The college graduate's on employment city selection effecting the husing prices in Yangtze River Delta Region China

Wang Yicheng[1] Ntapat Worapongpat[2] Tachakorn Wongkumchai[3]

[1, 3] Faculty of Management Science Dhonburi Rajabhat University
Center for Knowledge Transfer, Technology, Community Innovation, Entrepreneurship, Tourism and Education Eastern Institute of Technology Suvarnabhumi (EITS), Chaina
[2]Educational Innovation Institute Association for the Promotion of Alternative Education, Thailand
Corresponding author's Email: dr.thiwat@gmail.com[1], Ntapat.w@bkkthon.ac.th*[2], dr.thiwat.1975@gmail.com[3]

Received: November 11, 2023 Revised: February 24, 2024 Accepted: February 26, 2024

Abstract

The research objectives were as follows: 1) To study factors affecting the choice of workplace of college graduates; 2) To study factors affecting the choice of house prices of college graduates and; 3) To analyze the impact of college graduates flows on housing prices. To accomplish the research goal of this paper, this paper adopts a quantitative analysis method, extracts the required year data from relevant yearbooks, and then explores the quantitative relationship between graduates' employment choice and housing prices in the Yangtze River Delta region using a linear regression method. The research findings revealed that: 1) There are differences in the choice and flow of employment areas for workers with different abilities; 2) based on the assumption that different cities have different career development environments, there will be obvious differentiation between high-ability workers and low-ability workers in the selection of employment cities; and 3) the higher the education level of graduates, the more inclined they are to choose cities with better development and higher income level. As a kind of high-ability workers, college graduates themselves have a greater demand for housing and a higher ability to buy a house, which will significantly increase the demand for the housing market and the rental market in the city, thus causing the rise of housing prices.

Keywords: consumption behavior, employment city, Yangtze River Delta; housing price; labor mobility

Introduction

Since the monetization of housing distribution, on the one hand, the housing prices of Chinese cities have experienced a rapid rise. From 2009 to 2018, the average sales price of residential housing per square meter increased from 4,459 yuan to 8,553 yuan, with an average annual growth rate of 7.51 percent. On the other hand, the degree of housing price differentiation among different cities in China shows a growing trend, which is mainly reflected in the price and price growth of real estate. From the perspective of real estate price, the average housing price per square meter in 41 cities in the Yangtze River Delta region in 2018 was 9,856.76 yuan. Among the cities with high housing price, the housing price per square meter in Shanghai, Hangzhou and Nanjing was 26,890 yuan, 23,920 yuan and 19,638 yuan respectively, all more than double the regional average housing price. The housing prices of Chizhou, Suzhou and Tongling, among the cities with low housing prices, are 5846.42 yuan, 5722.46 yuan and 5618.91 yuan per square meter respectively, which is far lower than the regional average housing price 2. From the growth rate of real estate prices, the average annual growth rate of residential commercial housing prices in Shanghai, Nanjing, Hangzhou and Hefei from 2009 to 2018 reached 8.56%, 11.82%, 10.70% and 12.44% respectively, which are all much higher than the growth rate of similar real estate prices in the whole country. In the same period, the growth rate of similar housing prices in Bengbu, Maanshan and Tongling was only 6.40%, 5.48% and 4.67%, slightly lower than the growth rate of similar real estate prices in China. (Liu, G., Huang, Y., & Albitar, K, 2023) The difference of real estate prices and the difference of price Sheth, J. (2020) growth among different cities makes the degree of housing price differentiation between cities increasingly heavy, Niamir, L., Ivanova, O., Filatova, T., Voinov, A., & Bressers, H. (2020) Chen, J., Hardin III, W., & Hu, M. (2020) forming the housing price differentiation pattern between cities with obvious differentiation between regions, cities with different administrative levels and cities with different industrial structures. (Cervero, R, 989).

