A Study on the Impact of High-Quality Education Resources on Urban Housing Prices: An Empirical Study Based on the DID Model

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Abstract. In the actual operation of high school enrollment in China, house purchase and household registration transfer have become the strategies that many families must adopt to obtain high-quality education resources. Due to the urgent need for housing in these families, it has undoubtedly had a significant impact on the urban housing prices. To further study this phenomenon, this paper selected three cities with outstanding education quality in Hubei Province, and adopted the difference-in-differences (DID) model to analyze how the housing price of these cities was affected by high-quality education resources before and after the reform of the high school enrollment system. The research results show that the reform policies have indeed promoted the change of urban housing prices, providing empirical support for the premium phenomenon of "school district housing". This research proposal aims to promote the equitable distribution of educational resources to mitigate the societal impact of this phenomenon. This study not only reveals the impact of high-quality educational resources on urban housing prices, but also makes feasible suggestions to promote the achievement of educational equity. This is of great significance to the healthy development of China's education and the sustainable development of cities.

Keywords: Public policy, Difference-in-differences model, Urban housing price, Equity in Education.

1. Introduction

In China, high school is the main educational institution that students go to after they complete nine years of compulsory education. High school is generally a three-year program, which includes senior 1, senior 2 and senior 3. Senior Secondary Education in China includes Ordinary High School (Combined Secondary Schools, Senior High Schools, and 12-year Schools), Adult High Schools, Ordinary Secondary Vocational Schools, Adult Secondary Schools, Vocational High Schools, and Skilled Workers Schools. With the release and subsequent amendments of the Education Law of the Peoples Republic of China in 1995, high school education in China was guided by the Education Law. As the fundamental regulation for the development of China's education industry, the Education Law stipulates the basic requirements of the state for high school education, including the goals, content, and organizational form of high school education. At the same time, the law also clarifies the management responsibilities and guarantees measures for high school education to ensure fairness, popularization, and high quality of high school education. The continuous optimization of the quality of high school education in China has further improved the overall quality and cultural level of the people, which has had a huge impact on the rapid development of China in various aspects and the continuous improvement of its comprehensive national strength.

With the continuous improvement of the quality of life of the people and the deepening emphasis on children's education, many families put more investment in their children's education. In 2016, the Ministry of Education issued the "Guiding Opinions on Further Promoting the Reform of the Examination and Enrollment System for Senior High Schools". The Reform promoted the implementation of The Academic Test for Junior High School Students on a local basis for students who have completed compulsory education, and enrolled students based on their grades (except for some of the high schools which can set up independent admission standards). Specifically, except some high schools can set up independent admission standards, most high schools with high-quality education need students to obtain admission qualification through the Academic Test For The Junior

High School Students held by the Ministry of Education of the city. However, the premise of participating in The Academic Test for Junior High School Students in the city is the need for local registered residence registration and student registration. Therefore, to enable their children to enjoy high-quality educational resources, many families choose to purchase houses in cities with more abundant educational resources and move their registered residence, so that their children can participate in the local Academic Test for Junior High School Students and gain the opportunity to enter high-quality high schools. Meanwhile, some local families choose to purchase housing near their children's schools for the convenience of their children's education and to take care of their children's daily lives. Based on the actual situation, the housing demand in some cities with more high-quality educational resources has increased, which has had an impact on housing prices. Especially, housing located around some key senior high schools has seen a more significant increase in housing demand, resulting in a significant premium for these properties, hence the term "school district houses". The long-standing issues that people have been concerned about are: how can high-quality educational resources lead to a significant premium in the housing prices of "school district houses"? What impact will the premium for "school district houses" have? What is the practical issues worth exploring in depth regarding the premium of "school district houses"? These are also the focus of this study.

This study selects three high-quality education cities in Hubei Province as the main research objects, namely Wuhan, Xiangyang, and Jingzhou. Among them, the education quality of Wuhan is significantly higher than the other two cities. The basic research idea of this study is to establish a difference-in-differences (DID) model to explore the impact of high-quality educational resources on urban housing prices before and after the reform policy of the examination and enrollment system for senior high schools. On this basis, this study will continue to compare Wuhan and non-Wuhan cities, further exploring and significantly highlighting the impact of high-quality educational resources.

Through research, it has been found that, based on the clear implementation of The Academic Test for Junior High School Students as the admission standard, high-quality educational resources will significantly increase urban housing prices, further confirming that educational resources cause a premium in "school district houses". Through further analysis, this study believes that the existence of this phenomenon will make high-quality educational resources more likely to be enjoyed by families who can afford high housing prices, thereby squeezing out the space for local or low-income children to enjoy educational resources, which is not conducive to promoting equity in education. Based on the research results, this study proposes a series of feasible suggestions from various aspects such as government, residents, and schools, combined with the actual situation of high school enrollment in China.

