

Research and Analysis on Regional Heterogeneity of Educational Development Level and Economic Growth

Xiuzuo Huang^{1,a,*}

*¹College of Liberal Arts & Sciences at Illinois, University of Illinois Urbana-Champaign,
Champaign, United States*

a. xiuzuoh2@illinois.edu

**corresponding author*

Abstract: China's rapid economic development over the past 40 years has improved the overall quality of life of the population but has also brought about uneven distribution of resources. The problem of educational inequality under the conditions of uneven distribution of economic development is one of the main problems that China needs to solve. Solving the problem of educational inequality plays a positive role in social fairness, justice, and long-term stability. Based on the above background, this paper focuses on the development of education policies in recent decades, the gains and losses of education poverty alleviation, the causes of the "involutionary" competition in urban education, and the effectiveness of relevant policies. It is recommended to improve the allocation of educational resources further and invest appropriate resources in the construction of vocational and technical schools to match the current development vision of China's economy. This paper suggests that students from poor areas be allowed to study in economically developed areas to improve educational resources in poor areas in the short term. This paper also calls on the government to establish a long-term mechanism to promote the growth of the education industry and promote a positive cycle of educational development and economic development.

Keywords: Educational Inequality, Educational Poverty Alleviation, Involutionary Competition, Economic Development.

1. Introduction

1.1. The Relationship Between Economic Growth and Educational Development

Over the past 40 years of reform and opening, China's economy has made great progress, becoming the world's second-largest economy, and people's lives have been dramatically improved. The GDP will increase from 989.4 billion yuan in 1982 to 126,058.2 billion yuan in 2023. Behind the rapid economic development lies the serious problem of economic development inequality. For example, the economic disparity between eastern and western provinces and the inequality caused by the urban-rural dual structure. These various manifestations of economic inequality together reveal a deep-seated trend of unbalanced development.

1.2. The Imbalance in the Distribution of Educational Resources

To meet the needs of China's sustained and rapid economic development, the reform of the education system has become a focus of discussion among all sectors of society. The allocation of education and educational resources is a topic of great concern to society. Although the government has invested many resources in the education field, aiming to enhance China's talent pool and human capital to match economic growth, the uneven distribution of educational resources still significantly restricts the development of local economies [1]. There is a high degree of overlap between the lack of regional educational resources and the weakness of regional economic development. This is reflected in the fact that the quality of school and teacher resources in the eastern region with relatively high economic development is much higher than that in the central and western regions with relatively low economic development levels [2]. The imbalance in educational resources has led to a further widening of the economic gap between provinces [2]. Regions with lower education levels may limit individual income levels due to academic qualifications, and lower income levels will lead to a rapid loss of teacher resources.

1.3. The Impact of Policy Reforms on Education

In response to the issue of educational inequality, the government has introduced several measures to try to improve regional educational inequality. After the redistribution of the financial responsibility for compulsory education, local governments are mainly responsible for local school construction, teacher salaries, and education funding.

However, local governments in the Midwest are unable to pay for this part of the expenses. In response to this phenomenon, the central government introduced improvement measures such as the "Compulsory Education Law of the People's Republic of China" in 2006. Shifted responsibility for providing education funding to provincial governments and divided China's provinces into three regions: Eastern, Central, and Western. There are differences in compulsory education expenditures among the three regional provinces. Tuition and miscellaneous fees are waived in rural areas. Basic public funds are jointly borne by the central and local governments under the items and proportions stipulated by the State Council. In the western region, the central government bears 80% and local governments bear 20%; in the central region, the central government bears 60% and local governments bear 40%; the eastern provinces will determine the proportions of each province based on their local financial conditions [3].

Although this measure has effectively improved the stability of compulsory education in the central and western regions, it has not solved the problem of teachers and educational resources tilting towards the east. Uneven regional economic development leads to educational inequality, which in turn further weakens regional economic development, thus forming a vicious circle.

2. Literature Review

2.1. Definition of Educational Inequality

In recent years, the education system, especially the unequal distribution of educational resources, has been widely discussed by scholars. Some studies tend to divide "educational inequality" into "reasonable inequality" and "unreasonable inequality" [4]. "Reasonable inequality" refers to obtaining better educational resources by relying on hard work or personal talent to demonstrate stronger learning ability. The definition of "unreasonable inequality" is the unequal opportunities to compete for educational resources due to macro-differences in family social status and education levels in a certain region. The purpose of research on educational inequality is not to lead to absolute

egalitarianism, but to shape an educational selection mechanism based on one's efforts while eliminating economic differences.

