

Research On the Investment and Expenditure of Compulsory Education Funds in Henan Province

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Abstract. In recent years, the large population in central China has led to scarce educational resources, and the issue of investment and expenditure in education funds has received widespread attention. Henan Province, as a typical representative of the central region, still has insufficient investment in education funds. This article analyzes the current situation of investment and expenditure in compulsory education funds in Henan Province. In terms of investment, the current growth rate of funds in Henan is relatively slow, and the focus is on whether the investment in compulsory education funds is sufficient to meet the development needs of compulsory education. In terms of expenditure, focus on the differences in funding invested in different urban areas, whether the distribution is balanced, and the reasons for the differences. The analysis shows that there is a certain upward trend in the current compulsory education funding in Henan Province, but there are also significant regional differences, with low and slow funding investment. Based on this, this article proposes the following suggestions. Firstly, the fiscal sharing mechanism should be optimized, and governments at all levels should plan the investment of education funds to ensure sufficient education funding. Secondly, the total amount of financial investment in education should be increased, and the channels for funding sources should be expanded. Then, the government implements the "education compensation policy" and establishes a reward mechanism. Finally, the provincial government implements a provincial-level coordination mechanism to promote the coordinated development of education.

Keywords: Educational fund; compulsory education; urban disparities.

1. Introduction

As a core component of basic education, compulsory education plays a bridging role in the education system. As the largest developing country, China has achieved tremendous success in multiple fields. Compulsory education is of paramount importance in the development of China. Compulsory education funding is the financial guarantee for the development of compulsory education. In recent years, the total amount of financial investment in compulsory education in China has been guaranteed to a certain extent, and its adequacy has been continuously improved. However, compared with countries with similar levels of education or economic development, there is still some room for growth [1]. Li Bin's research indicates that there is still a problem of insufficient supply and demand in the development of compulsory education in China, and further improvement of the education investment management mechanism is needed [2]. Scholars such as Huang Jianyuan believe that education funds vary greatly among different provinces, and the use of compulsory education funds still needs to be optimized [3]. According to the research and analysis by Cai He et al., the overall difference in the allocation of compulsory education resources in China is mainly due to regional differences [4]. Shang Weiwei and others analyzed the "central collapse" problem in the development of compulsory education in China. From the perspective of the central fiscal transfer payments in Henan, Jiangxi, and Hunan provinces, where the "collapse" problem is most severe, the central transfer payments in Henan, Jiangxi, and Hunan are significantly lower than the average level in the western region, with Henan having the least [5]. Due to the continuous dynamic changes in education, there are currently some issues. Henan Province, located in the Central Plains, as a province with a large education population in China, has significant regional differences and slow growth in the investment and expenditure of compulsory education funds.

Therefore, this study adopts statistical analysis, comparative analysis, and case analysis methods to analyze the current situation and existing problems of the investment and expenditure of compulsory education funds in Henan Province from multiple aspects, study the reasons for the slow growth of funds, and put forward several reasonable suggestions. This study contributes to promoting educational equity, improving teaching quality, and promoting the sustainable development of compulsory education.

2. Current Situation of Investment and Expenditure in Compulsory Education Funds in Henan Province

Since the release of the "Notice on Further Improving the Guarantee Mechanism for Urban and Rural Compulsory Education Funds" in 2015, there have been significant changes in China's investment in compulsory education funds.

2.1. Sources of Education Funds

The main source of education funding in the country is the national fiscal education fund, supplemented by investment from private school operators, social donations, and career income. For example, in 2022, the proportion of national policy education funds to the total national education funds was 79.0%, the proportion of career income was 17.7%, and the proportion of social donations and sponsor investment in private schools was both 0.3%. The proportion of education funding remains at a certain level from 2016 to 2022, indicating that education investment is relatively stable and the country attaches great importance to education. The small fluctuations reflect some challenges in the investment of education funds.

