety of factors, including the economic development of the city in which graduates live, the industry they work in, and the size of the company. In some technology-intensive industries, such as information technology and finance, the salary of college graduates is relatively high, which can reach more than 8,000 yuan. In some traditional industries, such as education and cultural media, the salary of college graduates is relatively low, generally around 3,000 yuan.

2.2.2 Master degree

The average monthly salary for a master's degree is around 8,000 yuan. The salaries of master's graduates are also affected by a variety of factors, including the economic development of the city where they live, their major, the industry they work in, and their personal work experience. In first-tier cities such as Beijing, Shanghai, and other places, the salary of master's graduates is relatively high, which can reach about 10,000 yuan. In second-tier cities and below, the salary of master's degree graduates is relatively low, generally around 5,000 yuan. In addition, the salaries of graduates in some popular majors such as computer science and finance are relatively high.

2.2.3 Doctor degree and above

Finally, there is the situation of doctoral graduates, whose average monthly salary is about 10,000 yuan. The salaries of Ph.D. graduates are also influenced by several factors, including industry, region, and individual abilities. In some high-tech industries such as information technology and finance, the salary of doctoral graduates is relatively high, which can reach about 20,000 yuan. In some traditional industries, the salary of doctoral graduates is relatively low, generally around 10,000 yuan. Figure 3 shows the salary levels for different degrees.
By analyzing these phenomena, it can be concluded that educational resources are closely related to local economic development. The better the economic development of the city, the better the educational resources; The richer the city, its educational resources will be correspondingly guaranteed, that is, the educational resources of a region are proportional to economic development. This kind of phenomenon is called the "advantage enrichment effect" [5], the better the economic development, the more educational resources can be improved, and the improvement of educational resources attracts more high-quality talents to the city, forming a virtuous cycle, which is a positive cycle. However, in cities with poor economic conditions, their educational resources cannot be guaranteed, so they cannot have the conditions to attract high-quality talents, which will form a vicious circle. Once the two kinds of cycles are generated, it will lead to an imbalance of educational resources and wage inequality in the country [6].

3 Reasons for the phenomenon

The inequality of educational resources is an important issue in the field of education in China, which is related to the development of the country and the future of the nation [7]. To solve this problem, the government must deeply analyze its root causes and make appropriate adjustments according to the current situation. There are various reasons for the inequality of educational resources, which mainly include four aspects: regional economic development level, regional policies, geographical location and transportation, family economic status, and educational concept gap, which affect the balanced development of China's education to a certain extent [8].

3.1 Regional economic development

In China, there are significant differences in the level of economic development among different regions. For example, Beijing, the capital of China, has a certain economic foundation and with its strong financial strength, can provide more capital investment, which means that schools can have better facilities and teaching resources, and at the same time attract and retain more excellent teachers. Because they offer higher wages and better working conditions. In addition, students in these areas have access to a greater variety of educational resources, including special courses, interest groups, and international exchange programs, which contribute to their well-rounded development [9]. At the same time, there are more resources to support educational innovation and reform, such as the development of new teaching methods and the introduction of international educational resources to improve the quality and efficiency of education. In contrast, the economic development of poor areas is lagging, and the budget is tight, resulting in financial investment in educational resources, and the distribution of educational resources is seriously insufficient, resulting in obvious shortcomings in educational facilities and teachers. This situation not only affects the learning environment of students but also limits the improvement of the quality of education.

3.2 Regional policies

Regional policies play a decisive role in the distribution, quality, and equity of educational resources. Regional policies directly determine the availability and prioritization of educational resources by influencing budget allocation, infrastructure development, and the introduction of teaching materials and scientific and technological tools. In addition, policies indirectly improve the overall quality of education by influencing the quality and stability of the teaching force by setting the system of teacher recruitment, training, and evaluation. In terms of ensuring equality of educational opportunities, regional policies strive to eliminate inequalities caused by differences between urban and rural areas, rich and poor, and ethnic groups through measures such as the division of school districts, access to school, and provision of special education services. At the same time, district policies shape the content and quality of education by setting curriculum standards, and testing systems, and promoting innovative teaching methods. Finally, for future educational development, regional policies provide a solid foundation for adapting to future educational trends and needs by investing in research and development and introducing new technologies and educational models. Therefore, an effective regional education policy can not only promote the rational allocation and utilization of educational resources but also ensure the improvement of education quality and education equity, laying a cornerstone for the sustainable development of the social economy [10].