2. Background of Policies

The policy text selected in this study is "Guiding Opinions on Further Promoting the Reform of the Examination and Enrollment System for Senior High Schools". With the rapid development of society and the continuous deepening of education reform, China's education system is facing a series of challenges and opportunities. The examination and enrollment system for senior high schools, as an important component of the education system, its reform, and development are of great significance for promoting the progress of the entire education industry. In the actual operation process, there are some problems in the enrollment of students, such as relying solely on scores in enrollment and non-standard enrollment behavior, which seriously affect equity in education and the comprehensive development of students.

The thirteenth Five-Year Plan emphasizes the need to deepen the reform of the examination and enrollment system and promote the academic level examination and comprehensive quality evaluation of middle and high schools. To this end, the Ministry of Education has issued this Reform, aiming to promote the comprehensive development of students, improve the quality of education, and promote equity in education by reforming the examination and enrollment system. Specifically, the

main tasks of this Reform include promoting the junior high school academic level examination, improving the comprehensive quality evaluation of students, reforming the enrollment and admission methods, and further strengthening the management of examination and admission. By implementing The Academic Test for Junior High School Students and improving the evaluation of students' comprehensive quality, the Reform can guide students to pay more attention to comprehensive development and cultivate innovative spirit and practical ability.

Based on the Reform, this study takes Wuhan, Hubei Province as an example to further illustrate the logic of the impact of high-quality educational resources on urban housing prices. The Reform has mainly standardized the enrollment mechanism for students who enter high school from junior high school after compulsory education. Taking Wuhan as an example, the specific manifestation is that, except for a few independent high schools in Wuhan (mostly international high schools), most high schools require enrollment from students with local academic status. These high schools are classified into different levels based on their level of education, quality of education, and other comprehensive factors. Meanwhile, local students need to pass The Academic Test to obtain admission qualifications, and those with higher scores can enter local key high schools. In brief, although the direct factor that determines whether students can enter key senior high schools is their academic performance, the prerequisite is their qualification to participate in the local Academic Test. Therefore, to give their children, the opportunity to enjoy high-quality educational resources, some families will choose to purchase houses in cities with key high schools, transfer registered residence and student registration, and obtain examination qualification. Moreover, in practical scenarios, there are inherent differences in the overall quality of education between cities. Many families who choose to relocate to cities with higher education quality, even if their goal is not to enroll in key high schools, can still enjoy higher quality educational resources than before. Many local families choose to rent or purchase housing around the school for the convenience of their children's education and taking care of their children. Based on the interaction of various scenarios mentioned above, the demand for housing in cities with high educational quality will increase, which in turn will have an impact on the city's housing prices. And the housing located near some key high schools, also known as "school district houses," has a more severe premium.

3. Literature Review

This study refers to multiple papers on education and urban housing prices, summarizes the research ideas and conclusions of existing literature, explains their differences from this study, and elaborates on the innovative points and marginal contributions of this study.

In Feng Hao and Lu Ming's study, Shanghai was selected as the research object to explore the empirical evidence and policy implications of the impact of educational resources on housing prices. Feng and Lu's study established a Hedonic model to verify that the impact of educational resources on housing prices increases over time, and provided an explanation for the adverse effects of the premium in the housing prices of "school district houses" [1]. High-quality educational resources are only enjoyed by families with the ability to pay for housing prices, making it difficult for low-income families to enjoy high-quality educational resources, making it difficult to achieve equity in education, and may also breed corruption in the process of school selection. The factors that affect housing prices are complex and diverse, and the Hedonic model used in this study considers many factors. Although the Hedonic model can reflect the impact of educational resources on housing prices, however, it does not focus enough on the "educational resources". The explanation of policy implications and the phenomenon of school district house premiums in Feng and Lu's study also provides ideas and guidance for this study. The research conclusions and policy recommendations of this study aim to promote the realization of equity in education as much as possible.

Zhang Ke, Zhang Lixin, and Zhu Daolin selected the Haidian District, Beijing as the research object and also used the Hedonic model to explore the impact of educational resources on housing prices. The research conclusion of their study is more specific. The relationship between the quality

of educational resources and housing prices, as and the relationship between the number of admission qualifications for key schools and housing prices, all show a significant positive correlation. The distance between the house and the school is negatively correlated with the house price. All of these results reflect the significant impact of educational resources on housing prices [2]. Zhang Ke, Zhang Lixin, and Zhu Daolin's study is similar to Feng and Lu's study, as the factors considered in the model are complex and microscopic, with certain limitations. However, the research findings and exploration of the balanced distribution of educational resources provide important references and policy recommendations for this study.

