

The Relationship Between Regional Economic Development and Educational Equity in China

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Abstract: Educational equity is a major concern in China, where disparities in regional economic development significantly impact access to quality education. The Gaokao (college entrance examination) plays a crucial role in this dynamic, with regional differences creating substantial inequalities. This paper focuses on the educational disparities between Beijing, a developed region, and Hebei, a less developed area. The study uses data from the National Bureau of Statistics and various examination websites, analyzing Gaokao admission rates from 2019 to 2023. It also incorporates an interview with a TOFEL teacher from Hebei to provide qualitative insights. Key factors examined include economic development, teacher quality, student population, and the hukou system, which limits educational access based on residency. The results show that Beijing consistently achieves higher Gaokao admission rates (around 80%) than Hebei (rising from 47.8% to 50.1%). The paper concludes that regional economic development and resource allocation differences drive these disparities. Solutions proposed include redistributing educational resources and reforming policies to promote educational equity in less developed regions.

Keywords: Economic Status, Education, Equity, Gaokao, Interview

1. Introduction

Educational equity remains a pressing concern globally, including in China, where disparities in regional economic development significantly influence the quality and accessibility of education, posing a major obstacle to achieving educational equity. The Gaokao (the college entrance examinations) has a long history, plays a crucial role in high-level education in China, and influences many aspects of China's society. Undoubtedly, the problems that exist in the Gaokao policies would further develop into different democratic problems in China. The problem of disequilibrium of education in China has been analyzed by scholars and politicians in many ways, including the way to improve the teachers' ability to teach, replace classroom devices, and policy advice about how to oversee the teacher's outcomes. However, This paper focuses on the basic causes of the disequilibrium of education in China, challenges of the way to achieving education equity in Beijing and Hebei, and the potential solutions to solve the difficulties In addition, this paper contains an interview with one TOFEL teacher who used to study in Hebei. The Gaokao, or the College Entrance Examination in China, is a crucial measure of educational quality and access across the country. As stated by Wang [1] The inequity of entrance examination is the greatest social injustice, which threatens a fair and the most basic social bottom By examining the admission rates for Gaokao (College Entrance Examinations) in different regions, particularly Beijing and Hebei in China, considering the impact

of regional economic development, teacher quality, resources of education for various students, regional policies such as the Hukou system (household registration policy) and an online interview with a teacher who used to study in Hebei Province, focus on the teacher observation of regional educational problems and her suggestion towards educational equity, this paper aims to discover the potential causes of educational disparities among regions in China and propose possible solutions for equity education, focusing on the challenges and potential solutions to achieving educational equity and explores the connection between regional economic differences and academic development. This study on the fairness of the Gao Kao provides insights into improving equity in China's higher education system. By identifying existing disparities, it offers practical recommendations for policymakers to ensure equal opportunities for students from rural and city backgrounds, ultimately contributing to a more just and inclusive educational landscape.

2. A Review of Educational and Economic Conditions in Beijing and Hebei

2.1. Gaokao Admission Rates in Beijing and Hebei

Analyzing data from the National Bureau of Statistics and different examination websites, we found out that data from 2019 to 2023 shows that Beijing's Gaokao admission rates fluctuate around 80%, on the other hand, Hebei's rates have slowly risen from 47.8% to 50.1%. Despite the increase in undergraduate admission rate in Hebei is undeniable, the gap between the two regions is still significant. This persistent disparity provides two possible factors in regions that highly relate to the admission rate.