2.2. Current Situation of Investment and Expenditure in Compulsory Education Funds

Since the 19th National Congress of the Communist Party of China, the country has attached great importance to the development of education and made efforts to build an educational powerhouse, the expenditure on education funds continues to increase, but there are significant regional differences in education expenditure among provinces across the country, and some provinces have certain financial pressures on education expenditure. According to the interpretation of the "14th Five Year Plan for the Development of Education in Henan Province" released by the Provincial Department of Education in 2022, during the 13th Five Year Plan period, under the leadership of the provincial party committee and government, as well as the follow-up and support of education workers, the education departments in the province are actively striving and working diligently, and the consolidation rate of compulsory education has increased from 94% to 96%, exceeding the national average level. This significant achievement is closely related to the investment and expenditure of education funds.

3. Analysis of the Differences in Investment and Expenditure of Compulsory Education Funds in Henan Province

3.1. National Differences

Comparative research can intuitively show the trend of education funding investment in recent years. Therefore, this section selects the national level to compare and analyze the investment and expenditure of compulsory education funds in Henan Province.

From Fig. 1, it can be seen that the total investment in education funds in Henan Province and across the country has shown an increasing trend from 2013 to 2022. However, there is a significant fluctuation and instability in the annual growth of education funding between China and Henan. The average growth rate of education funding nationwide was 7.92%, while the average growth rate in Henan was 7.38%. The average growth rate of education funding in Henan lags behind the national level.

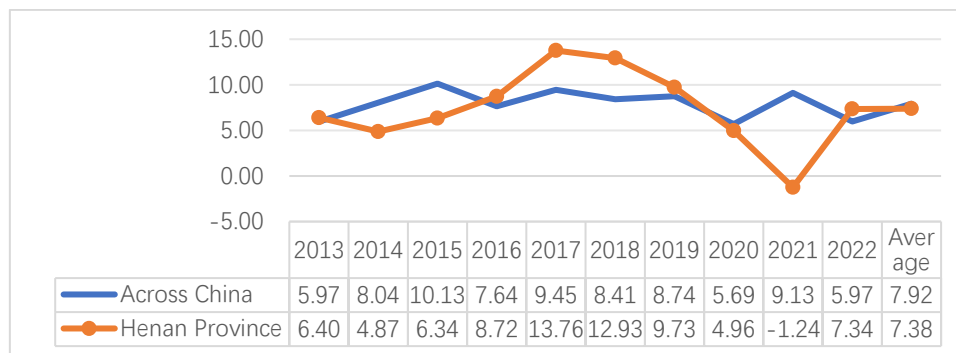


Fig. 1 Annual Growth Rate of Education Funding from 2013 to 2022 [6].

From 2016 to 2022, the average education funding for ordinary primary school students in Henan Province and across the country has shown an increasing trend, but the level of education funding in Henan Province differs significantly from the national average and is generally relatively unstable. The difference in per capita education funding between Henan and the whole country is constantly increasing. According to Table 1, the average funding level for ordinary primary school students in Henan Province has increased from 6123 yuan in 2016 to 8688 yuan in 2022, with a difference of 2565 yuan and an increase of 41.89%. The average proportion of general primary education funds in Henan Province of the national general primary education funds is only 5.63%, and there has been a downward trend since 2019. In terms of per capita income, Henan Province accounts for about 59.04% of the national average, indicating that Henan Province lags behind the national level in terms of per capita income. The per capita education funding is the fundamental indicator for examining the situation of education funding, which can accurately reflect the degree of education funding provided and whether it meets the needs of the development of the education industry [7]. This may limit the overall improvement of education quality in Henan.

Table 1. Comparison of Funding for Ordinary Primary School Education [6,8].

Year	Funding for primary education in Henan Province			National funding for general primary education			The ratio of the two		The difference in per capita funding between the two
	Total amount (1000 yuan)	Per capita funding		Total amount (1000 yuan)	Per capita funding		Total amount (1000 yuan)	Per capita funding (%)	Subtotal (Yuan)
		Subtotal (Yuan)	Growth compared to the previous year(%)		Subtotal (Yuan)	Growth compared to the previous year(%)			
2016	59124023	6123	—	1085468786	10950	—	5.45	55.92	4827
2017	67056607	6828	11.51	1188797093	11778	7.56	5.64	57.97	4950
2018	74856515	7526	10.22	1272303057	12306	4.48	5.88	61.16	4780
2019	81860159	8085	7.43	1380282490	13069	6.20	5.93	61.86	4984
2020	85450840	8365	3.46	1467084735	13679	4.67	5.82	61.15	5314
2021	81842696	8088	-3.31	1516365908	14067	2.84	5.40	57.50	5979
2022	85783562	8688	7.42	1615628187	15054	7.02	5.31	57.71	6366

