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A STUDY ON THE COORDINATION BETWEEN THE SIZE OF UNDERGRADUATE EDUCATION AND REGIONAL ECONOMY IN MAINLAND CHINA'S PROVINCES: ANALYSIS AND PATHWAY RECOMMENDATIONS BASED ON 2018 DATA

This study aims to explore the coordination between the scale of undergraduate education and regional economic development in 31 provinces in mainland China. By analysing the relevant data in 2018, the study finds that there is a strong correlation between the scale of undergraduate education and gross domestic product (GDP), but at the same time, there is an imbalance, and the scale of undergraduate education in some provinces is not coordinated with the regional economic development. This imbalance is caused by various factors such as history and culture. The study suggests specific paths for different regions to achieve the coordinated development of undergraduate education scale and regional economy.

Keywords: undergraduate education scale; regional economy; coordination; coordinated development; empirical research

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ДОСЛІДЖЕННЯ ЩОДО КООРДИНАЦІЇ МІЖ МАШТАБОМ БАКАЛАВРСЬКОЇ ОСВІТИ ТА РЕГІОНАЛЬНОЮ ЕКОНОМІКОЮ В ПРОВІНЦІЯХ МАТЕРИКОВОГО КИТАЮ: АНАЛІЗ І РЕКОМЕНДАЦІЇ ЩОДО ШЛЯХУ НА ОСНОВІ ДАНИХ 2018 РОКУ

Скоординований розвиток додипломної освіти та регіональної економіки є важливою темою для перехресного вивчення багатьох дисциплін, таких як освіта, економіка та управління. За словами Пан Маоюань, деякі вчені провели якісне дослідження взаємозв'язку між вищою освітою та економічним розвитком на основі теорій економіки знань, регіональної конкурентоспроможності, людського капіталу тощо. (2001) висунув дві основні ідеї: по-перше, попит на бакалаврську освіту змінюється на різних етапах розвитку місцевої економіки; і по-друге, якщо проаналізувати з точки зору економіки, між ними існує двосторонній і багатовимірний нерівноважний взаємозв'язок. Крім того, деякі вчені проводили кількісний аналіз за допомогою статистичних даних, застосовували технічні засоби, такі як комплексні методи оцінки, аналіз головних компонентів і факторний аналіз, а також використовували метод ранжованої різниці рівнів і метод коефіцієнта кореляції для оцінки координації між ними. Незважаючи на високу довідкову цінність існуючих досліджень, вони більше зосереджені на аналізі цінностей і теоретичних дискусіях, а менше на аналізі даних і емпіричних дослідженнях, і більшість із них покладаються на дані часових рядів із відносно невеликою кількістю даних перехресного перерізу. Щоб усунути цей статус-кво, ця стаття спрямована на проведення кореляційного аналізу та створення координаційної схеми на основі даних, пов'язаних із масштабом бакалаврської освіти та регіональним економічним розвитком 31 провінції материкового Китаю в 2018 році через перспективи багатьох дисциплін, таких як як педагогіка, економіка та менеджмент. Водночас у цьому документі будуть запропоновані відповідні стратегії для трьох регіонів, де масштаби додипломної освіти випереджають економічний розвиток, відстають від економічного розвитку та мають низький рівень обох.

Це дослідження має на меті дослідити взаємозв'язок між масштабами бакалаврської освіти та регіональним економічним розвитком у 31 провінції материкового Китаю. Аналізуючи відповідні дані за 2018 рік, дослідження виявило, що існує сильна кореляція між масштабом додипломної освіти та валовим внутрішнім продуктом (ВВП), але в той же час існує дисбаланс, і масштаб додипломної освіти в деяких провінцій не узгоджується з регіональним економічним розвитком. Цей дисбаланс викликаний різними факторами, такими як історія та культура. Дослідження пропонує конкретні шляхи для різних регіонів для досягнення узгодженого розвитку масштабу додипломної освіти та регіональної економіки.

Ключові слова: шкала бакалавра; регіональна економіка; координація; узгоджений розвиток; емпіричне дослідження

INTRODUCTION

The coordinated development of undergraduate education and the regional economy is an important topic for the cross-study of many disciplines such as education, economics and management. Some scholars have conducted qualitative research on the relationship between undergraduate education and economic development based on the theories of knowledge economy, regional competitiveness, human capital, etc., According to Pan Maoyuan. (2001) , put forward two main ideas: firstly, the demand for undergraduate education varies at different stages with the development of the local economy; and secondly, analysed from the perspective of economics, there exists a two-way and multi-dimensional non-equilibrium interactive relationship between the two. In addition, some scholars have conducted quantitative analyses by means of statistical data, applied technical means such as comprehensive evaluation methods, principal component analysis and factor analysis, and used the ranked level difference method and correlation coefficient method to assess the coordination between the two. Despite the high

reference value of the existing studies, they focus more on value analysis and theoretical discussion and less on data analysis and empirical research, and most of them rely on time-series data, with relatively little cross-sectional data. To address this status quo, this paper aims to conduct correlation analyses and produce a coordination schematic based on the data related to the scale of undergraduate education and the regional economic development of 31 provinces in mainland China in 2018 through the perspectives of multiple disciplines, such as pedagogy, economics, and management. At the same time, this paper will propose corresponding strategies for the three regions where the scale of undergraduate education is ahead of economic development, lags behind economic development, and has a low level of both.

REVIEW

The coordinated development of the scale of undergraduate education and the regional economy is an inevitable product of historical development, and their combination has a deep foundation.