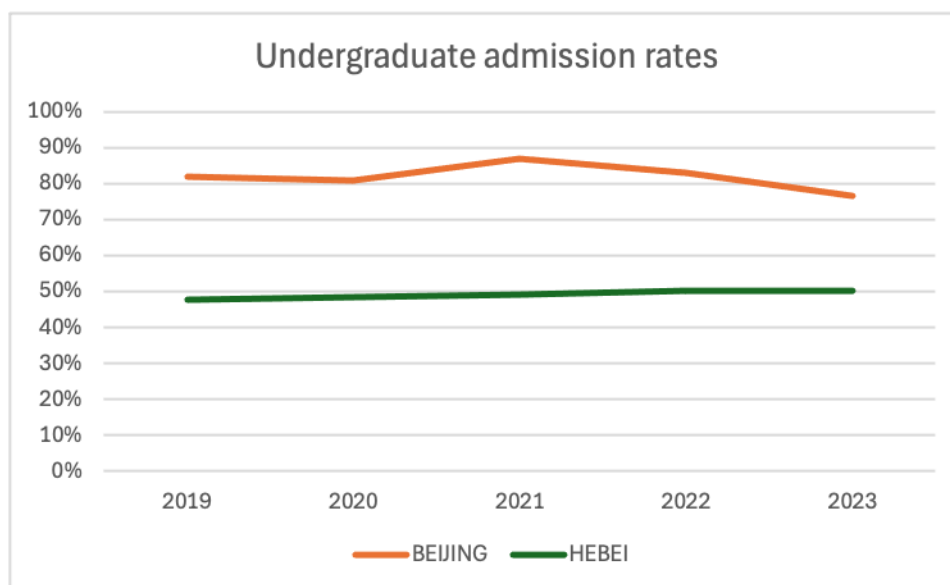


Figure 1: Differences in undergraduate admission rates in Beijing and Hebei [2].

2.2. Economic Status and Populations in Beijing and Hebei

Economic development plays a critical role in shaping the educational situation of a region. Comparing the disparities in economies and the Gaokao Admission rate, as shown in the following figures, we can find that the regional Gaokao admission rates are highly linked to the regional economies' developments. The wealthier regions, like Beijing, generally have more experienced teachers, with high-level teaching techniques combined with a variety of extracurricular activities. In contrast, less developed regions such as Hebei struggle with limited resources, outdated facilities, and a shortage of qualified teachers. There is still a big difference in the achievement of compulsory

education between town and countryside areas, says Li [3] in his research. These disparities in educational resources significantly impact Gaokao admission rates, as students from economically developed regions consistently outperform their peers from less developed areas. According to Cai [4] educational resources are highly related to local urbanization and the local economic level.

Moreover, the local populations and the number of students participating in Gaokao also impact the admission rates. As Figure. 3 shows below, in 2019-2023, the number of Gaokao participants in Hebei increased from 559600 to around 862000. Conversely, Beijing's annual participation in Gaokao fluctuates around 55000, indicating a significant disparity between the two regions.

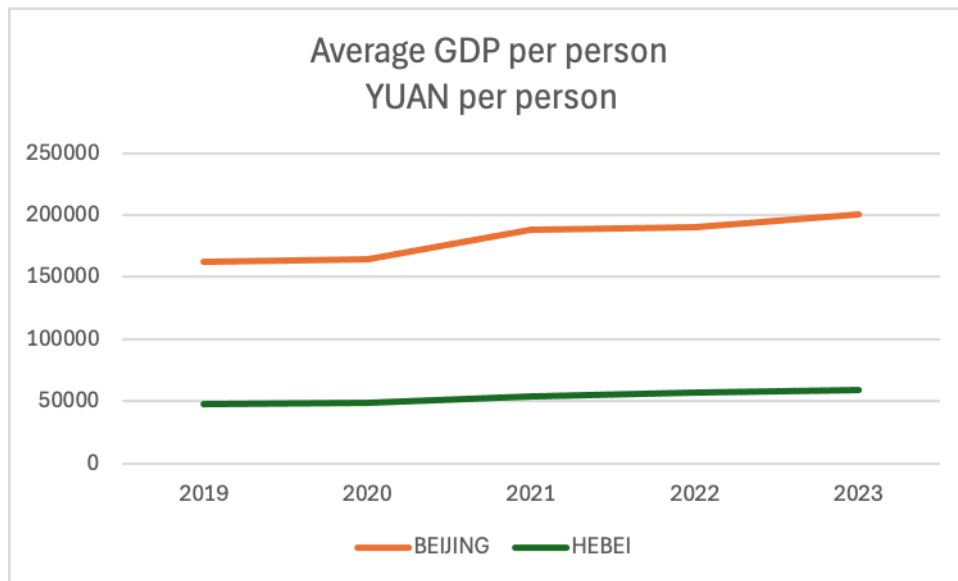


Figure 2: Differences in average GDP per person in Beijing and Hebei [5].