Similarly, an analysis of the average education budget for ordinary junior high school students in Henan Province and across the country is conducted. The financial investment in education in Henan is relatively insufficient. According to Table 2, from 2016 to 2022, the average funding level for ordinary junior high school students in Henan Province increased from 9486 yuan to 11640 yuan, with a difference of 2154 yuan and an increase of 22.71%. This increase is 14.77 percentage points lower than that of ordinary junior high schools nationwide. The proportion of ordinary junior high school education funds in Henan Province to the national average is only 6.00%, and there has been a downward trend since 2019. In addition, the average increase in per capita education funding for ordinary junior high school students in Henan Province compared to the previous year is also below the national average level. The difference in per capita funding between the two increased from 5790 yuan to 8698 yuan over a period of 7 years, an increase of 2908 yuan, with a growth rate of 50.22%. This indicates that the gap in education funding between Henan Province and the national average junior high school students is constantly increasing, and there is great room for improvement in Henan Province's education financial investment.

Table 2. Comparison of Funding for Ordinary Junior High School Education [6,8].

Year	Henan ordinary junior high school education funds			National funding for regular junior high school education			The ratio of the two		The difference in per capita funding between the two
	Total amount (1000 yuan)	Per capita funding		Total amount (1000 yuan)	Per capita funding				Subtotal (Yuan)
		Subtotal (Yuan)	Growth compared to the previous year(%)		Subtotal (Yuan)	Growth compared to the previous year(%)	Total amount (%)	Per capita funding(%)	
2016	39446317	9486	-	661347203	15276	-	5.96	62.10	5790
2017	45366008	10571	10.87	731910648	16477	7.86	6.20	64.16	5906
2018	50274144	11126	5.25	798753698	17168	4.19	6.29	64.81	6042
2019	55933070	11939	7.31	881158141	18254	6.33	6.35	65.40	6315
2020	57895023	12262	2.71	943594769	19202	5.19	6.14	63.86	6940
2021	54293157	11330	-7.60	975488523	19438	1.23	5.57	58.29	8108
2022	57386359	11640	2.74	1041417506	20338	4.63	5.51	57.23	8698

Overall, in 2021, the education funding for ordinary primary and junior high schools in Henan Province showed a negative growth trend, and the total investment in education funding decreased compared to the previous year. This may be caused by multiple factors.

3.2. Regional Difference

As a quasi-public good, there is still a significant gap in the funding for compulsory education between different urban areas and between urban and rural areas. A significant portion of the general public budget expenditure on education is for compulsory education. Therefore, the following analysis selects the general public budget education expenditure of various cities in Henan Province.

There are significant local differences in general public budget education expenditures among various cities in Henan Province in 2023. The highest expenditure was 25.175 billion yuan in Zhengzhou City, and the lowest was 2.9 billion yuan in Hebi City [8]. The difference between the two is 22.275 billion yuan. The difference is significant. This indicates that there are differences in the investment and allocation of education funds in different urban areas.

4. Influence Factors

4.1. Financial Aspect

As the main source of funding for compulsory education, limited financial resources affect the investment of education funds, resulting in a slow growth rate. According to Table 3, from 2016 to 2022, the self-sufficiency rate of Henan's finance has been below 50% for the past seven years, which means that Henan Province is highly dependent on higher-level financial transfer payments. When the scale of transfer is limited, local governments' investment in compulsory education funds will change, affecting the growth of education funds. And the per capita GDP index has grown slowly and fluctuated during these 7 years, reflecting the instability of Henan's economic development. This confirms Zhang Tonggong et al. 's point that the reasonable scale of education expenditure is closely related to the local economic development level [9].