Research on undergraduate education has shown that, on the one hand, undergraduate education is the intermediate level of higher education in China, occupying a dominant position in the structure of higher education and belonging to the first stage of the third level of UNESCO's International Standard Classification of Education (granting the first level of a university degree or the equivalent of a qualification certificate). Its duration of study is generally four years, and it constitutes one of the three levels of higher education together with specialised education and postgraduate education. On the other hand, According to Gu Mingyuan.(1997) ,the scale of education is defined as "the sum of educational institutions of all levels and types and the number of human, financial and material resources they possess. The scale of education can be divided into three aspects: internal activities, vertical and horizontal. In terms of the structure of its internal activities, it can be divided into the scale of educational investment, the scale of educational equipment, and the scale of teachers and students; in terms of its vertical structure, it can be divided into the scale of pre-school education, the scale of primary education, the scale of secondary education, and the scale of higher education; and in terms of its horizontal structure, it can be divided into the scale of school education and the scale of social education. It is constrained by the size of the population and its age structure, and the level of economic development. Appropriate scale of education can produce high educational benefits". Indicators for measuring the scale of education can be divided into relative and absolute indicators. Relative indicators refer to the use of demographic or economic indicators to measure the scale of education relative to the level of development of the region; absolute indicators refer to the absolute number of colleges and universities, the number of students, the number of teachers and other absolute quantities owned by a region. In short, the scale of undergraduate education refers to the sum of undergraduate colleges and universities and the number of people, property and materials they possess. People refers to the faculty, finance refers to the investment of education funds, and material refers to instruments, equipment and campus buildings, etc. The standard of measurement includes relative and absolute indicators.

With regard to research on the regional economy, on the one hand, the term "region" has to be clarified in order to understand the regional economy. Due to the constraints of cognitive level, research direction and differences in time, different scholars have interpreted the concept in very different ways. In the Dictionary of Western Economics, "region refers to the economic and social complex created by human economic activities, with specific geographical components, which can be distinguished from other territorial and spatial complexes due to the high degree of correlation between the various components in certain characteristics". It follows that a region can be as small as a village or as large as a country or even a cross-border place jointly developed by several countries. On the other hand, regional economy is a comprehensive and systematic concept. Regional economy encompasses two aspects: According to Li, K.P., & Ho, Sterilizer. (2023) ,"one refers to the economic behaviour and economic relations between regions of a country; the other refers to the economic behaviour and economic relations between economic areas, organisations and sectors within a region". Regional economies can be divided by statistical classification, economic centre analysis, economic linkage, etc. In this paper, the regional economy is divided by administrative regions and the quantitative characteristics of regional economic development, i.e. GDP, are used to reflect the regional economy.

Research in the coordinated development of the scale of undergraduate education and the regional economy has shown that. Undergraduate education and regional economy, as two indispensable subsystems in the process of advancing the orderly development of society, depend on and promote each other. If undergraduate education is overly advanced, it will lead to the supply of undergraduate graduates exceeding the demand for social and economic development, resulting in a decline in the employment rate of college graduates, resulting in a waste of human resources; if the regional economy is overly advanced, the demand for talent will increase substantially, but the number of graduates can not be reached, which will lead to the regional economic development due to a lack of talent appears to be insufficient, and will ultimately impede the further development of the regional economy. According to Zhang Zheng.(2013). The further development of the regional economy will be hindered in the end. Referring to the definition of

the coordinated development of higher education and regional economy, the coordinated development of undergraduate education scale and regional economy can be understood as the provinces and regions under the unified leadership of the central government, the provinces and municipalities according to the actual situation of their own socio-economic development, to determine the number of colleges and universities of undergraduate education, the number of students, the number of teachers, etc., so that the undergraduate education can cultivate talents in line with the actual needs of the society, which can promote the sustainable development of the local economy. sustainable development. Naturally, the coordination discussed in this research refers to the coordinated development of undergraduate education under the framework of priority development, not to a synchronous standard between the scale of undergraduate education and the regional economy.

RESEARCH METHODOLOGY

The purpose of this study is to evaluate how well 31 provinces in mainland China's undergraduate education system align with the region's economic development. The study uses a multi-stage methodological approach that includes indicator selection, data collecting, data processing and analysis, and result interpretation in order to accomplish this goal.

Selection of indicators : Several important variables were chosen for this study in order to gauge the scope of undergraduate education in the region and the degree of economic development in the area. Among these indicators are:

The number of higher education institutions, the number of enrolled students, the number of full-time teachers, the total amount spent on education, and the amount spent per student are all indicators of the scope of undergraduate education. These metrics are clear, quantifiable ways to gauge the level of education and fully represent how educational resources are allocated and used.

Gross domestic product (GDP) and GDP per capita are measures of the degree of regional economic development. While GDP per capita offers a per capita view of the degree of economic development, GDP acts as an indicator of the total amount of economic activity.

These indicators were chosen on the basis of their ability to provide a comprehensive picture of the scale of education and economic development, as well as the high availability of data to facilitate comparative analyses across provinces and territories.

Data collection: The 2018 statistical yearbooks of mainland China's 31 provinces, government reports from the education sector, and other trustworthy public data sources serve as the foundation for the data collection process. All of the data were verified twice and appropriately interpolated to account for any potential missing data in order to assure the data's dependability and quality.

Data processing: The data obtained in this study were standardised in order to remove the impact of disparate data units and orders of magnitude on the analysis's outcomes. Particular techniques comprised:

Normalisation is the process of transforming unprocessed data into dimensionless relative values in order to make it easier to compare various indicators.

Z-score normalisation: To evaluate each provincial administrative unit is relative position with respect to the amount of undergraduate education and the degree of economic development, a Z-score is computed for each indicator.

Methods of analysis: The following analyses were used in this study to assess the coherence between the size of undergraduate education and regional economic development:

Correlation analysis: assessing the strength of the correlation between undergraduate education size indicators and GDP and GDP per capita by calculating the correlation coefficients between the two.