In Fan Yi's study, four strong education districts in Beijing were selected as the research objects. A difference-in-differences model was used to explore the cooling effect of the policy called "multi-school zoning" on housing prices, and it was proved that "multi-school zoning" is conducive to suppressing housing price premiums and promoting equity in education [3]. The selection of research objects and research approach of Fan Yi's study have provided inspiration for this study and important references for proposing feasible suggestions.

Overall, existing literature has fully validated the impact of educational resources on housing prices, providing empirical support for the research in this study. However, it is worth noting that existing literature exploring the impact of educational resources on urban housing prices mostly focuses on the compulsory education stage in China. The reason for this situation is that most areas in the compulsory education stage in China adopt the method of "single school zoning", that is, students enter schools in their respective regions according to their registered residence and school registers. The logic of this enrollment method's impact on housing prices is more obvious. The focus of this study is more on high school education, which is an important part of China's education industry and an important link between compulsory education and higher education. The impact of high school education resources on urban housing prices cannot be ignored. And in practical situations, the impact of high school education on urban housing prices not only comes from the migration of local residents within the city but also from the impact of foreign populations. This study helps to fill the deficiency in the current research on the impact of high school education resources on urban housing prices in China. Moreover, this study uses the difference-in-differences model as an empirical model, excluding a series of factors that affect housing prices, in order to focus more on the perspective of educational resources on housing prices. In the final discussion section of this study, some feasible suggestions will be proposed based on the ideas of existing literature and practical scenarios.

4. Theoretical Hypothesis

The research subjects selected in this study are 12 prefecture-level cities in Hubei Province, and according to certain logic and the research approach of DID (difference-in-differences), the 12 prefecture-level cities are divided into an experimental group and a control group.

In the view of many Chinese families, the prerequisite for entering a better university is to enter a high school with better educational quality, and the performance in actual situations also confirms this concept. Students in high schools with better educational quality naturally have better university entrance examination scores. One of the most intuitive and important indicators reflecting the quality of high school education in a city or region is the so-called "normal courses admission rate", which refers to the percentage of students admitted to undergraduate institutions in the university entrance examination and the number of students participating in the examination. The "normal courses admission rate" can reflect the level of popularization and development of higher education in a region or country. In practical situations, the "normal courses admission rate" is also an important indicator for most high schools to choose to highlight their enrollment promotion.

Based on the above logic, this study selects Wuhan, Xiangyang, and Jingzhou cities in Hubei Province as experimental groups, dividing them into cities with high educational quality. The reason is that the normal course admission rates of Wuhan, Xiangyang, and Jingzhou are consistently among

the top three in the province, all exceeding 60%. Among them, Wuhan has a higher normal courses admission rate compared to Xiangyang and Jingzhou. Moreover, these three cities have more key high schools than other prefecture-level cities, and the attraction brought by these high-quality educational resources cannot be ignored.

In theory, one of the main factors causing fluctuations in housing prices in the floating population market is consistent with the spatial patterns of changes in urban housing prices [4]. The high-quality educational resources in cities with high educational quality will attract families with educational needs to migrate to the city, resulting in an increase in urban housing demand and driving the growth of urban housing prices. Therefore, to demonstrate the existence of the impact of high-quality educational resources on housing price growth, this study takes the implementation of the Reform as a time node, and proposes the following theoretical hypotheses according to the research ideas of this study:

H1: After implementing the reform of the examination and enrollment system for senior high schools, the high-quality educational resources in Wuhan, Xiangyang, and Jingzhou cities in Hubei Province will have a positive impact on urban housing prices.

Considering the normal courses admission rate of 12 prefecture-level cities in Hubei Province in recent years, Wuhan has consistently ranked first. Therefore, based on the same sample, this study aims to further narrow the definition of a high-quality education city to a single city in Wuhan, so that the impact of high-quality education resources on urban housing prices can be more significantly presented in the results. This study proposes the following theoretical hypotheses:

H1: After implementing the reform of the examination and enrollment system for senior high schools, the high-quality educational resources in Wuhan, Hubei Province will lead to a more significant increase in housing prices.

5. Research Design

5.1. Model Settings

The empirical research method used in this study is DID. Based on existing literature research, the specific model settings of this study are as follows:

$$Y_{it} = \alpha + \beta * treated * post + \gamma X_{it} + u_i + v_t + \varepsilon_{it} \quad (1)$$

Y_{it} is the level of urban housing prices, which is reflected by the logarithm of the average annual housing price in the city (lnprice), α is the intercept term, β is the coefficient of the impact of high-quality educational resources on urban housing prices after the implementation of the Reform, γ is the coefficient for controlling variables. In empirical regression results, if the coefficient β, which is the coefficient of interaction term "treated * post", is greater than 0, it indicates that the existence of high-quality educational resources will drive up urban housing prices. Conversely, if it is not, it indicates that the existence of high-quality educational resources has suppressed the rise of urban housing prices. X_{it} is a series of control variables, u_i is the urban fixed effect, and v_t is the time fixed effect, ε is a random perturbation term.