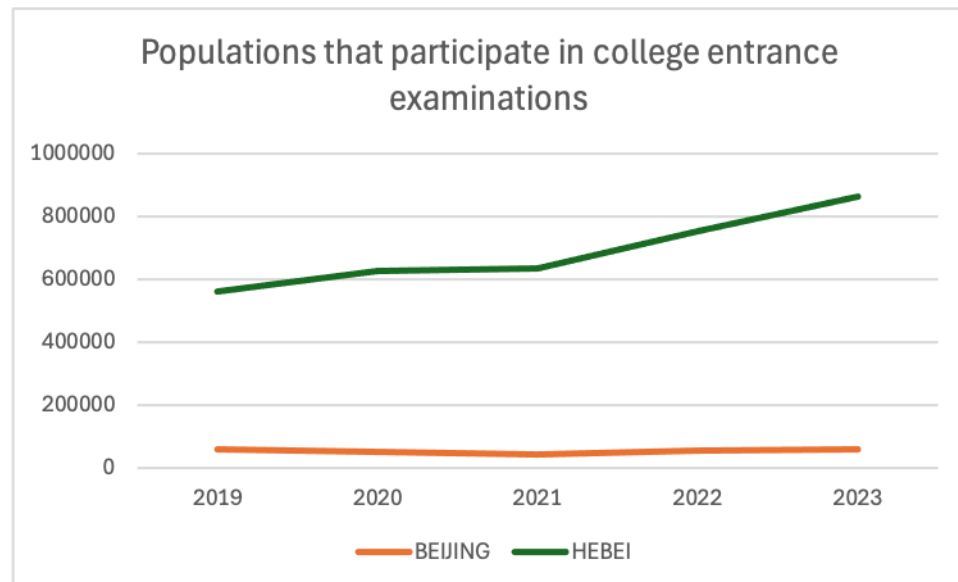


Figure 3: Population that participates in college entrance examinations [2].

These suggest that the situation of higher admission rates in Beijing is not only merely the result of fewer participants in Gaokao every year but also strongly related to the region's economic development combined with superior educational resources.

2.3. The Relationship between Personal Economic Conditions and Educational in Beijing and Hebei

Even in economically advantaged cities like Beijing, students' economic conditions significantly influence their access to educational resources and their future education opportunities. Families with higher incomes can afford the high costs of private education and access to advanced educational resources. This economic advantage often translates into better test scores, helping these students excel in the Gaokao and further education. In contrast, students from lower-income families may struggle to access such opportunities, which can limit their academic potential and prospects. According to Liu [6], socioeconomic status (SES) plays a significant role in shaping students' academic performance and their expectations for future education. Besides, the interviewer, mentioned that although the students who study in international schools generally have weaker potential and abilities in studying, in the end, they often get better educational opportunities and better educational outcomes due to their parents can afford the costly tuition of studying abroad. On the other hand, most students in Beijing rely solely on the Gaokao as their primary pathway to higher education, highlighting the impact of personal economics on educational outcomes even in regions with strong overall economic development.

3. The Role of Hukou Policy in China and Its Impact

The hukou system, which ties individuals to their places of residence, has a long history in China but struggles to adapt to the demands of modern society, exacerbating educational disparities. Originally implemented during the planned economic era, the Hukou system was designed to help the government manage and allocate limited resources such as food and housing by categorizing the population into two main groups: agriculturally registered permanent residents (rural) and non-agricultural registered permanent residents (urban). This classification system effectively anchored rural residents to their places of origin, providing them with limited opportunities to relocate to urban areas and severely restricting social mobility.

Nowadays, in Beijing, admission to primary and secondary schools is strictly based on the school district boundaries and local Hukou. Even though some of the families moved to Beijing and have resided there for years, their children still cannot be enrolled in the local high school since they do not own the local Hukou. Due to this, large cities such as Beijing are able to maintain their high admission rates in Gaokao. On the other hand, rural areas like Hebei generally have less strict policies in Hukou, thus creating far lower admission rates in Gaokao. Moreover, the difference in healthcare coverage is also reflected by the difference in Hukou policies. A more comprehensive urban resident medical insurance plan covers urban residents with local Hukou in major cities like Beijing. In contrast, rural residents or non-local migrant workers rely on the New Rural Cooperative Medical Scheme, which often provides lower reimbursement rates and less extensive coverage. Additionally, non-local residents may face restrictions when trying to access public healthcare facilities in these cities, creating further inequalities in healthcare accessibility.