2.2. Current Situation of Urban-Rural Educational Inequality

China's educational inequality has complex historical and practical factors. The drastic changes in the economic system brought about by reform and opening up have brought more changes and uncertainties to China's education system. The current situation of educational inequality is reflected in the imbalance and inaccuracy of the educational opportunity distribution system caused by the uneven distribution of wealth under the economic system.

With the development of China's economy, the trend of urbanization is obvious. The economic inequality between provinces has caused a large concentration of human capital in cities, especially in eastern cities. With the transformation of social structure, a large number of migrant families and left-behind children have emerged in Western China, especially in rural areas [5]. Due to the shortage of labor in the western region, the working population is insufficient as a driving force for economic growth, resulting in a shortage of economic resources in rural areas. This has seriously weakened the Western region's attractiveness to educational talents. Research shows that there is a significant positive correlation between farmers' income level and the level of rural compulsory education [6]. This means that the backwardness of the rural economic level directly leads to the backwardness of the education level. The most significant manifestation is that there are serious differences in primary school enrollment rates between provinces, and areas with lower enrollment rates are mostly poor areas [7].

2.3. Current Situation of Urban Education Inequality

In urban areas, the scarcity of high-quality educational resources has exacerbated the involutionary trend of competition for educational resources. Due to their concerns about their children's future class status and the emphasis on education deeply rooted in traditional culture, parents have invested a lot of money in their children's extracurricular education. Research shows that the education level of parents is positively correlated with the proportion of their children participating in extracurricular training classes. Especially when the parents have a college degree or above, the proportion of children participating in extracurricular tutoring classes is significantly higher than that of families whose parents have not received higher education [8]. In addition, income inequality in cities has further fueled parents' expectations for their children to have higher education. Parents generally hope that their children can surpass their educational achievements to gain a more advantageous position in future social competition [9]. Limited educational places in cities, this has led to irrational competition at the macro level that is resource-consuming and meaningless [8]. The official evaluation of the relevant behavior is that the "fierce competition" of private tutoring has widened educational inequality and exacerbated parental anxiety [10]. Such competition has significantly raised the threshold for disadvantaged families to obtain high-quality educational opportunities and compressed the channels for disadvantaged families to advance in the education system.

3. Current Government Measures

3.1. Analysis of the Status of Education Investment

In China, helping poor areas change their backwardness through education has become a basic social consensus. The State Council's *"Decision on Winning the Battle Against Poverty"* states that strengthening educational support for compulsory education is the main approach and goal in the fight against poverty [11]. The government requires the establishment of a sound guarantee system

and relevant regulatory systems to accelerate the standardization of learning and increase the enrollment rate of students at all stages; Increase the training of rural teachers and consolidate the retention rate of teachers in poverty-stricken areas. In the overall national education plan, resources should be tilted towards economically backward areas. The most important thing is to establish a long-term mechanism to ensure that students from rural and poor areas can attend key universities and balance the advantages of relatively wealthy areas over students from poor areas. Between 1995 and 2000, the National Compulsory Education Project in Poor Areas, one of the government's largest education poverty alleviation projects, had a total investment of RMB 12.756 billion in the first phase [12]. The main investment projects are the construction of primary and junior high schools in poor areas and the training of educators [12]. The second phase of the project cost RMB 7.25 billion, mainly to add education-related information technology equipment based on the first phase of the project and to provide appropriate teaching materials for economically disadvantaged families [13].

The government's solution to the phenomenon of excessive competition caused by the allocation of urban educational resources is the "double reduction" policy, which is to reduce the homework burden and off-campus training burden of students in compulsory education. This policy severely restricts off-campus training [14]. The government is preparing to take relevant regulatory measures from the supply side of extracurricular training to reduce excessive competition among families for students in compulsory education. And to prevent higher-income families from having unfair competitive advantages in the selection process of high-quality schools.

3.2. The Effectiveness of Government Education Policy Implementation

The government's poverty alleviation work in the compulsory education stage in poor areas has achieved certain results. China's net primary school enrollment rate increased from 94% in 1978 to 99.95% in 2018, and the gross junior high school enrollment rate increased from 66.4% to 100.9% [1]. The significant improvement in data is inseparable from the government's emphasis on education and poverty alleviation. However, the substantial increase in enrollment rates has not solved the actual uneven distribution of educational resources, such as teacher quality, and school hardware, between poor and wealthy areas. Wealthy regions can gain more advantages in a series of large-scale examinations such as the "College Entrance Examination" with the assistance of higher quality educational resources.