5.2. Variable Selection and Descriptive Statistics

This study uses the logarithm of the annual average housing prices in a city (lnprice) to measure the level of urban housing prices. Regarding the treatment variable "treated", high education quality cities were divided based on the "normal courses admission rate" in this study, namely Wuhan, Xiangyang, and Jingzhou in Hubei Province. If the sample belongs to high education quality cities, "treated" is assigned a value of 1; On the contrary, assign a value of 0. For the policy dummy variable "post", it is divided according to the time node of implementing the Reform in 2016. If the sample time is after the implementation of the Reform, the "post" is assigned a value of 1; On the contrary, assign a value of 0.

Following the approach of Feng et al., the following variables were selected as control variables: medical level, measured by the logarithm of the number of beds in urban hospitals [5]. The deposit level of urban residents, measured by the logarithm of year-end urban household savings balance; Urban population, measured as the logarithm of the year-end urban population; The income level of urban residents reflects the consumption level of urban residents, measured by the logarithm of per capita disposable income of urban population; The level of urban GDP reflects the level of urban development, measured by the logarithm of urban GDP; Traffic convenience is measured by the per capita road area. Table 1 presents descriptive statistics of variables.

Table 1. Decriptive Statistics

Variables	Definition	N	Mean	Sd	Min	Max
lnprice	urban housing price level	156	8.525	0.398	7.751	9.757
treat	treatment variable	156	0.231	0.423	0	1
post	policy dummy variable	156	0.574	0.496	0	1
medical	medical level	156	9.701	0.683	8.183	11.35
deposit	the deposit level of urban residents	156	16.32	0.857	14.22	18.76
population	urban population	156	5.896	0.588	4.653	7.225
income	the income level of urban residents	156	10.19	0.351	9.446	10.98
GDP	urban development	156	7.497	0.793	5.980	9.845
traffic	traffic convenience	156	19.59	7.326	9.510	54.34

5.3. Data Sources

This study takes the housing price data and various urban statistical data of 12 prefecture-level cities in Hubei Province from 2010 to 2022 as the main samples. The annual average housing price data of each city is sourced from intermediary real estate trading websites such as Lianjia, Anjuke, 58.com, and Fang.com, and the average transaction records of each website are taken for processing. The control variable data were all sourced from the China City Statistical Yearbook, China County Statistical Yearbook, and statistical data from the portal websites of each research subject city.

6. Empirical Analysis

6.1. Result

Table 2 presents the benchmark regression results of equation (1). The column (1) only controls for time fixed effects; The column (2) only controls for urban fixed effects; The column (3) simultaneously controls for both urban fixed effects and time fixed effects; Although the consistency in the column (1) is not significant in the three column regression results, the "treated*post" coefficients in the second and third columns are significantly positive at the 1% level. On this basis, in column (4), the robust standard error is changed to the standard error clustered to cities, and the "treated*post" coefficient remains significantly positive at the 1% level. Based on the benchmark regression results above, it indicates that the high-quality educational resources in cities will drive the growth of urban housing prices.

Table 2. Regression Results

Variables	(1) lnprice	(2) lnprice	(3) lnprice	(4) lnprice
treated* post	0.136***	0.206***	0.161***	0.206***
	(0.0429)	(0.0444)	(0.0395)	(0.0644)
medical	0.248***	-0.394***	0.211*	-0.394***
	(0.0688)	(0.0734)	(0.108)	(0.0909)
deposit	0.0337	0.0254	-0.538***	0.0254
	(0.102)	(0.119)	(0.197)	(0.151)
population	-0.375***	-0.162	-0.278	-0.162
	(0.0904)	(0.225)	(0.184)	(0.270)
income	0.491***	0.626***	0.312	0.626**
	(0.167)	(0.170)	(0.227)	(0.205)
GDP	0.306***	0.0992	-0.198	0.0992
	(0.0526)	(0.166)	(0.217)	(0.192)
traffic	-0.00560***	-0.00252	-0.00310*	-0.00252
	(0.00182)	(0.00201)	(0.00168)	(0.00196)
time fixed effects	Yes	No	Yes	Yes
urban fixed effects	No	Yes	Yes	Yes
Constant	0.564	5.778***	15.25***	5.778***
	(1.495)	(1.693)	(4.856)	(1.762)
Observations	156	156	156	156
R-squared	0.919	0.924	0.957	0.816

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6.2. Parallel Trend Test Result

DID is based on the parallel trend assumption, which suggests that in the absence of policy intervention, the trends of the treatment group and the control group should be consistent. In other words, the parallel trend assumption requires that in the absence of policy changes, the potential outcomes of both groups will change in the same way over time.