At the same time, with the implementation of enrollment expansion in Chinese colleges and universities, the number of college graduates pouring into society has increased rapidly year by year. Due to the needs of employment and living, these new labor force flooding into the society will form a high effective demand for housing and renting houses. (Mangum, K., 2015) Under the constraint of a constant supply of real estate for a short time, the urban

housing price will rise rapidly. Through the analysis of the employment quality report of some universities in the Yangtze River Delta, (Severen, C., 2023) it is found that college graduates have an obvious preference for the economically developed regions in the choice of employment areas. At the provincial level, in 2019, the proportion of graduates who stayed in Shanghai was much higher than the proportion of graduates from Shanghai. (Tipayalai, K, 2020) Most graduates with permanent residence in Anhui, Jiangsu and Zhejiang chose to stay in Shanghai for employment. (Howard, G, 2020) The proportion of university graduates from Jiangsu and Zhejiang provinces who stay in local employment is also slightly larger than the proportion of local students. The outflow of graduates mainly goes to Shanghai, while the inflow of graduates mainly comes from Anhui. (Notowidigdo, M. J, 2020) The proportion of graduates from universities in Anhui Province who stay in Anhui for employment is basically smaller than the proportion of graduates from Anhui, and the outflow of graduates mainly go to Shanghai, Jiangsu and Zhejiang. (Donovan, K., Lu, W. J., & Schoellman, T, 2023)

It can be seen that the housing price of the regions where college graduates flow into is basically high, while the housing priceRye, J. F., & Slettebak, M. H. (2020) of the regions where college graduates flow out is basically low. High housing price cannot effectively prevent the inflow of college graduates, and low housing price cannot effectively attract the inflow of college graduates. (Head, A., & Lloyd-Ellis, H.,2012) This phenomenon is worth thinking and exploring, that is, whether the flow of college graduates has an impact on the fluctuation of housing prices D'Lima, W., Lopez, L. A., & Pradhan, A. (2022) and the differentiation of housing prices Tipayalai, K. (2020) between cities? What is the influence mechanism between them? To clarify these problems requires a comprehensive mechanism analysis, (Rye, J. F., & Slettebak, M. H, 2020) practical discussion and empirical test, (Monras, J, 2020) so as to provide scientific decision-making basis for scientific allocation of regional talent resources, full play to talent innovation potential, promote the orderly development of the real estate market, effectively regulate the price Liu, X., Tong, D., Huang, J., Zheng, W., Kong, M., & Zhou, G. (2022) of residential commercial housing, and help the sustainable development of regional economy. (Dorn, D., & Zweimüller, J, 2021) First, it helps to enrich the theory of urban population migration. Previous studies mostly analyzed population or labor migration between different regions based on the "push and pull theory", while this paper, based on the classical Spencer labor market model in information economics, adjusted it and analyzed how different

career development environments differentiated workers with different abilities during mobility on the basis of reasonable assumptions. This paper analyzes the urban migration rule of workers with different abilities from a new Angle. Anderson, B., Poeschel, F., & Ruhs, M. (2021). Second, it helps to enrich the research on the impact of population flow on housing price fluctuation and housing price Cavallo, C., Sacchi, G., & Carfora, V. (2020) differentiation between cities. Lee, J., & Shepley, M. M. (2020) There is an important causal correlation between population flow and housing price. Population flow will have an impact on the demand for real estate and then on its price, but at the same time, the level of housing price will also have an impact on population flow. (De Fraja, G., Matheson, J., & Rockey, J., 2021). There is a complex dynamic cycle until equilibrium between the two. Based on the existing theories, this paper analyzes the differences in the choice and mobility of workers with different abilities in the career development environment, discusses the impact of such differentiated labor mobility on the differentiation of housing prices in different cities and how to cause the differentiation of housing prices between cities, which is a further supplement to the existing theories of housing price volatility and housing price differentiation between cities.

The researcher is therefore interested in studying the impact of real estate demand. Study of the factors that affect college graduates' choice of workplace, which influences college graduates' house price choices, and the impact of college graduate flows on housing prices. To form the basis of policies for governments aiming to promote local development by attracting top graduates, that is, they can be used to determine how the level of education of graduates will affect local development and what kind of impact this will have. Local cities can be reminded to reasonably guide the flow of college graduates in the region. Avoid gathering too much in large cities. and encourage them to support the high-quality economic development of small and medium-sized cities. Avoid the economic and social crisis that can result from high housing prices and excessive divergence. and guarantee the high-quality integrated development of the entire region.