3.3 Location and transportation

Geographical location and transportation have a significant impact on educational resources, which together determine the accessibility, distribution balance, and quality of educational resources. First of all, geographical location directly affects the richness and variety of educational resources in a region. For example, schools located in urban centers or developed areas often have access to more financial support, more advanced teaching facilities, and a richer educational program. On the contrary, educational institutions in remote areas may encounter insufficient resources, underqualified teachers, and subpar education. The efficiency of the transportation system directly impacts the accessibility of schools for both students and educators. Well-developed transport infrastructure can significantly diminish geographical barriers to education, allowing a greater number of students to access high-quality learning opportunities. For instance, urban areas with convenient transportation enable students to easily commute to distant schools and benefit from diverse educational resources. Conversely, inadequate transportation options in certain regions limit students' school choices and confine them to enrolling in nearby
schools, hindering the optimal allocation and utilization of educational resources.

Furthermore, the transportation infrastructure has a direct impact on the allocation of educational resources. Regions with well-developed transportation systems are more conducive to government and educational institution investment in new schools and facilities, thereby enhancing the accessibility and equity of educational resources. Conversely, areas with inadequate transportation face challenges in implementing new educational initiatives and maximizing existing resources. Geographical location and transportation not only influence students' access to education but also shape the fairness and efficiency of resource distribution within the education sector.

3.4 Family factors

The influence of family economic status and educational concept on educational resources is profound and complex, and these two factors jointly shape the individual's access to and use of educational resources, and then affect the quality and effect of education. The economic status of the family directly determines the amount of resources that the family can invest in education, and the concept of family education affects the degree of attention and the way of utilization of educational resources. Families with better economic conditions can provide more educational resources for their students, including high-quality preschool education, private school education, after-school tutoring, and interest classes. These families are also able to afford higher education-related expenses, such as the purchase of educational materials, e-learning equipment, and even the cost of studying abroad.

Conversely, families with poorer economic conditions may struggle to cover these costs, their students may have relatively limited educational opportunities and may have to rely on public educational resources that may not be able to meet their educational needs in quantity and quality. Parents' concept of education includes their understanding of the value of education, their expectation and attitudes toward student's education, and their emphasis on education investment. All these criteria will affect the process of student's education. If parents recognize the importance of education, they will make the best use of available resources to support their student's learning and development, even under limited economic conditions.

In addition, the positive concept of education also includes the encouragement of student's independent learning and interest exploration, which are important factors for educational success. The interaction between family economic status and educational concepts further complicates their influence on educational resources. For example, families with good economic conditions but traditional educational concepts may not support the development of their interests, while families with limited economic conditions but an emphasis on education may provide good educational opportunities through public resources, scholarships, and other means.

4 Solutions

The Chinese government has taken solid steps to solve the problem of uneven distribution of educational resources by adopting a series of targeted measures. To narrow the educational gap between areas with poor economic development and areas with excellent economic development, the government has increased the investment in educational resources in these areas, implemented the construction of "double first-class" universities, and improved the educational level of areas with poor economic development as much as possible. This is not only a redistribution of educational resources, but also a firm practice of the concept of fair education. However, government input alone is not enough to completely solve the problem. It is also necessary to further improve, formulate, and implement inclusive education policies, support students with poor economic conditions through scholarships and education subsidies, and encourage regional governments to innovate education policies and practices according to the actual situation to ensure education equity and improve education quality. To achieve a balanced development of educational resources across the country, including optimizing the allocation of educational resources, improving the treatment of teachers, improving teaching facilities, and strengthening education support for remote areas. To break the vicious circle between economic education and regional development, the government should encourage outstanding talents to develop in areas with poor economic development and promote the interaction and cooperation of economic education between regions. Such policies can not only drive regional economic development but also attract more educational resources to flow to these areas, forming a virtuous circle [11].