Regression analysis: a linear regression model was used to explore the relationship between undergraduate education size indicators and economic development indicators.

Schematic of Coherence: A schematic of coherence is constructed to visualise the relative position of the size of undergraduate education and the level of economic development of each provincial administrative unit, as well as the coherence between them.

INTERPRETATION OF RESULTS AND RECOMMENDATIONS

Based on the results of the analyses, this study will provide an in-depth discussion of the phenomena of coherence and incoherence found and make targeted recommendations. These recommendations are intended to promote the harmonisation of the scale of undergraduate education with the regional economy in order to achieve sustainable socio-economic development.

RESULTS

There is an imbalance in the regional development of undergraduate education in China, as evidenced by the significant differences in the data of the five indicators of the scale of undergraduate education in different provinces and regions, as observed by an analysis of the correlation charts derived from the research design; The linear regression analysis graphs of the five undergraduate education scale

indicators with the regional GDP and regional per capita GDP show a high link, however the correlation with per capita GDP is less clear; The schematic diagram illustrating the relationship between undergraduate education scale and regional economic development level reveals that in certain provinces and regions, undergraduate education scale is not in line with the latter's level of development;The real conditions in each province and region were analysed, and the results showed that a number of elements, including history and culture, had an impact on the variations in undergraduate education levels.

Uneven regional development of undergraduate education in China

After an in-depth analysis of the scale of undergraduate education in 31 provinces in mainland China, this study finds that there is a significant imbalance in the regional development of undergraduate education in China. This imbalance is mainly manifested in the following aspects:

Geographical differences in the number of undergraduate colleges and universities

The distribution of resources for higher education in a region can be inferred from the number of undergraduate colleges and universities in that area. With 77 undergraduate colleges and universities, Jiangsu Province leads the list, according to the analysis's findings, which highlights the province's concentrated edge in higher education resources. However, there are just four undergraduate colleges and universities in Tibet Autonomous Region and Qinghai Province, indicating a severe lack of resources for higher education in these areas. This inequality restricts the possibilities for social and economic growth in these areas as well as local citizens' access to higher education (see Figure 1).

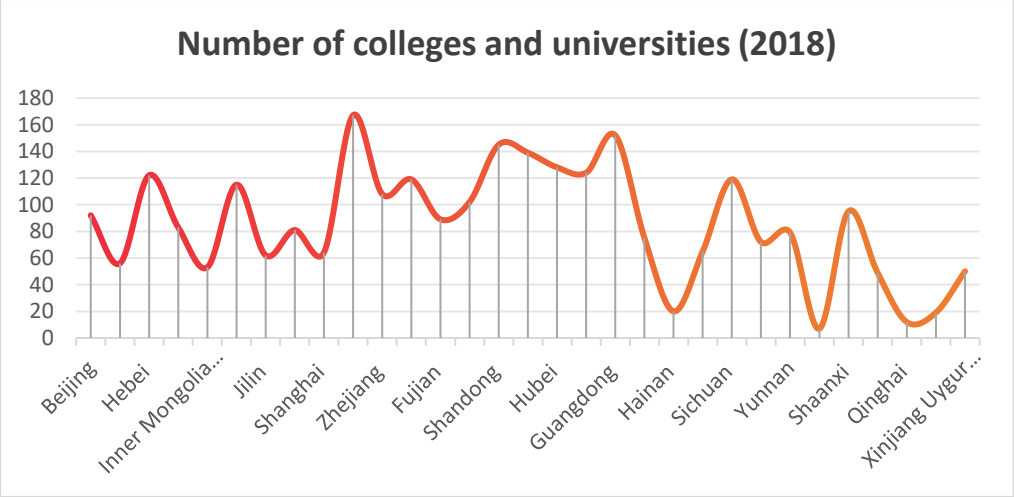


Fig. 1 Number of undergraduate colleges and universities by province (city)

Sources: developed by the authors

Interprovincial differences in the number of students enrolled

The number of enrolled students directly reflects the coverage and popularity of higher education. It is found that the number of students enrolled in Jiangsu, Henan and Guangdong provinces exceeds 1 million, and these provinces have made remarkable achievements in the popularisation and expansion of higher education. However, the number of enrolled students in Hainan Province, Tibet Autonomous Region and Qinghai Province is less than 200,000, indicating that there is still much room for improvement in the popularisation of tertiary education in these regions (see Figure 2).

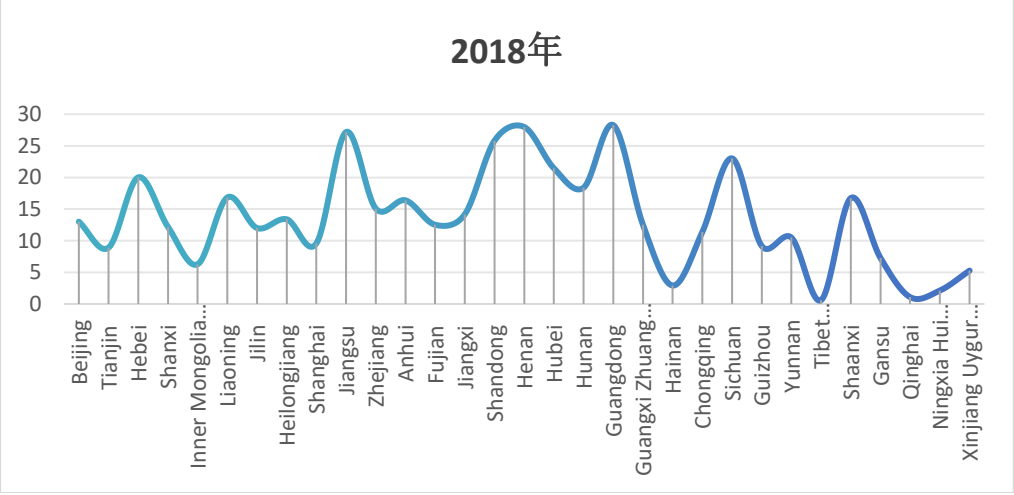


Fig. 2. Number of students enrolled in undergraduate colleges and universities by province (city)

Sources: developed by the authors.