Table 3. Parallel Trend Test Result

Variables	(1) lnprice
pre_5	-0.0875 (0.0714)
pre_4	-0.0996 (0.0718)
pre_3	-0.0963 (0.0711)
pre_2	-0.0729 (0.0700)
pre_1	-0.0215 (0.0700)
current	0.102 (0.0699)
post_1	0.144** (0.0695)
Constant	12.97*** (4.854)
Observations	156
Number of code	12
R-squared	0.894

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

This study draws on the approach of Ma et al., and based on the sample, according to the specific time of policy implementation, this study sets 2016 as the processing period [6]. In 2018, different real estate purchase restriction policies and new real estate tax legislation were implemented in various parts of China, and after 2019, the world was affected by the COVID-19, which severely affected Hubei Province. The above actual situation has played a great role in restraining urban

housing prices. Based on the above considerations, this study will explore the test results of the implementation of the Reform in the first four years and one year after implementation, and pre_4=2012, pre_3=2013, pre_2=2014, pre_1=2015, current=2016, post_1=2017.

Specifically, as shown in Table 3, the coefficients for the first four periods (2012-2015) were not significant, while the coefficients for the first period (2017) after 2016 were significant and 0.144, indicating that for every 5 percentage points achieved after the implementation of the reform, housing prices will increase by 0.144 percentage points. Combined with the actual enrollment situation, the reform and implementation have directly had an impact on the new enrollment season, and the impact of high-quality educational resources on urban housing prices has been significantly enhanced.

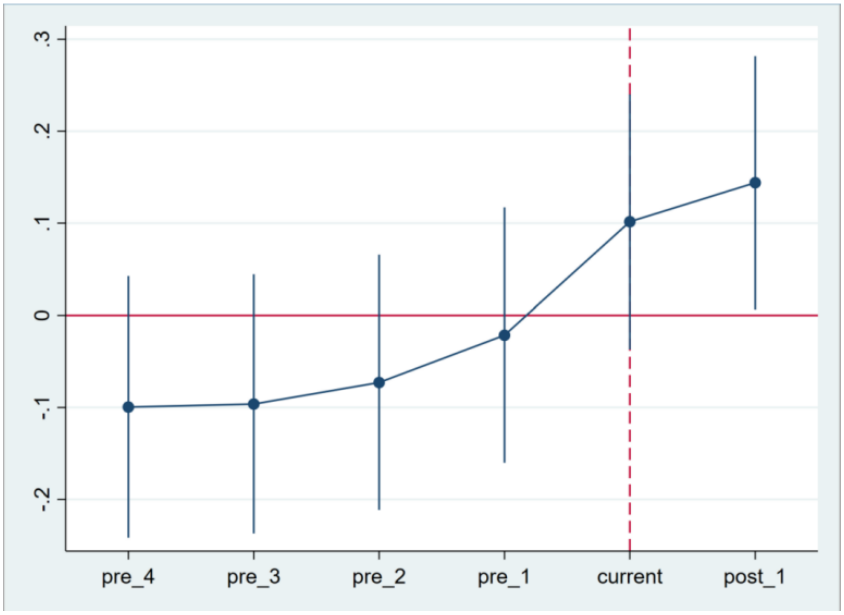


Figure 1. Parallel Trend Test "Coefplot" Plot

The results in Figure 1 show that before the implementation of the Reform, the coefficients were all below 0, but one year after the implementation of the reform, the coefficients were significantly positive, indicating that under the background of the reform, the effect of high-quality educational resources on promoting the rise of urban housing prices is more significant, which has passed the parallel trend test.

6.3. Robustness Test

6.3.1. Placebo Test

This study draws on the approach of Cantoni et al. to maintain that the urban housing prices of the experimental group continue to be impacted by the existence of high-quality educational resources in the context of enrollment exam reform [7]. Some cities are randomly selected from the sample and defined as the new experimental group, and they are subjected to the same impact as the original experimental group. To ensure the authenticity and reliability of the results, this study repeated 1000 random tests to conduct a placebo test, as shown in Figure 2.

As shown in the figure, the estimated coefficients of the DID interaction term are concentrated around 0 and exhibit a normal distribution. Based on the benchmark regression results mentioned earlier, if the estimated coefficients of the benchmark regression results are at the edge of the false distribution, it proves that the likelihood of the benchmark regression results being influenced by other unmeasurable factors is relatively small, thus verifying the robustness of the research results in this paper.