Review of Literature

1. Concept of influencing factors of labor mobility

The existing research on the influencing factors of labor mobility is relatively abundant, which can be roughly divided into the influence of micro-individual factors on labor mobility and the influence of macro-environmental factors on labor mobility.

Micro-individual factors mainly refer to those closely related to the labor force and vary with the labor force, such as gender, education level, social network, etc. Zhang and Zhao (2009) found that men have stronger mobility than women in the labor force by studying the data of Jilin Province. Wang and Zhang (2008) believe that education is an important factor affecting rural labor mobility. On the one hand, a higher education level means higher income; on the other hand, the urban education yield rate is significantly higher than the rural education yield rate, so the labor force with a higher education level has stronger mobility. Xing et al. (2013) believe that the purpose of migrant workers' mobility is to match their education level with the local education rate of return, and the labor force with a higher education level tends to flow to the area with a higher education rate of return. Zeng and Zheng (2016) believe that education can have an important impact on the migration ability of the labor force, and the improvement of the education level of the labor force can improve its migration ability. Guo and Yao (2013) believe that labor flow is closely related to the family clan networks, and clan networks connected by "human relations" can provide support and guarantee for labor flow (Zhang and Lu, 2009, pp. 13-17). Ran and Zhong (2020) found that household debt hurts labor mobility, but, on the one hand, labor may choose not to move to save funds to avoid debt default risk (Annenberg,2011; Gopalan et al.,2017). On the other hand, household debt may migrate to avoid debt default (Scharlemann & Shore,2016). Therefore, the effect of household debt on labor mobility is still uncertain.

Macro environmental factors mainly refer to those closely related to the labor force but not different from the labor force, such as employment income, employment opportunities, public services, environmental quality, etc. CAI (2001) believes that the reason why rural labor forces flow to cities is that there are higher income levels and more employment opportunities in cities. The Rural Group of Policy Research Office of the CPC Central Committee (1994), Liu (2001), Yao and Liu (2002), Li (2003) and Ding (2006) also hold the same view. Bayer et al. (2007) found that the regional educational environment is one of the important factors to attract highly educated talents. Wang and Yang (2018) argued that workers would prefer cities with higher levels of basic education and medical care, and the higher the level of education,

the stronger the preference and the level of public service in cities is positively correlated with labor flow. He (2020) also believes that the level of public service will affect the choice and decision of the labor force to the destination of migration, and has a significant impact on the inflow of labor force with a high education level, but not on the inflow of labor force with low education level. The influence of public service level on labor force flow exists in group differentiation marked by the level of education. Wu (2020) also believes that the attraction of public services to the labor force will vary with the educational level and skill level of the individual labor force, and the agglomeration of public services will generate a stronger attraction for the labor force with higher educational levels and skill levels. Sun et al. (2019) found that the employment location of the labor force would be negatively affected by air pollution, and this effect would be strengthened by other factors such as the aging of the labor force and the increasing level of education. Air pollution has harmed the health of the floating population.

2. Theories influencing factors of housing price fluctuation

The existing research on the influencing factors of housing price fluctuation mainly discussed three aspects: basic economic factors, expectation and speculation factors, and policy factors.

1. Basic Economic factors

As for the basic economic factors affecting housing prices, they can be divided into demographic factors and non-human factors according to whether they are related to the population. The population factor can be further divided into population flow factor and population structure factor, while the non-population factor can be further divided into supply factor and demand factor.

Among the population factors, the impact of the population flow factor on housing prices will be discussed later. Population structure factors can be divided into urban population composition structure factors, population age structure factors, and population employment structure factors. Li et al. (2015) studied the relationship between the change in population structure and the trend of the real estate market and found that the influence of population structure factors on the housing price increased significantly in both time and space. The composition of the urban population mainly refers to the impact of the urbanization rate on housing prices. Guo (2017) believes that the future housing price rise is mainly determined by

population urbanization. Wang and Zhou (2017) analyzed the impact of urbanization on housing prices by using the dynamic spatial Dubin model and found that rapid urbanization is an important reason for the rise of housing prices and will produce a spatial spillover effect. Regarding the influence of the population age structure on housing prices, Xu et al. (2012) analyzed the relationship between the change in the population age structure and the continuous surge in housing prices and found that the increase in the dependency ratio of the juvenile population would lead to the housing price rise in both micro and macro aspects, while the increase of the dependency ratio of the elderly population would bring about the opposite effect. As for the impact of population employment structure on housing prices, Song and Liu (2018) found that housing price was significantly affected by the proportion of high-end practitioners based on relevant data from 135 districts and counties in the Yangtze River Delta.