Regional disparities in funding for education

Investment in education funding is a key factor in ensuring the quality and development of higher education. This study shows that the total funding for undergraduate education in places such as Guangdong Province and Beijing is close to 30 billion yuan, whereas in places such as Tibet Autonomous Region, Qinghai Province, Xinjiang Uygur Autonomous Region, and Hainan Province, the investment is less than 5 billion yuan. This huge difference in funding input directly affects the hardware facilities, faculty and teaching quality of undergraduate education in each place (see Figure 3).

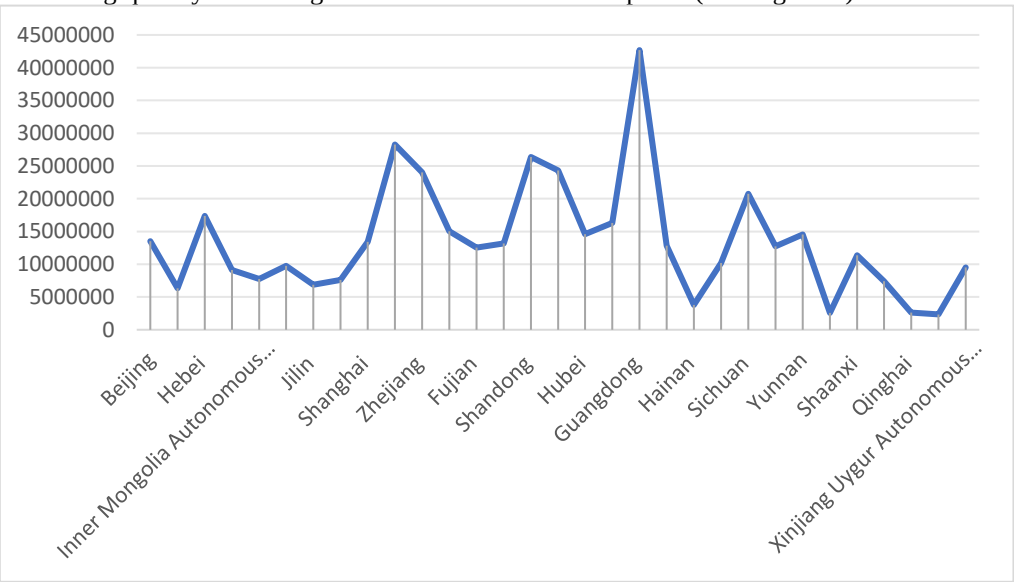


Fig. 3 Total funding for the size of undergraduate education by province (city)

Sources: developed by the authors.

Inter-provincial differences in per-pupil funding

Per-pupil funding is an important indicator of equity in the distribution of educational resources. The study found that the per pupil funding in Liaoning Province is RMB 14,580.39, while the per pupil funding in Beijing is as high as RMB 63,273.24, which is more than three times that of Liaoning Province. This difference in per-pupil funding not only affects students' educational experience and learning quality, but also reflects the uneven distribution of educational resources (see Figure 4).

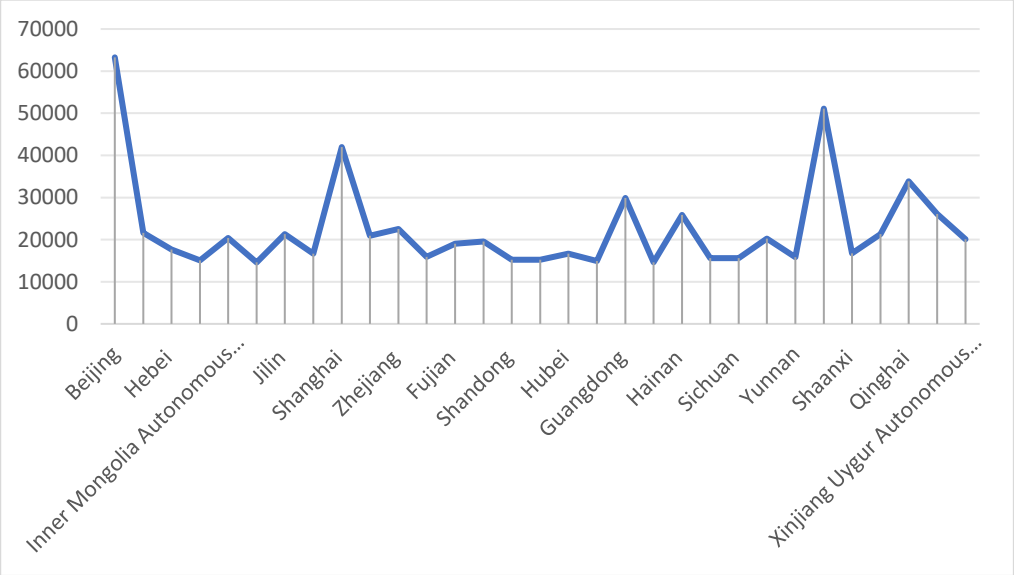


Fig. 4 Undergraduate education scale per student funding by province (city)

Sources: developed by the authors

Geographical differences in the number of full-time teachers

The number of full-time teachers is an important indicator of human resources in higher education. Jiangsu Province ranks first in the country with 116,350 full-time teachers, while the Tibet Autonomous Region has only 2,629 full-time teachers. This discrepancy not only affects the quality of teaching and

student learning outcomes, but also limits the development and innovation capacity of higher education in these regions (see Figure 5).