4. Regional Financial Investment Disparities and Regional Examination Policies

Urban areas, due to their greater economic development and advanced educational system, can receive more government financial support for education. Urban areas have a significant financial advantage in education due to higher local government budgets, which allows for better school facilities and higher salaries to attract qualified teachers. Moreover, the Hukou system also restricts people in different regions access to high-quality schools in urban areas. According to the Wu. [7], Hukou policies cause rural residents to get the same quality of education as urban residents do. During the interview, the interviewer stated that many colleges, especially the ones that are involved in 985,

211 projects university, which represent the top level of education, generally have protection policies for local students. That is, despite the existence of score limitations, the local colleges tend to accept more students in their region. Large cities often restrict admission to top universities to students with local Hukou, thereby placing students from other regions at a disadvantage, despite their equal potential and learning abilities. Children with rural hukou lack equal access to education in urban areas stated Sun [8]. Moreover, teacher quality is a critical factor in determining educational outcomes. Regions with higher economic development like China can attract highly qualified teachers and retain them to continue working in their schools or institutions since generally, these institutions offer them higher salaries than other regions and better future career development opportunities including better treatment through different aspects of their daily life. In contrast, teachers in less developed regions often face challenges of lower pay and limited opportunities for future career development, leading to a significant gap in teaching quality between regions.

During the interview, the interviewer demonstrated the unique conditions that frequently occur in Beijing and Hebei. Because of the different examination policies in Beijing and Hebei, students with generally the same learning ability will perform entirely differently. Despite having identical examination scores on a single test, students from developed economies with strict Hukou policies tend to enroll in better colleges and embrace more advanced educational resources, such as those in Beijing. On the other hand, the students from undeveloped areas, take Hebei, as an example, would be enrolled in weaker universities, such as those located in remote areas or those with outdated lab equipment and unqualified teachers. Since the Hukou policies, some of the students were forbidden to enter the qualified schools in different areas. In some jurisdictions, children are prohibited from even participating in college entrance exams. says Max, M K [9]. Indeed, this kind of situation happens every day.

5. Inequality in Regional Education Resources and Potential Solutions

Achieving educational equity necessitates the use of multiple strategies to address the issues arising from various factors contributing to disparities. One important solution is to achieve the redistribution of educational resources through various ways like online courses and digital platforms. The interviewer notes that during the COVID-19 pandemic, numerous teachers, professors, and institutions, including schools and colleges, began to freely upload course videos on online video platforms such as YouTube and TikTok, believing this to be an effective means of disseminating educational resources. According to Means & Murphy [10], interactive and adaptive educational methods on the Internet can enhance students' engagement and improve educational outcomes by providing personalized learning methods for them. By using these advanced technologies, it is possible to provide high-quality education to students in underdeveloped regions and enclose the gap between urban and rural education.

Moreover, during the interview, the interviewer mentioned that for the students who are living in poverty or studying in poverty areas, the local government provides some policies like lowering the enrolled scores for these kinds of students. Indeed, the power of government plays a crucial role in protecting minority students rights and helps to narrow the gap between rural areas and urban areas, thus achieving some of the effects of the reallocation of educational resources, just like the implementation of the policy favors poor areas in Central and Western China [11]. The local government can further investigate the types of policies that could be implemented to improve this situation.

6. Conclusion

Achieving educational equity in China is a multifaceted challenge that requires a comprehensive approach, involving sustained efforts from the government, educational institutions, and educators. The disparities in the Gaokao admission rates across regions reflect the deep connection between regional economic development and educational outcomes. Everyone in China has the same chance to get a good education by managing and helping the regional economies grow, helping students who are having trouble paying for school, changing and adapting regional Hukou and examination rules, and finally redistributing educational resources.

By examining the differences between the local economies' status, population, and the local Gaokao admission rate, we can uncover potential relationships among these factors that contribute to educational inequality, that is, the level of educational equity within a region is highly related to the regional economics status, showing the positive relationships between two factors. With the interview with a teacher, we can further investigate the potential solutions, like increasing the investigation to the regional education bureau and designing regional policies to solve these disparities. Achieving educational equity across regions is no easy task and requires overcoming significant challenges. These challenges range from institutionalized inequalities within the education system to broader socio-economic barriers. A multifaced solution is required to create a more balanced system. By exploring these strategies, we can identify viable solutions that have the potential to bring about long-term improvements in educational equity across different regions. Despite this essay discovering the potential relationship between economic status and regional educational outcomes, further investigations of policies in different regions and their effect remain unclear. Further research should focus on the policies in different regions and their effectiveness.

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