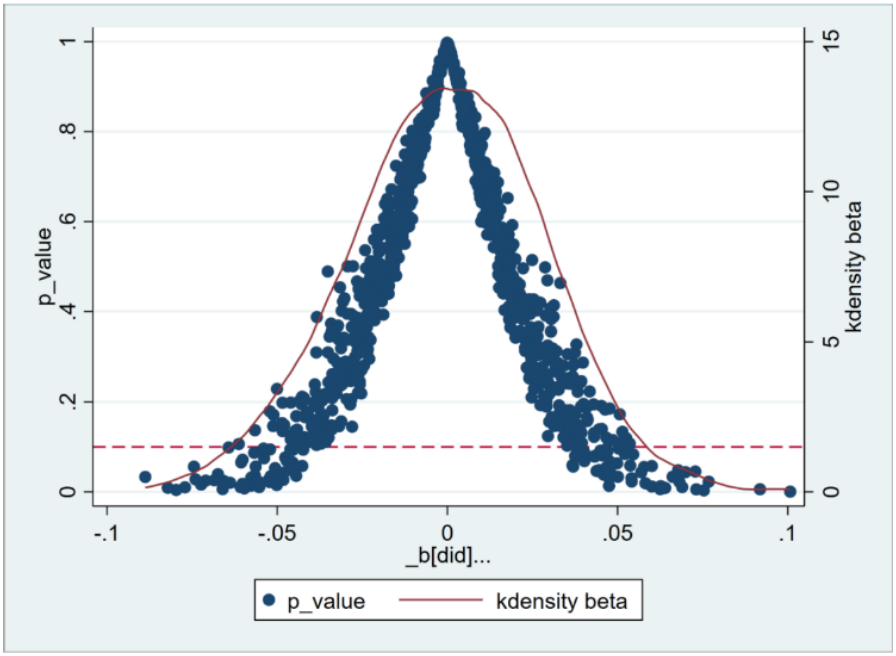


Figure 2. Placebo Test

6.3.2. Redefining and Dividing Samples

The definition of high-quality education cities in this study is based on the "normal courses admission rate" of cities. Referring to the data of normal course admission rates in various prefecture-level cities in Hubei Province in recent years, the education quality in Wuhan is undoubtedly stronger than in other prefecture-level cities. In addition, except for Wuhan, Xiangyang, and Jingmen, the "normal courses admission rate" of Huanggang and Ezhou cities have also remained at the forefront for a long time, exceeding 60% for many years. To further verify the robustness of the benchmark regression results, this study has adjusted the classification of cities with high educational quality. Specifically, the adjustment mainly involves excluding and including the experimental group samples separately. Firstly, limit the scope of high-quality education cities to Wuhan as the first new classification method, to achieve robustness testing and verify hypothesis 2; Based on the benchmark regression results, Huanggang City and Ezhou City were included in the scope of high-quality education cities as the second new classification method, and the two new classification methods were regressed. The results are shown in Table 4.

According to Table 4, the first column shows the regression results that limit Wuhan City to a high-education quality city, while the second column includes the regression results that include Huanggang City and Ezhou City as high-education quality cities on the original basis. The first column's "treated*post" coefficient is significantly positive at the 1% level, while the second column's "treated*post" coefficient is significantly positive at the 10% level, both confirming the robustness of the benchmark regression results. Meanwhile, the "treated*post" coefficient in the first column is significantly higher than the interaction coefficient in the benchmark regression results, indicating that high-quality educational resources in Wuhan have a more significant driving effect on the rise of urban housing prices. Therefore, hypothesis 2 is valid.

Table 4. Regression Results after Redefining

Variables	(1) lnprice	(2) lnprice
treated* post	0.378*** (0.0808)	0.0691* (0.0378)
medical	-0.464*** (0.0733)	0.259** (0.114)
deposit	-0.00601 (0.118)	-0.716*** (0.201)
population	-0.561** (0.253)	-0.232 (0.195)
income	0.723*** (0.168)	0.453* (0.235)
GDP	0.106 (0.165)	-0.0510 (0.227)
traffic	-0.00318 (0.00198)	-0.00283 (0.00196)
Constant	8.314*** (1.844)	14.88*** (5.118)
Observations	156	156
R-squared	0.924	0.952

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6.3.3. Replace Explanatory Variables

Based on the research purpose of this study and the explanation of the operation logic of the Reform in the previous section, the Academic Test organized by local-level cities is a key node. This extends the concept of high-quality educational resources to the compulsory education stage. High school education, as an important stage after the end of compulsory education, has an inseparable correlation between the two.

The significance of "single school zoning in compulsory education for this study lies in the close connection between the compulsory education stage and the high school stage. The main way to obtain high school education opportunities is the Academic Test, and migration will to some extent affect the results of the Academic Test [8]. Studying in the local middle school is closely related to participating in the local Academic Test, which has an impact on subsequent high school enrollment. Meanwhile, this study focuses on exploring the impact of high-quality educational resources on urban housing prices, which is an important part of the development of compulsory education in China. The role of high-quality educational resources cannot be ignored. Therefore, this study takes the "Implementation Opinions of the Ministry of Education on Further Improving the Local Enrollment of Junior High Schools without Examination" released in 2014 as a new policy, constructs a new DID interaction term, and the regression results are shown in Table 5.