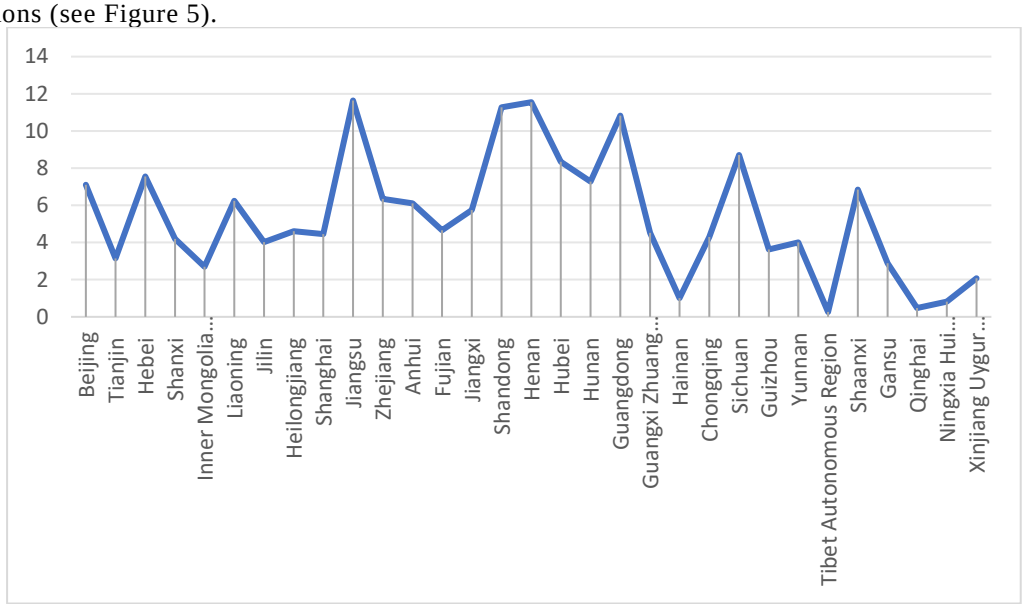


Fig. 5 Number of full-time faculty in undergraduate colleges and universities by province (city)

Sources: developed by the authors.

In summary, the problem of uneven regional development of undergraduate education in China is very prominent. This imbalance is not only reflected in the distribution of educational resources, but also in the quality of education and development opportunities. In order to promote the balanced development of higher education in China, it is necessary to start from many aspects, such as human resources, financial resources, and policy to better support areas with limited educational resources, optimise the distribution of educational resources, and raise educational standards in order to attain equitable education and well-coordinated socioeconomic development.

The size of undergraduate education has a strong correlation with GDP

After comprehensively analysing data on the size of undergraduate education and regional economic development in 31 provinces in mainland China in 2018, this study reveals a significant positive correlation between the size of undergraduate education and gross domestic product (GDP). This correlation suggests that as the regional economy develops, the demand for and investment in undergraduate education increases, reflecting the close link between education and economic development.

Number of HEIs and GDP: The coefficient of determination of the number of HEIs and GDP, R^2, reaches 0.7823, indicating that 78.23 per cent of the change in the number of HEIs can be explained by the change in GDP, which shows a strong positive correlation (see Figure 6).

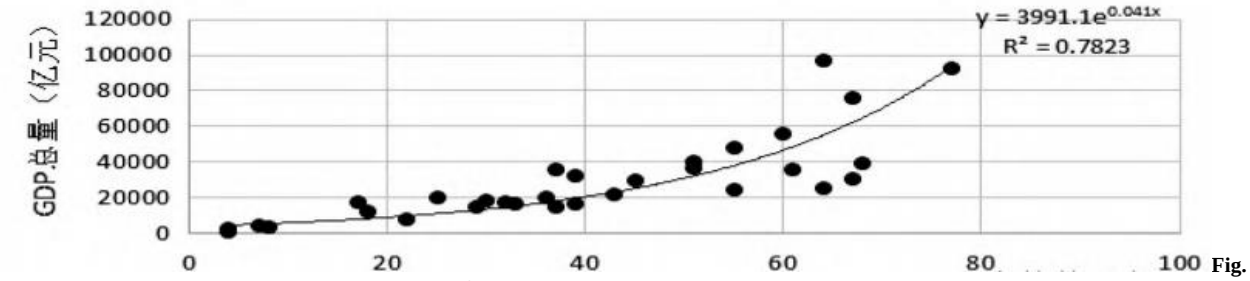


Fig. 6 Relationship between the number of undergraduate colleges and universities and regional GDP by province

Sources: developed by the authors.

Number of students enrolled and GDP: The coefficient of determination of the number of students enrolled and GDP, R^2, is 0.7825, further confirming the close relationship between the size of education and economic development (see figure 7).