2. Expectations and speculative factors

Expectations and speculation factors affect the price of real estate mainly through its investment attributes. Expectations that house prices will rise or fall not only stimulate them directly, but also indirectly, by making it easier for banks to lend, or by making it cheaper for current householders. Phillips(1988) took the three lagging periods of real housing price rise as the proxy variable of expected housing price rise and found that expectation can significantly stimulate housing price rise statistically. Brueckner et.al (2012) believe that there is a key link between housing price expectations and subprime loans. The banks' optimism generated by the boom in the real estate market will increase their willingness to lend to risky lenders, which in turn will further increase housing prices by stimulating housing demand. This led to the excessive expansion of the real estate bubble.

3. Policy factors

One of the particularities of the real estate market is that it is often interfered with by the government's macro policy. Policies affecting housing prices can be divided into targeted policies and non-targeted policies. Targeted policies directly regulate the real estate market, such as purchase restrictions, property taxes, etc., while non-targeted policies indirectly affect housing through certain factors of Price policy, such as land policy, and monetary policy. Targeted policies, selected by Yuan &Hamori (2014) Based on the data of 30 provinces and cities from the second quarter of 2002 to the fourth quarter of 2014, it is found that a series

of macro-control policies of the Chinese government on housing prices significantly inhibited the rise of housing prices. Cao (2015) adopted the different-difference model and found that housing prices and real estate transactions could be significantly negatively affected by purchase restriction policies.

4. Theories of housing price differentiation factors

Existing studies on housing price differentiation are mainly analyzed from the supply and demand of the real estate market.

On the supply side, most researchers believe that the current land supply system is an important reason for the housing price differentiation among cities. Han Libin and Lu (2018) believe that key changes took place in China's land policy around 2003. First, the newly increased land supply tends to be in the central and western regions, while the proportion of land supply in coastal areas continues to decline. Second, the comprehensive implementation of the land supply system of "bidding and sale". Making local governments monopolistic suppliers of primary land markets, as a result, on the one hand, the coastal areas with net population inflow appear to be "short" in the land for new commercial housing construction, while the inland areas with net population outflow appear to be "more than adequate" in terms of land resources. The mismatch between land supply and housing demand in different cities is an important reason for the differentiation of housing prices among cities. On the other hand, Liu and Yang (2019) argued that the monopoly of the primary land market by local governments means that local governments can independently control the pace and strategy of land supply according to local needs. Different financial and growth pressure endowment conditions in different regions may lead to different governments choosing different quantities, ways, and distributions of land supply. Thus, different strategic land supply behaviors of local governments are formed, leading to the differentiation of housing prices among different cities. In addition, the supply of urban public goods and monetary policy are also important reasons to promote the differentiation of housing prices among cities in China. Qian (2016) believes that, on the one hand, big cities with larger regions and populations will provide more pure public goods and quasi-public goods driven by economies of scale and scope; on the other hand, coastal areas, developed cities, and provincial capitals are more likely to receive central financial support in the investment and construction of local public goods. The difference in the supply of public goods affects the public's urban preference and causes the differentiation

of housing prices among cities. At the same time, as the housing demand in first-tier and second-tier cities is more elastic, the capital pool is more abundant and the financial market is more flexible than that in third-tier and fourth-tier cities, the scale of housing price differentiation among cities has further increased after monetary policy easing. Chen and Tang (2017) also believe that the supply of public services can have an important impact on the real estate market by influencing the population flow and urbanization choice, and the unequal supply of public services between cities is one of the important reasons for the differentiation of housing prices in different cities. Ni (2019) also confirmed that continued loose monetary policy will intensify the differentiation of housing prices among big and small cities.