In terms of the "double reduction" policy, this policy has not produced the expected results. As parents place more emphasis on key high schools and key universities, suppressing the supply side has not reduced families' demand for cram schools [15]. This policy has caused some after-school training teachers to leave large-scale education and training institutions and set up private tutoring institutions. The "double reduction" policy did not reduce students' off-campus training as expected but simply shifted the service providers from large companies and institutions to individual operators. The policy has failed to fully achieve its goal of reducing unfair competition in education.

4. Possible Solutions

4.1. Strategies for Optimizing the Allocation of Educational Resources

China's educational inequality problem, especially the fierce competition for exams, can be solved by improving the teaching level and resource allocation of vocational and technical colleges. There would not be too big a difference in wages between industrial workers with certain skills and those with university degrees, and there would be a better employment environment.

According to data from China's National Bureau of Statistics, of the 271,537,187 employed people in China, only 31,036,245 have a bachelor's degree, or 11%. There are 132,947,736 college and high school graduates, or about 49% [16]. If educational resources for the latter group of people were

improved, it might significantly reduce parents' anxiety about degree competition, as they would be more likely to find decent jobs. In addition, it can also reduce the academic anxiety caused by social discrimination against people with low education.

For example, Germany's manufacturing sector accounts for a significant proportion of its GDP [17]. On average, the highest level of education attained by manufacturing workers in Germany and China is a high school diploma. In 2021, the average monthly salary of German manufacturing employees reached US\$6,136, significantly higher than the Chinese average of US\$1,068 [18]. Such a huge wage gap leads Chinese parents to invest more resources in competing for higher degrees and better jobs.

But it is worth noting that in the "Made in China 2025" vision, part of the government's plan is to develop local high-end manufacturing that is in line with the manufacturing industry in some developed countries. At present, China has many high-end industrial chains that overlap with developed countries such as Germany, such as the automobile industry and drone manufacturing. The standards for these high-end manufacturing products place higher demands on assembly line workers and require workers with certain labor skills. This market demand can be filled by students trained in vocational and technical schools who have received corresponding skills training. The government can use administrative power to encourage vocational and technical schools to cooperate with high-end manufacturing companies, allowing students to enter the companies for internships, or for companies to send consultants to these schools for training. Disciplines are set up specifically to meet the needs of enterprises, so outstanding students can directly enter the industry to work after graduation. This series of employment-oriented and practice-centered reform measures can improve teaching quality and attract more educational resources. Enabling students to get better wages, narrow the gap with undergraduate graduates, and may greatly alleviate the educational inequality caused by the internal examination problem.

4.2. Specific Measures to Improve the Education Level in Poor areas of Central and Western China

In the educational inequality situation faced by poor areas in the Midwest, economic reasons have always been the main driving force behind this series of inequalities. From the perspective of educational equity, it is also urgent to improve the economic conditions in poor areas. Before the backward economic situation in poor areas is significantly improved, allowing students from poor areas to go to school in nearby cities with more developed educational resources may be a feasible solution. The school can provide accommodation for these students and provide food subsidies for them. The round-trip fares to go home can be sold to students at a very low price or for free. Such a plan can improve the educational resources available to students in poor areas in the short term and make academic selection exams fairer. When the educational resources students have gained have made great progress, these students can use the knowledge they have gained to improve the economic conditions of their hometowns, gradually drive up the educational level of their hometowns, and form a positive cycle mechanism.

5. Conclusion

Since ancient times, economic backwardness has often been a key factor restricting the improvement of education levels, and the lagging development of education has in turn aggravated economic difficulties. The key to breaking this vicious cycle is to help economically underdeveloped regions escape poverty and achieve independent development, thereby fundamentally improving their educational conditions. The government has invested a lot of resources in this regard and has achieved certain results, but these efforts are not enough to completely reverse the overall pattern of educational

inequality in China. Across China's vast territory, educational inequality takes different forms. Researchers should use a dialectical and developmental perspective to propose solutions suitable for each region. The issue of educational inequality should receive more attention and investment from society, not just the government.

The problem of educational inequality is not something that can be solved in the short term and must be viewed from a long-term perspective. What is important is to inspire the whole nation, especially those in backward areas, to attach importance to and be enthusiastic about education, so that they can become the internal driving force for promoting educational progress. The government's current achievements in addressing some educational inequalities must be firmly protected, and more long-term solutions must be proposed to address educational inequality. This long-term plan aims to strengthen the training of educational talents in poor areas, establish a complete education poverty alleviation system, and promote fairness in the education opportunity selection mechanism. And establishing a long-term and complete supervision mechanism to enable China's education system to develop with high quality in the future.

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