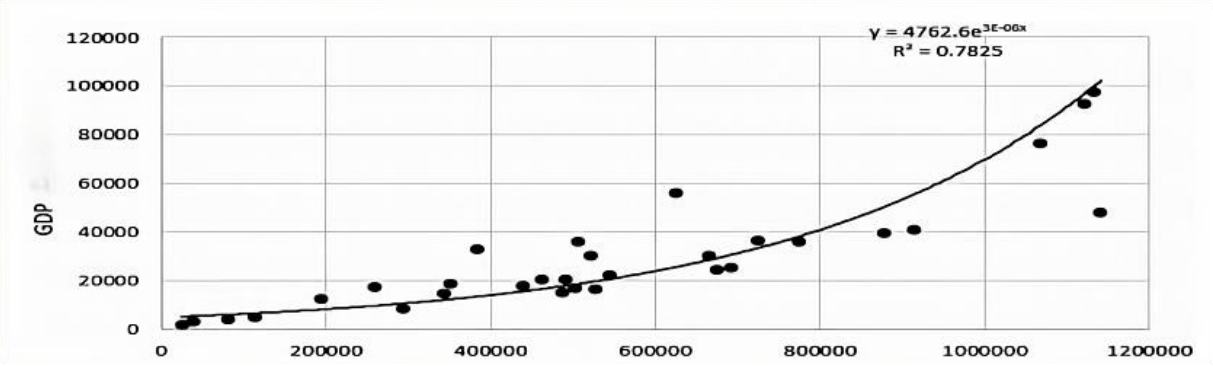


Fig. 7 Relationship between the number of undergraduate students enrolled and regional GDP by province
Sources: developed by the authors.

Number of full-time teachers and GDP: The coefficient of determination (R^2) between the number of full-time teachers and GDP shows a strong positive correlation between the rise in the local economy and the number of full-time teachers (see Figure 8).

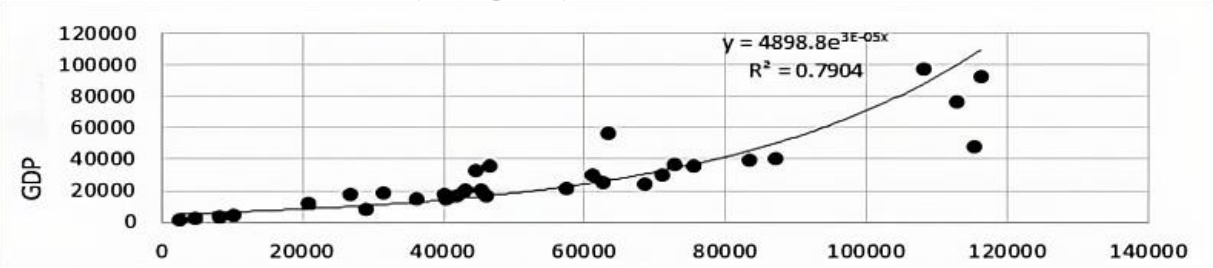


Fig. 8 Relationship between the number of full-time faculty in undergraduate institutions and regional GDP by province
Sources: developed by the authors.

Education spending and GDP: The R^2 of the resolvability coefficient of education spending and GDP is 0.6844, which is slightly lower than the previous indicators, but still shows a strong correlation. (See Figure 9.)

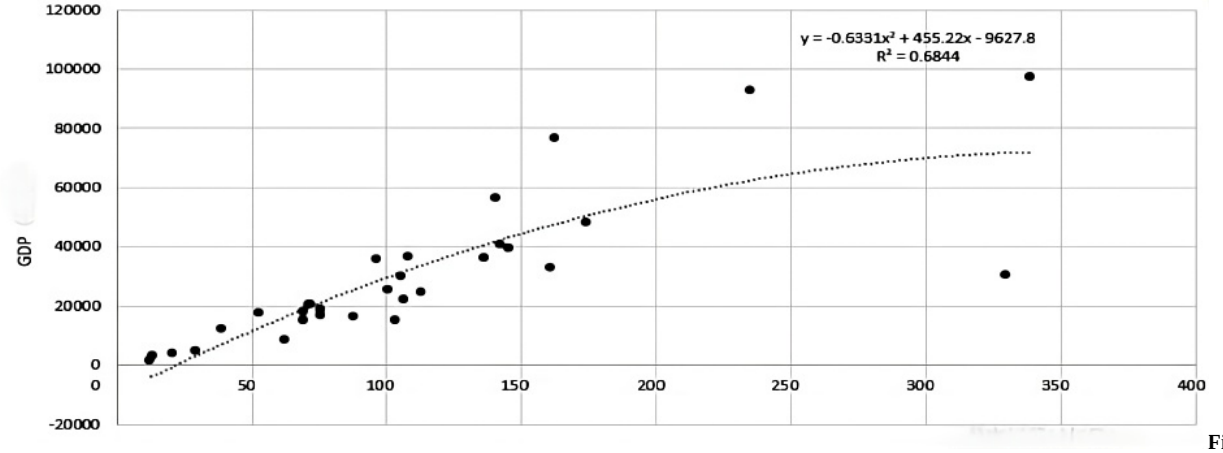


Fig. 9 Relationship between undergraduate education funding and regional GDP by province
Sources: developed by the authors.

These results suggest that as GDP grows, investment in undergraduate education increases in each provincial region, probably because economic growth provides more financial resources for investment in education and also reflects increased social demand for higher education. In addition, the development of undergraduate education may also have contributed to regional economic growth, as higher education is able to train more specialised personnel and promote technological innovation and industrial upgrading, thereby contributing to economic development.

The strong correlation between the size of undergraduate education and GDP reveals the two-way interactive relationship between education and economic development. To fulfil the demand for highly qualified persons for economic development, more must be done to optimise the allocation of educational resources and raise the standard of education in order to promote sustained regional economic development. In order to encourage the general improvement of the social economy through education, the

government and other societal sectors should simultaneously raise their investment in education, particularly in the more economically disadvantaged areas.

The scale of undergraduate education in some provinces is not coordinated with regional economic development

Upon conducting a thorough analysis of the undergraduate education scale and the regional economic development level in 31 Chinese mainland provinces, this study finds several provinces where there are notable disparities in the way the scale of undergraduate education and economic development are coordinated. This discrepancy is a problem for the regional economy's ability to grow sustainably and shows up differently in each province.