In terms of demand, since housing is both a consumer and an investment product, the housing demand includes consumption demand and investment demand (Kueda et al., 2012). As Beijing, Shanghai, Shenzhen, and other cities have the best education, medical, cultural, and scientific resources in China, on the one hand, more labor force, especially highly skilled labor force, will flow to these cities, and the multiplier effect of population flow will drive a larger influx of population, pushing up the consumption demand of real estate in these cities. On the other hand, the limited supply of urban land combined with the continuously increasing demand for real estate makes the high-quality real estate resources in these cities become excellent investment products, thus increasing the investment demand for real estate in these cities. Since the consumption demand and investment demand of real estate are concentrated in first-tier and second-tier cities, there is a huge difference between the demand for real estate and the third-tier cities with a net outflow of population, labor force, and capital, thus forming the current housing price differentiation pattern among cities on a large scale (Qian, 2016). By establishing a dynamic panel model, Bao (2017) empirically analyzed the influence of three indicators (16 second-level indicators measured by the entropy method), namely, the development degree of the urban financial industry, the development status of the real economy, and the supply of public goods, on the differentiation of housing prices among cities. It is found that the above three measures and housing price expectations all have a significant positive impact on housing price segmentation. Qian (2016) theoretically verified that the differentiation of housing prices among cities resulted from the differentiation of labor flow. Cities with strong knowledge spillover ability would attract more population

inflows and thus promote the rise of housing prices, while cities with poor knowledge spillover ability would find it difficult to increase housing prices due to the net outflow of population.

The regional educational environment is one of the key factors in attracting highly educated talent. argued that workers wanted cities with higher levels of basic education and medical care. And the higher the level of education, The higher the satisfaction and level of public services in a city is positively related to the flow of labor. He also believes that the level of public services will influence the selection and decision of the labor force to their migration destination. and has an important impact on the inflow of the labor force with a high level of education But it does not affect the inflow of the labor force with a high level of education. But it does not affect the inflow of the labor force with higher education levels. of the labor force with low levels of education The influence of the level of public services on the labor force flow exists among groups that differ by educational level. The place of employment of the labor force is negatively affected by air pollution. And this effect is strengthened by other factors, such as the age of the labor force. and increased levels of education Air pollution has a negative effect on the health of floating populations.

Methodology

This research It is quantitative research. (Quantitative Research) with the following research methods:

1. Population and sample groups in the research include:

1.1 Population includes consumers living in Deciding to choose an address in the urban areas of Beijing and Shanghai without knowing the exact number.

1.2 The sample group includes consumers living in Deciding on where to live in the city area The population used in this research is People in the Beijing and Shanghai areas determined the sample size using Taro Yamane's formula by setting the confidence level at 95%, error not exceeding 5%, resulting in 400 people from a population of 25,702,595 people.

2. Research tools include 1) interview form (Interview) 2) questionnaire (Questionnaire) 3) others. Quantitative sample: Questionnaire (Questionnaire) consists of part 1: general status of the respondents. It is a survey in nature, part 2 of which examines the impact of graduates' education levels on job selection and local housing prices. It is a rating scale with 5 levels and part 3, comments and other suggestions are open-ended. The researcher has brought a

questionnaire to find out the quality of the tool, including 1) The questionnaire met with a consultant and was revised according to the recommendations. 2) The revised questionnaire was presented to 3 experts to check the consistency of the content by estimating the consistency of the objectives with the questions (Index of Item– Objective Congruence: IOC) (Luan Saiyot and Angkana Saiyot, 2000, p. 249) found that there was an IOC value between 0.80–1.00 and 3) testing the tool with a population that was not a sample of 30 sets, which the evaluation results were The discriminatory power was between 0.25–0.75 and the reliability of the questionnaire was determined by Cronbach's method (1951, p.274; Cited in Bunchom Srisa-at, 2015), which the confidence evaluation results have a confidence value of 0.95.

3. Data collection includes collecting data from 1) Secondary Data is data obtained from collecting various documents (Document Research) such as books, textbooks, academic documents, research and related electronic media, etc.

4. Data analysis includes quantitative data analysis. By taking the data obtained from the questionnaire distribution and analyzing it using a statistical program to find the variance.

5. Statistics used in the research include a ready-made descriptive statistics program consisting of percentage (Percentage), mean (Mean), standard deviation (Standard Deviation) and analysis of the correlation coefficient of the variables used. And use the Pearson coefficient method to display and analyze.