Table 5. Regression Results after Replacing Explanatory Variables

VARIABLES	(1) lnprice
treated* post	0.155*** (0.0436)
lnmedical	0.271** (0.110)
lndeposit	-0.512** (0.204)
lnpopulation	-0.243 (0.186)
lnincome	0.297 (0.232)
lnGDP	-0.195 (0.223)
traffic	-0.00381** (0.00168)
Constant	14.17*** (4.913)
Observations	156
R-squared	0.956

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

According to the regression results, after replacing the new explanatory variable, the "treated*post" coefficient is significantly positive at the 1% level, further verifying the driving effect of high-quality educational resources on the rise of urban housing prices.

7. Discussion

Based on the empirical results and analysis mentioned earlier, this study confirms that high-quality educational resources will lead to a significant increase in urban housing prices. The research conclusions and relevant feasibility suggestions of this study hope to make efforts to promote education equity in China. However, from this perspective, the role of high-quality educational resources in driving up housing prices and the phenomenon of "school district houses" premiums in real-life scenarios are both detrimental to the promotion of equity in education.

Equity in education usually refers to every member of society enjoying equal educational rights and opportunities, equal educational resources, equal quality of education, equal employment opportunities, and giving certain preferential treatment to vulnerable groups in society. Equity in education is an important component of social equity and is of great significance in promoting social justice and harmony. Equity in education usually includes three layers of meaning: starting point fairness, process fairness, and outcome fairness [9]. This study argues that the driving force of high-quality educational resources on the rise of urban housing prices, as well as the phenomenon of "school district houses" premiums in real-life scenarios, conflicts with the standard of equal admission opportunities at the level of starting point fairness. In short, whether it is high-quality educational resources or general educational resources, the right of children from low-income families to enjoy education will be affected by families that can afford high housing prices, and the enrollment opportunities and space of children from local families will be squeezed by non-local families. This situation undoubtedly intensifies competition among students, and the idea that "only grades are the most important" is solidified, which is not conducive to the comprehensive development of students. Meanwhile, in some enrollment processes, corruption may breed, which is even more detrimental to the promotion of educational equity. Moreover, these phenomena all convey a signal to people that the cost of educating children is too high, thereby affecting fertility concepts [10]. Overall, the driving

effect of high-quality educational resources on the rise of urban housing prices and the phenomenon of "school district houses" premium in real-life scenarios are profound and comprehensive. The promotion of equity in education requires the joint efforts of the government, schools, society, and individuals.

7.1. Improve the Overall Quality of Education and Establish a Reasonable School Level Division

The driving effect of high-quality educational resources on the rise of urban housing prices is essentially the attraction of high-quality educational resources to students, which is caused by the gap in education quality between other regions and the local area. Therefore, reducing the gap in education quality between regions can alleviate the impact of educational resources on urban housing prices. Reducing the gap in educational quality between regions is not simply about improving or suppressing the quality of education in a particular region, but rather about building upon the overall improvement of educational quality, otherwise, it will further exacerbate the imbalance in educational equity. Specifically, there is a need to improve educational hardware and resources. The government and schools should focus on improving the environment of teaching venues such as classrooms, increase investment in teaching tools, supply updates, and maintenance, and achieve unity and common high quality in teaching hardware. At the same time, it is necessary to better select teachers and achieve higher assessment standards for their comprehensive quality while expanding a certain number of teachers. Strengthen the exchange and learning of teachers between schools to prevent the phenomenon of the "snowball effect", which may lead to a large gap between some schools. Schools should be allowed to carry out distinctive teaching methods and activities, and on this basis, a feasible but clearly defined "teaching outline" should be constructed to improve the lower limit of educational quality while leveraging the unique characteristics of the school. Meanwhile, schools should be comprehensively evaluated and graded based on teaching quality, providing a scientific reference for students to choose and set goals, and reducing blind followers of students.

7.2. Implement an Enrollment System based on the Carrying Capacity of Each School as a Reference Standard

The logic behind the impact of high-quality educational resources on urban housing prices lies in the fact that students from other regions do not have the qualifications to participate in the local Academic Test. Therefore, opening special enrollment standards for such students can alleviate the impact of educational resources on housing prices. However, operating such a mechanism requires consideration of the carrying capacity of each school. The carrying capacity of a school not only includes the number of students who can study on campus but also includes the quality of teaching and whether it supports student accommodation. If a well-known key high school is limited to local students, it will inevitably exacerbate the rise in urban housing prices. Therefore, it is necessary to set different enrollment standards. Taking a key high school in Wuhan, Hubei Province as an example, in addition to recruiting students from Wuhan, this high school has established independent enrollment exams for students from other cities in the province and allows students to move into the school's dormitories, which to some extent reduces the impact of educational resources on urban housing prices.