This study classifies provincial administrative units based on the relative positions of their scales of undergraduate education and levels of economic development by creating a schematic diagram of the coordination between the two variables. The following schematic diagram (see Figure 10) illustrates how the scope of undergraduate education and the degree of economic development in some regions are out of sync:

Quadrant 1: Regions with both high economic and educational scales. For example, the scale of undergraduate education and the level of economic development in Sichuan and Anhui provinces are both at a high level in the country, but further analysis reveals a certain imbalance between undergraduate education inputs and economic outputs in these regions, suggesting that there is room for improvement in the efficiency of the use of educational resources.

Quadrant 2: Economically developed but undersized education regions. Fujian Province, as an example, has a high level of economic development but a relatively small scale of undergraduate education, which may limit its potential for economic development, as the supply of talent may not be able to meet the demands of economic development.

Quadrant 3: Regions with both low economic and educational scale. Provinces and regions such as Qinghai Province, Ningxia Hui Autonomous Region and Hainan Province have low levels of undergraduate education scale and economic development, suggesting that these regions face greater challenges in both education and economic development.

Quadrant 4: Regions with lagging economies but large education scales. Provinces such as Shaanxi and Liaoning have relatively large undergraduate education, but their level of economic development fails to match it, which may lead to wasted educational resources and brain drain.

Multifactorial Impact Analysis of Interprovincial Differences in Undergraduate Education Scale

Differences in the scale of undergraduate education between provinces in mainland China are shaped by a series of complex and interacting factors.According to Liu Guorui.(2019). These factors include historical background, policy orientation, level of economic development, demographics, geographic location, and cultural traditions. This study will delve into these dimensions to explore the major factors affecting interprovincial differences in the size of undergraduate education.

Historical background and policy orientation

Historical background and policy orientation have a profound impact on the allocation of educational resources in a region. For example, in the early years of New China, the government focused on investing in higher education institutions in the northeast in order to promote the development of heavy industry. This led to the concentration of higher education resources in the Northeast and the formation of a group of higher education institutions focusing on engineering. After the reform and opening-up, the policy of "separate feeding" between central and local finances further exacerbated the imbalance of educational resources between provinces, with the eastern coastal region gaining access to more educational resources as a result of its early advantage in economic reform.

Level of economic development

The scope of undergraduate education is significantly influenced by the degree of economic development. Higher economic development levels enable regions to draw in more top-notch faculty members and students as well as offer greater financial assistance, all of which encourage the expansion of undergraduate education. Furthermore, areas with higher economic development tend to have a greater need for highly qualified workers, which encourages businesses and local governments to invest more in higher education.

Population structure and geographical location

Demographics and geographical location also have an impact on the size of undergraduate education. Provinces with large populations usually have a greater demand for education, which prompts local governments to expand the scale of education to meet the population's educational needs. At the same time, geographic location advantages, such as coastal areas, can attract more foreign investment and talent, promoting local education and economic development.