Research Results

1. The results of variable correlation degree analysis.

In order to obtain the preliminary variable relationship, this paper uses Pearson coefficient to analyze the correlation between variables. Considering that the purpose of this study is the impact of graduates' education level on employment choice and local housing prices, this paper analyzes them from these two perspectives respectively, so as to obtain the intuitive impact relationship between variables.

Table 1 Pearson coefficient test results of the impact of graduates' education level on housing prices

	Hp	Plf_a	Area	Urban	Pop	Pgdp	wage
Hp	1						
Plf_a	0.71	1					
Area	0.69	0.65	1				
Urban	0.66	0.59	0.73	1			
Pop	0.49	0.53	0.75	0.74	1		
Pgdp	0.51	0.56	0.67	0.61	0.78	1	
wage	0.69	0.56	0.47	0.63	0.54	0.72	1

From Table 1, it is found that the results of the educational level of graduates have a positive relationship with job selection and local housing prices, but the effects of commercial residential sales area and the level of urbanization are affected. on employment options and housing prices reversed. This also creates the need to conduct linear regression tests. To deeply analyze the specific relationship, the results of the model analysis

Table 2 Pearson coefficient test results of the impact of graduate education on employment choice

	Epop	Plf_a	Area	Urban	Pop	Pgd	wage
Epop	1						
Plf_a	0.71	1					
Area	0.69	0.65	1				
Urban	0.66	0.59	0.73	1			
Pop	0.48	0.53	0.75	0.74	1		
Pgdp	0.51	0.53	0.61	0.59	0.78	1	
wage	0.67	0.63	0.51	0.62	0.54	0.71	1

From Table 2 According to the test results in the education level of graduates has a positive correlation with their employment choice and local housing price, but the impact of commercial housing sales area and urbanization level on employment choice and housing

price is opposite. This further puts forward the need to conduct linear regression test, so as to deeply analyze the specific correlation

.

2. Results of model analysis

Table 3 Model estimation results

	Model 1: Work Location selection	Model 2: Effect on house prices
Pfl_a	0.6216 * * *	0.6039 * * *
	0.003	0.001
Area	1.0148 * *	1.0329 * *
	0.037	0.05
Urban	0.1896 *	0.2165 *
	0.206	0.143
Pop	2.1861 *	3.0258 *
	0.068	0.063
Pgdp	0.0211 * * *	0.0316 * * *
	0	0
wage	0.1036 * * *	0.1159 * * *
	0.002	0.002
R^2	0.775	0.716
Individual effect	Control	Controls
Time effect	Control	Controls
Sample size	416	416

Note: *** means significant at the 1% level, ** means significant at the 5% level, * means significant at the 10% level

The estimated results of the model in Table 4.2 show the impact of the core explanatory variables measured in this paper on graduates' employment choices and housing prices.

According to the results of model 1, the education level of college graduates can have a positive impact on their employment choices. This is because the higher the education

level and the higher the education level of graduates, the more inclined they are to choose occupations with high returns, and the better-developed cities will provide higher career returns, so graduates are more inclined to choose cities with better development conditions. In the research environment of this paper, it means that graduates are more inclined to stay in the Yangtze River Delta region rather than choose to leave.

According to the results of Model 2, the education level of college graduates can positively stimulate the housing price. In cities with a good environment for career development, the inflow of college graduates and the expansion of the inflow scale can significantly increase the demand of the local housing market and rental market, and bring about the rise of housing prices. However, in cities with poor career development environments, due to the outflow of college graduates, the effective demand of the local real estate market will decrease, which will have a certain inhibitory effect on the housing price.

In addition to the core explanatory variables, the estimated results of the control variables are also basically in line with expectations.

In the two models, the sales area of commercial housing hurts the employment choice of graduates but has a positive and significant impact on the housing price. First of all, the sales volume of commercial housing reflects the prosperity of the local real estate market, but it also causes the excessive rise of housing prices, which is a relatively important negative influencing factor for the rigid housing demand of graduates, because graduates will make a preliminary estimate of their salary and income, and then estimate how long it will take to meet their housing demand. The higher the housing price, The more difficult this demand will be to meet, and the less likely it will be for graduates to work and settle down in the local area. Secondly, as a proxy variable of the supply of commercial housing, the increase in the sales area of commercial housing will be regarded as the increase in the supply of commercial housing. Under the condition of increasing demand for commercial housing, the larger the sales area, the greater the demand, which will result in the listing of commercial housing prices, and vice versa. Therefore, there is a positive impact between the sales area of commercial housing and the housing price. This is consistent with the estimated results.