4.1 New methods

At the same time, with the progress of science and technology and the development of social science, the promotion of distance education provides new ideas and new possibilities for making up the gap in educational resources. With the help of modern information technology, the government can transport high-quality educational resources to remote areas, so that more students can enjoy high-quality education, the government and enterprises should increase the investment and support for distance education, and create a good growth environment for the development of this emerging education model. In the process of solving the problem of uneven distribution of educational resources, the government and society need to pay more attention to the burden of family education, reduce the burden of family education, so that more students have the opportunity to receive quality education, and improve the education subsidy policy to ensure that students from poor families receive timely assistance, so that no one will lose the opportunity to study because of family economic difficulties.
The STEM (take the first letters of science, technology, engineering, and mathematics) model of American colleges and universities is one of the best ways to learn [12], The United States government has taken active measures to strengthen exploratory laboratory courses in response to the deficiencies in current standardized experimental courses. For instance, since the 2013 fiscal year, the National Science Foundation has allocated $1.2 million annually for a period of 10 years to develop exemplary exploratory laboratory courses and promote their widespread adoption in more university curricula, especially targeting first and second-year students. This initiative aims to enhance the exploratory and engineering design aspects of university laboratory courses and practical teaching systems, fostering exploratory learning in STEM fields among students. Qualified universities can apply for this special funding to develop their own laboratory courses and transform practical teaching, provided they meet the corresponding requirements of the National Science Foundation. It is estimated that this special funding will be sufficient to cover hundreds of institutions. Furthermore, the U.S. government places high importance on supporting undergraduate research projects, considering it a crucial initiative for promoting exploratory teaching. For example, the National Academies of Sciences, Engineering, and Medicine highlighted in their 2017 report “Undergraduate Research Experiences in STEM Fields: Successes, Challenges, and Opportunities” that undergraduate research experiences significantly impact the graduation rates, continuation to advanced studies, and engagement in related professions among STEM students. Such experiences also enhance students' sense of belonging, comprehension, and confidence in their fields, serving as key measures to deepen STEM learning. The federal government, in its report “For Excellence through Action: Reeducating One Million STEM College Graduates,” explicitly states: “Engagement in faculty research projects is the most direct way to inspire students to seek truth, explore, and innovate in STEM fields.” Therefore, both the government and research institutions expect universities to cultivate and establish a culture and system that encourages undergraduate participation in research projects within the STEM fields. In recent years, numerous universities have actively responded to this call by implementing various measures to innovate exploratory teaching and learning models in STEM fields. Taking Wilarmed University as an example, the university has developed a summer apprenticeship research program for undergraduate mathematics students. The program aims to immerse STEM undergraduate students in research experiences under the guidance of a mentor for a complete period during the summer, cultivating students' disciplinary inquiry abilities and research-oriented learning capabilities. The program typically lasts for eight weeks, with one mentor guiding three undergraduate students. At the beginning of the summer, the mentor presents a specific research question related to a mathematical topic to the students or collaborates with them to devise a research question, leading the students to delve into the research for eight weeks. During this period, students not only engage in independent research but also participate in relevant workshops and academic training activities. The university provides each student participating in the program with a $4,000 grant.

4.2 Awareness of education

In addition, improving the awareness of education for all is also an important way to solve the problem of uneven distribution of education resources. The government and society should strengthen the publicity of education, improve the awareness and understanding of education for all, and form a good atmosphere for the whole society to pay attention to and support the development of education. This will not only promote the development of education but also contribute to the formation of a healthy education ecology. We should actively promote the renewal of education concepts, guide society to correctly understand the needs of education development, and provide strong support for education reform. It is necessary to realize that education is not only the imparting of knowledge but also the process of cultivating students' all-round quality and ability.

Through community education programs and parent training, efforts are made to enhance the importance and participation of families in education, especially in raising parents' awareness of education. Establish a community network system to provide after-school counseling and psychological support to every student in need, and ensure that every student has access to quality education in an equitable and supportive environment. The implementation of these measures requires not only the active participation and investment of the government but also the joint efforts and support of all sectors of society to promote the fair distribution of educational resources and the comprehensive improvement of education quality. Therefore, the government and society should pay attention to the comprehensive development of education and promote the continuous deepening of education reform.

5 Conclusion

To sum up, the inequality of educational resources has become an indisputable fact, which needs to be changed gradually. Government education departments need to learn from the STEM model and comprehensively improve teachers' engineering practice ability by building targeted mechanisms. Practice is the core of engineering education, and teachers' engineering practice experience plays an important role in improving teaching quality. At present, teachers in the field of higher engineering education generally lack practical experience, especially young teachers who often go directly from school to university, and have few opportunities to accumulate practical engineering experience. This directly restricts the engineering practice ability of teachers and then affects the teaching reform and the quality of student training. Therefore, the Ministry of Education must make overall plans and issue corresponding policies to
encourage teachers to go to various industry organizations, R&D units, and production enterprises for further study and improvement of engineering practice ability. Colleges and universities should work closely with enterprises to establish training bases, provide practice platforms for teachers, and promote their professional level and practical ability. At the same time, colleges and universities should ensure that teachers can carry out inquiry teaching smoothly in the classroom and provide necessary guarantee conditions. Inquiry-based teaching should pay attention to the positive effects of personal emotion, experience, interaction, and exploration on learning. Colleges and universities should equip teachers with the infrastructure required for inquiry teaching, such as flipped classroom places and virtual reality teaching software, and guide teachers to innovate teaching modes by using information technology. In addition, it is necessary to strengthen the training of teachers' inquiry-based teaching, improve their teaching ability, and ensure that the most efficient teaching method can promote students' theoretical learning and application ability. To achieve the goal of "new engineering", higher engineering colleges and universities should actively build and promote an interdisciplinary teaching community. An interdisciplinary teaching team is the key to cultivating interdisciplinary talents. Colleges and universities can build an "interdisciplinary teacher learning and teaching community", encourage teachers from different disciplines to jointly carry out teaching, research, and student guidance, and promote the substantive upgrading of curriculum, teachers, and teaching at the micro level. This will help improve the quality of teaching and cultivate more excellent talents with innovative spirit and practical ability.

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