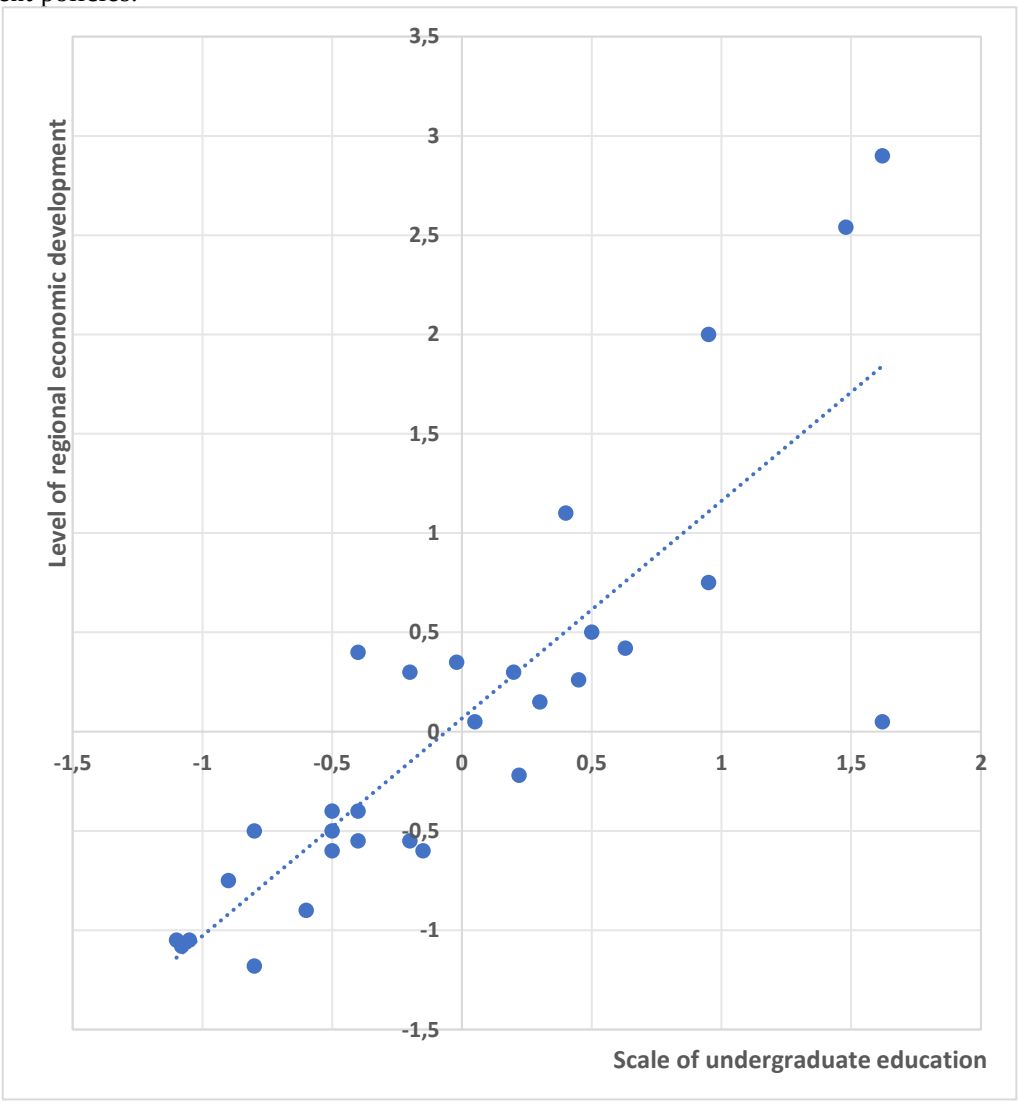
Cultural traditions and social values

The importance attached to education by cultural traditions and societal values also affects the scale of undergraduate education. In regions where education is valued, families and individuals are more

willing to invest in education and governments are more likely to prioritise education. This cultural context and social climate helps to create a sustained demand for and support for higher education.

Mechanisms for the distribution of educational resources

The mechanism for allocating educational resources, including central and local fiscal allocations and educational investment policies, is also an important factor influencing inter-provincial differences in the scale of undergraduate education. Some provinces have been able to expand their education scale more quickly because they have received more central financial support or have developed effective education investment policies.



Beijing	1.62	0.05	Anhui	0.05	0.05	Chongqing	-0.5	-0.4
Hebei	0.45	0.26	Fujian	-0.2	0.3	Sichuan	0.5	0.5
Shanxi	-0.4	0.4	Jiangxi	-0.02	0.35	Guizhou	-0.5	-0.6
Inner Mongolia	-0.8	-0.5	Shandong	0.95	2	Yunnan	-0.5	-0.5
Liaoning	0.22	-0.22	Henan	0.95	0.75	Tibet	-0.8	-1.18
Jilin	-0.15	-0.6	Hubei	0.63	0.42	Shaanxi	-0.4	-0.55
Heilongjiang	-0.2	-0.55	Hunan	0.2	0.3	Gansu	-0.6	-0.9
Shanghai	0.3	0.15	Guangdong	1.62	2.9	Qinghai	-1.1	-1.05
Jiangsu	1.48	2.54	Guangxi	-0.4	-0.4	Ningxia	-1.08	-1.08
Zhejiang	0.4	1.1	Hainan	-1.05	-1.05	Xinjiang	-0.9	-0.75

Fig. 10 Schematic diagram of the coordination between the scale of undergraduate education and the level of regional economic development

Sources: developed by the authors.

CONCLUSIONS AND POLICY RECOMMENDATIONS

This part offers specific policy recommendations intended to encourage the coordinated development of education and the economy, reduce interprovincial disparities, and improve overall educational and economic efficiency. These recommendations are based on the study's analysis of the coordination between the size of undergraduate education and regional economic development in 31 provinces in mainland China.

For regions where the scale of undergraduate education is outpacing economic development

Optimising education structure: These regions should focus on optimising the professional structure of undergraduate education, reducing the enrolment scale of oversupplied professions and increasing the number of professions that are closely related to the development of the local economy, so as to improve the match between education and market demand.

Enhancing the quality of education: By improving the quality of teaching and scientific research, we will shift the focus of education development from expansion of scale to internal enhancement, so as to produce higher-quality graduates to meet the demand for top-quality talents for economic development.

fostering collaboration between industry, academia, and research entails bolstering the relationship between academic institutions and businesses, encouraging the translation of scientific research findings, giving students real-world experience, and simultaneously supplying businesses with highly innovative, application-focused personnel.

For regions where the scale of undergraduate education is lagging behind economic development

Increasing investment in education: The government should increase financial investment in undergraduate education, and at the same time encourage social capital to participate in education and broaden the sources of education funding.

Improvement of educational facilities: Using the additional education funding to improve teaching facilities and upgrade educational technology to create a better learning environment for students.

Attracting and retaining talent: Attracting and retaining outstanding teachers and scholars by offering competitive salaries and career development opportunities to enhance the region's educational attractiveness.

For regions with low levels of both undergraduate education and economic development

Priority is given to the development of basic education: on the premise of ensuring the quality of basic education, the scale of vocational and higher education is gradually being expanded to meet the demand for all types of personnel for economic development.

Implementation of education for poverty alleviation: Through the education for poverty alleviation programme, more educational opportunities are provided to students in poor areas, and the number of students who are unable to receive tertiary education due to financial constraints is reduced.

Utilising resources with regional characteristics: Developing special education and industries in conjunction with the natural resources and cultural characteristics of the region, so as to enhance the region's educational competitiveness and economic development potential.

For all regions

Establishment of a dynamic monitoring mechanism: establish and improve the monitoring and evaluation mechanism for education and economic development, and promptly identify and resolve problems of incompatibility between education and economic development.

Promoting regional cooperation in education: Encouraging cooperation in education between different regions, sharing educational resources and facilitating the mobility of talents in order to achieve balanced regional development.

Ongoing policy support and evaluation: Governments should provide ongoing policy support and conduct regular evaluations of the effectiveness of policies to ensure that their implementation effectively promotes the coordinated development of education and the economy.

Through the implementation of the above recommendations, it is possible to promote the coordinated development of the scale of undergraduate education in different provinces of mainland China in relation to the regional economy, to reduce inter-provincial disparities, to improve the quality of education and economic efficiency, and ultimately to realise comprehensive and sustainable socio-economic development.

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