In the two models, the level of urbanization has a positive impact on graduates' employment choices but has a negative impact on local housing prices. First of all, when graduates choose a city to work in, the higher their education level, the more likely they are

to pay attention to the local development degree and development prospects. The urbanization level can exactly reflect the achievements of the local government in urban development and the future development plan. Therefore, the higher the urbanization level, the easier it is to attract graduates. In addition, when urban areas continue to expand outwards, on the one hand, the population of the surrounding rural areas will continue to migrate to the city, and on the other hand, a large number of real estate will be built in the expanded area. The migration of the rural population to cities inevitably leads to an increase in the demand for urban real estate, and the construction of a large number of real estate inevitably leads to an increase in the supply of urban real estate. According to the theory of price, when the demand and supply of a commodity increase at the same time, the price of a commodity may rise or fall. The expansion of urban areas improves the level of urbanization and at the same time increases the demand and supply of urban real estate. When the increased demand is greater than the increased supply, the housing price will rise; when the increased demand is less than the increased supply, the housing price will fall. Judging from the estimated results, the current situation should be that the increasing demand is smaller than the increasing supply, which has a restraining effect on the housing price. However, due to the increasing demand, the negative impact of the increasing supply on the housing price is weakened, resulting in an insignificant result.

In the two models, the number of permanent residents has a positive and significant impact on graduates' employment choices and housing prices. The number of permanent residents represents the size of the population in a city that needs housing but does not necessarily own property. In particular, among the newly added permanent residents each year, except for the local natural growth of the population, they may not own houses in the local area, and their housing needs can only be met by buying or renting real estate. Therefore, the increase in the size of the permanent resident population is bound to increase the demand of the local commercial housing market and housing rental market, bringing about an increase in the price of commercial housing and housing rental prices. And the house rental price represents the investment income of the real estate. With the increase in income, the price of the asset itself will also increase, that is, the housing price will rise. The per capita GDP has a positive and significant impact on the housing price in all five models. It should be noted that the number of permanent residents also brings prosperity and development to

the local area, thus promoting the level of local economic development based on which, it is easier to have a positive impact on the employment choice of graduates.

Per capita, GDP represents the economic development level of a city on a macro level and the welfare conditions of people in a region on a micro level. Economic development and high-quality welfare conditions can significantly increase people's disposable income, bring about an increase in wealth, and thus lead to an increase in the demand for personal wealth preservation and appreciation. From the perspective of income, the higher the regional GDP, the easier it is to obtain a higher income in the city, which can attract graduates to stay in the city. In addition, compared with other assets, the income of real estate investment is not only stable but also considerable, which can well meet people's demand for wealth preservation and appreciation, thus bringing a large amount of capital into the demand side of the real estate market, resulting in a rapid rise in housing prices.

The average wage also has a positive and highly significant impact on the housing price in both models. The average wage represents the income level of people in a region and also symbolizes the consumption level of a region. On the one hand, the increase in average salary will increase the attraction of graduates, and the higher the education level, the greater the attraction will be, thus attracting graduates to stay in the city; On the other hand, the increase of the general price level will also lead to the rise of real estate prices. Therefore, the increase in the average salary can significantly lead to an increase in the housing price.

3. The test of hypothesis

According to the linear regression analysis conducted above, it can be seen that the education level of graduates has a significant impact on their employment choice and housing price choice. The specific detection model and description are shown in Table 4.5.