Table 3. Data on Financial and Economic Development Indicators of Henan Province from 2016 to 2022 [8].

Year	2016	2017	2018	2019	2020	2021	2022
Total general public budget expenditure (in billions of yuan)	7453.74	8215.52	9217.73	10163.93	10372.67	9784.29	10646.75
Total general public budget revenue (in billions of yuan)	3153.48	3407.22	3766.02	4041.89	4168.84	4353.92	4250.35
Fiscal self-sufficiency rate (%)	42. 31	41. 47	40. 86	39. 77	40. 19	44. 50	39. 92
Per capita GDP indicator (previous year = 100)	107. 5	107. 1	107. 2	106. 4	100. 7	106. 1	103. 5

Table 4. Comparison of Economic Indicators between Zhengzhou and Hebi Cities in Henan Province in 2023 [8].

City	Gross Domestic Product (RMB 100 million)	Gross Domestic Product indicators (%)	Per capita GDP (yuan)	Per capita GDP indicator (%)
Zhengzhou	13617. 84	107. 4	105418	106. 3
Hebi	1033. 17	103. 1	65807	103. 2

Gross domestic product provides material support for education funding, and per capita GDP is also an important factor affecting education funding. According to Table 4, as the capital of Henan Province, Zhengzhou's GDP in 2023 is significantly higher than that of Hebi City, more than 13 times that of Hebi City. The per capita GDP of the two cities differs by over 10000 yuan. The gross domestic product and per capita GDP indicators of both cities are greater than 100%, indicating an increasing

trend compared to the previous year. But Hebi is not growing as fast as Zhengzhou's various indicators. According to Table 5, the difference in general public budget education expenditure between Zhengzhou City and Hebi City is 22. 275 billion yuan, nearly 10 times. The fiscal self-sufficiency rate of Zhengzhou City (76.72%) is significantly higher than that of Hebi City (48.37%), while the proportion of education expenditure in Zhengzhou City is 0.89 percentage points lower. Overall, Zhengzhou has a large economic aggregate, high fiscal revenue, and sufficient funds available for education investment, which can expand educational resources. In contrast, Hebi City is the opposite, which may lead to insufficient investment in education funds and a slow growth rate of education fund investment. This is consistent with the financial investment in compulsory education between cities analyzed by Li Guirong and others. Core cities have a wide range of funding sources, strong teaching staff, and high investment in education funds [10].

Table 5. Comparison of Financial Indicators between Zhengzhou and Hebi Cities in Henan Province in 2023 [8].

City	Total general public budget expenditure (in billions of yuan)	Total education expenditure in the general public budget (in billions of yuan)	Total general public budget revenue (in billions of yuan)	Proportion (%)	Fiscal self-sufficiency rate (%)
Zhengzhou	1519. 62	251. 75	1165. 85	16. 57	76. 72
Hebi	166. 10	29. 00	80. 34	17. 46	48. 37

4.2. Regional Development

The development of education is also influenced by policies and natural factors. According to Fig. 2, from 2020 to 2021, the per capita education budget for ordinary primary school students in Henan Province showed a decreasing trend, and the number of students enrolled in ordinary primary schools in Henan Province also decreased during these two years. However, between 2021 and 2022, the number of ordinary primary school students is also decreasing, but the increase in per capita education funding reflects the optimization of educational resources. According to Fig. 3, from 2016 to 2022, the number of students enrolled in ordinary junior high schools in Henan Province has shown an increasing trend. In 2021, due to the rainstorm disaster in Henan Province, the investment in education was reduced.