Therefore, for schools with excellent educational quality, this study believes that within a certain range, schools can be allowed to establish independent enrollment mechanisms to recruit students from other regions. Encouraging high schools to establish student dormitories within their capabilities can to some extent reduce the premium of "district housing".

7.3. Transformation of Educational Evaluation System and Ideological Concepts

In real-life situations, whether it is the public, parents, teachers, or students, the idea that "exam scores are the most important" is very profound. The existence of such ideological concepts undoubtedly stifles students' interests, hobbies, and creativity, and is also a manifestation of the

imbalance in educational equity. To improve this deep-rooted ideological concept, it is necessary to guide it with an updated and more comprehensive education evaluation system. This study believes that the new education evaluation system should not only focus on student's academic performance, but also consider their comprehensive qualities such as morality, art, and sports in a normalized manner, rather than setting assessments at certain time points. Some schools and parents choose short-term and effective methods to help their children meet the standards to cope with such assessments, but this loses the original significance of the assessment and instead brings a burden to the students. The interests and abilities of students should be valued, and schools should be encouraged to carry out distinctive teaching projects and activities to better develop students' comprehensive qualities. Based on the above considerations, a complete evaluation system can be constructed, without grades as the sole evaluation indicator. Through a new education evaluation system and scientific analysis methods, suggestions can be provided to parents of students. Schools should be encouraged to construct distinctive educational concepts based on their comprehensive abilities. By using reasonable and scientific measurement standards, combined with student evaluation reports, feasible suggestions and guidance should be provided for students in setting goals and selecting courses for further education. This can greatly alleviate the excessive purposeful influx of many students into certain high schools.

7.4. The Contribution, Shortcomings, and Future Prospects of This study

The focus of this study is more on high school education, and the research results fill up the gap in current research on the impact of high school education resources on urban housing prices in China. Moreover, this study uses DID model as an empirical model, focusing more on the perspective of education resources on real estate prices, to verify the significant driving effect of high-quality education resources on the rise of urban housing prices. In the final discussion section of this study, some feasible suggestions will be proposed based on the ideas of existing literature and practical scenarios.

As an important link between higher education and compulsory education in China, the importance of high school education is self-evident. The various stages of education in China are interrelated, and when considering the high school education stage, this study is not very closely related to the entire education process of compulsory education and higher education. In the future, more comprehensive consideration and exploration can be conducted on the entire process of China's education development. Although the enrollment mechanism of high schools in most regions of China is the same as that of Hubei Province selected in this study, the sample selection in this article is limited to 12 prefecture-level cities in Hubei Province. Future research directions can further expand the number and scope of samples to obtain more universal conclusions on the impact of high-quality educational resources on urban housing prices.

8. Conclusion

This study takes a more focused perspective on the high school education stage in China, fills up the deficiency in existing literature at this stage, and explores the impact of high-quality educational resources on urban housing prices. Specifically, this study selected 12 prefecture-level cities in Hubei Province as the research objects, established a DID model, and regarded the Reform as a policy time node to prove the two theoretical hypotheses proposed earlier, both indicating the significant driving effect of high-quality educational resources on the rise of urban housing prices.

In the benchmark regression, this study uses the normal courses admission rate as the standard, dividing Wuhan, Xiangyang, and Jingzhou in Hubei Province into high education quality cities as the experimental group. Based on the benchmark regression results, this study confirms that after implementing the Reform, the high-quality educational resources in Wuhan, Xiangyang, and Jingzhou will have a significant positive impact on urban housing prices, that is, high-quality educational resources will lead to an increase in urban housing prices. Specifically, with the inclusion

of relevant control variables and absorption of urban fixed effects and time fixed effects, the expected increase in housing prices due to high-quality educational resources before and after the Reform is 16.1%.

To make the impact of high-quality educational resources on urban housing prices more significant in the presentation of the results, this study further narrows the definition of a city with high educational quality. Based on the recent normal courses admission rate as the standard, only Wuhan was included in the experimental group. Based on regression results, this study confirms that after implementing the Reform, the high-quality educational resources in Wuhan, Hubei Province will lead to a more significant increase in housing prices. Specifically, under the conditions of only including Wuhan as the experimental group, including relevant control variables and absorbing urban fixed effects and time fixed effects, the expected increase in housing prices due to high-quality education resources before and after the reform shock was 37.8%, higher than the benchmark regression results, further reflecting the significant driving effect of high-quality education resources on housing price increases.

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