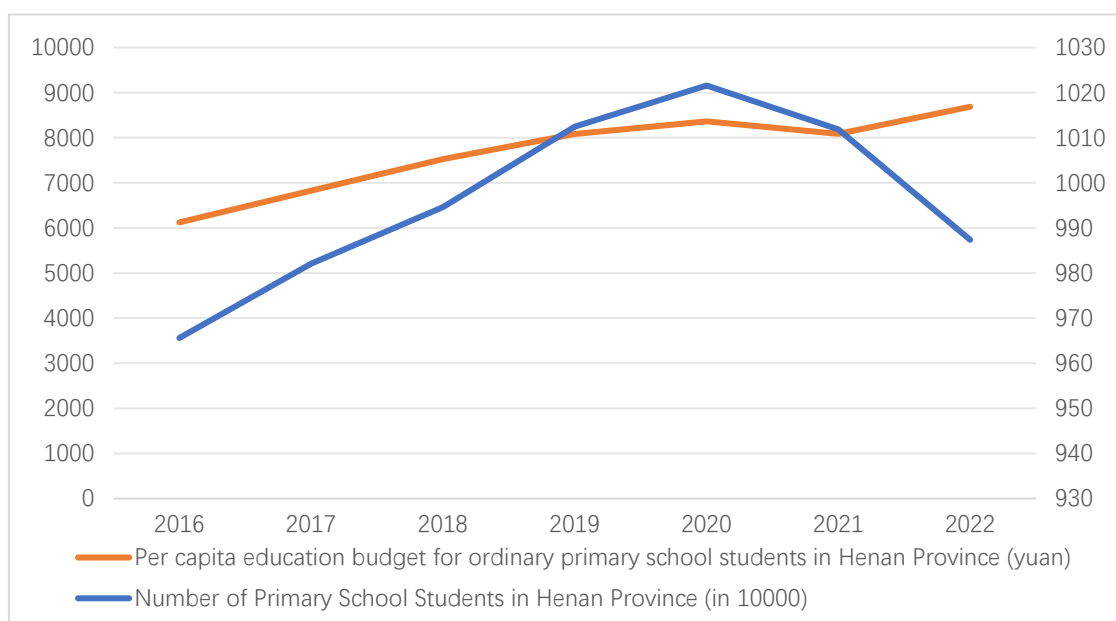


Fig. 2 Trend of Per Student Education Funding and Number of Students in Ordinary Primary Schools in Henan Province from 2016 to 2022 [6,8].

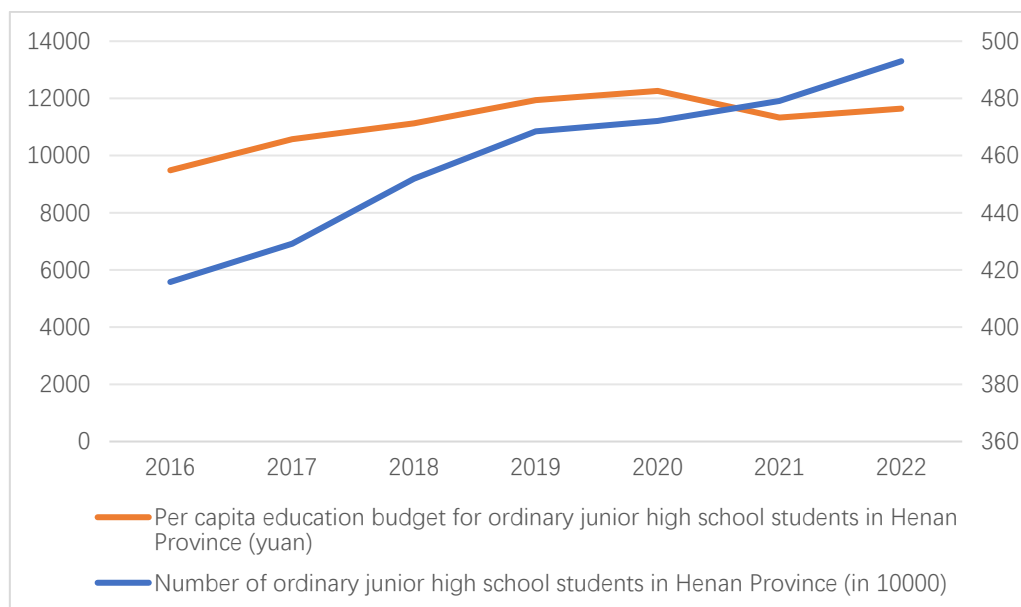


Fig. 3 Trend of Per Student Education Funding and Number of Students in Ordinary Junior High Schools in Henan Province from 2016 to 2022 [6,8].

From Table 6, it can be found that all indicators in Hebi City are lower than those in Zhengzhou City. Zhengzhou City has a large population base, a large number of educated people, and a high demand for education, which objectively requires more education funds. However, Hebi City has a small population, a small education scale, and relatively low education funding. Hebi City may face a "siphon effect", with excellent teachers and students flowing to cities like Zhengzhou with abundant resources in various aspects, further exacerbating the gap in educational resources.

Table 6. Data on Education and Population Indicators in Henan Province in 2023 [8].

Index	School	Zhengzhou City	Hebi City
Number of schools	Ordinary primary school	1001	253
	Ordinary junior high school	422	58
Enrollment	Ordinary primary school	1182096	137464
	Ordinary junior high school	518142	79080
Number of full-time teachers (number of teachers=1)	Ordinary primary school	65386	8388
	Ordinary junior high school	37239	5491
Teacher-student ratio	Ordinary primary school	18. 08	16. 39
	Ordinary junior high school	13. 91	14. 40
Population (10000 people)		1301	157
Urbanization rate (%)		80. 00	63. 19

5. Suggestions

According to the above research findings, the overall investment in education funds in Henan Province has shown an increasing trend, but there are fluctuations. There are significant regional differences. Here are some suggestions for the current situation.

Firstly, governments at all levels should clearly plan the investment of education funds in different regions and optimize the financial sharing mechanism. Taking into account the level of economic development and fiscal capacity, different regions are divided into different levels, and differentiated sharing is carried out for different regions [11]. Establish a provincial-level special education transfer payment mechanism, and the central and provincial governments should increase the transfer payment of education funds to underdeveloped areas. Governments at all levels should be able to ensure real-time investment in education funds and stable growth of education funds when facing inevitable disasters. Governments at all levels should learn from each other and constantly communicate. The governments of peripheral cities should learn from the relevant experience and methods of core city governments, fill the resource gap, improve teaching quality, reduce the differences in funding between regions, and promote the balanced development of compulsory education.

Secondly, the total financial investment in compulsory education should be increased. Social donations should be encouraged. Schools can collaborate with excellent enterprises to increase funding sources and improve school infrastructure. The level of economic development in a region can also affect the investment of education funds. Underdeveloped areas need to improve their economic development level and increase fiscal revenue.

Thirdly, the 'education compensation policy' should be implemented. The government should enhance the circulation of outstanding teaching resources and improve the treatment of teachers. Edge cities should intensify the implementation of teacher and student incentive mechanisms, commending and rewarding teachers with outstanding teaching achievements and students with excellent academic performance, so as to retain teaching resources and outstanding students and promote balanced development of compulsory education.

Fourth, the central government can provide financial subsidies for local governments in education to play a role in macro-control. This can be utilized to improve the teaching infrastructure, introduce new forms of teaching models such as digital education, make up for the shortcomings in education, and regularly conduct teacher training sessions, thereby enhancing the quality and efficiency of teaching.

Fifth, the provincial-level overall planning mechanism should be implemented. Provincial governments optimize the funding sharing structure, increase investment in education funds for impoverished areas, provide special care, and ensure that impoverished areas receive sufficient education funds, thereby better conducting teaching activities and promoting coordinated development of education throughout the province. Provincial-level coordinated policies should be improved. Governments at all levels should refine and clarify the scope of allocation and use of education funds in different regions to ensure the full utilization of education funds [12].

6. Conclusion

Through the research of this topic, it is found that the overall trend of compulsory education funding in Henan Province is increasing, indicating that Henan Province attaches great importance to the development of compulsory education. However, compared to the whole country, Henan has relatively low and unstable investment in education funds. Compared to different cities within the province, there are significant regional differences, with a large gap in funding levels between core and peripheral cities. These phenomena are closely related to the local economic development level and other factors such as population. In the future, research methods can be more diverse and in-depth, and data collection should be more comprehensive. It can be analyzed from multiple perspectives. With the promotion of the strategy of building a strong education country, it should

focus on the efficiency of the use of compulsory education funds and the phenomenon of arbitrary charges, as well as the issue of whether the allocation of urban and rural compulsory education resources is balanced.

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