Table 4 Results of hypothesis testing

Hypothesis	Description	Detection model	Verify results
H1a	Education affects employment choices	1	By
H1b	Education affects housing prices	2	By

The test results of the research hypothesis in this paper are as follows:

H1a: The education level of graduates has a significant positive impact on their employment choice, so the hypothesis H1a is valid;

H1b: the education level of graduates has a significant positive impact on the local housing price, so H1b is established;

Discussion

1. Discussions

1.1 Discussions of the influence of graduates' education level on their employment choices

Under the research scope and hypothesis of this paper, graduates with higher education are more inclined to choose cities with better development prospects and higher income levels, which is consistent with the research conclusions made by Qian (2016) and Xing et. al(2013), that is, the higher education level and skill level graduates obtain from schools, the easier it is for them to find jobs and settle down in big cities. However, it should be noted that according to the relevant studies of Cai(2001), Wang(2018), and He(2020), the influencing factors of graduates' employment choice are not only affected by their education level but also the degree of local public service, graduates' demand for returning home to work in their hometown cities and graduates' training mode. Therefore, in future studies, these variables should also be included in the research for discussion.

Discuss the results

The results of research objective 1 found that factors affecting the choice of workplace of college graduates may be because the educational level of graduates has a

positive effect on local housing prices. which corresponds to This is consistent with the research results of Guo (2017), Xu (2012), and Han et al. (2018). That is, the higher the level of education and research ability, how higher the work ability of graduates. The more they settle in the city, The more they will improve housing prices. It will have a significant positive impact on local economic development. Consumption level and housing prices This is an important reason for the government to propose policies to attract talented people to settle in the area. However,

Results from research objective 2 found that factors affecting the choice of house price by college graduates The size of the land area. This project location may be because the effects of commercial residential sales area and level of urbanization on employment options and housing prices are reversed. This is in line with Chen, J., Hardin III, W., & Hu, M. (2020). Housing, wealth, income and consumption: China and homeownership heterogeneity. Real Estate Economics, 48(2), 373-405. Impacts on consumer spending in urban China associated with housing value, housing equity, financial assets, and household income are evaluated using longitudinal data from the China Family Panel Studies (CFPS) survey. Findings suggest that the housing wealth effect on household consumption in China is much larger than has been shown for developed economies. The larger impact is prospectively related to structural limits on investing which favor real estate ownership, along with the dominant position of housing in total household wealth. We also find that a household's consumption varies across housing tenure. Homeowners having joint ownership of property on average have the highest consumption propensity, while those having sole ownership of property consume the most in response to appreciation in housing wealth.

Results from research objective 3 found that the impact of college student flows on housing prices may be because the level of urbanization has a positive impact on graduates' employment options. However, it hurts local housing prices. First, when graduates choose the city in which to work. The higher the level of education, The more likely they are to pay attention to the level of local development and development opportunities. Consistent with related studies by Wang (2017), Song (2018), and Shen et al. (2004), urban housing price dynamics and the underlying influencing mechanism are complex. In addition to the needs of residents and the new population inflow base, it is also related to the local government's superior regulations and control policies in the real estate market. Overall economic

development trends and the prosperity of financial markets. To simplify the research process and explore the direct impact of graduates' educational level on housing prices. These factors are therefore not considered in depth in this article. and these factors also need attention in future research.

Conclusions

The core issue of this paper is the impact of college graduates' education on their choice of employment places and the fluctuation of local housing prices. Through theoretical analysis and empirical analysis, this paper has carried out a thorough and detailed analysis of the core issues to be studied, and the main conclusions are as follows.

There are differences in the choice and flow of employment areas for workers with different abilities, which is one of the main reasons for the differentiation of housing prices between cities. There is obvious heterogeneity between high-ability workers and low-ability workers in the choice of career development environment. Regardless of whether the career development environment can improve the labor productivity of workers, high-ability workers always prefer a better career development environment than low-ability workers. Therefore, based on the assumption that different cities have different career development environments, there will be obvious differentiation between high-ability workers and low-ability workers in the selection of employment cities. High-ability workers choose to go to cities with better career development environments, while low-ability workers choose to go to cities with average career development environments. As a kind of high-ability workers, college graduates themselves have a greater demand for housing and a higher ability to buy a house, which will significantly increase the demand for the housing market and the rental market in the city, thus causing the rise of housing prices. At the same time, the higher the education level of graduates, the more inclined they are to choose cities with better development and higher income levels. Within the scope of this study, it is reflected that the higher the education level of graduates, the easier they choose to work and settle in cities with better development in the Yangtze River Delta.

New knowledge from research

From the study of The College Graduate's impact on Employment City Selection

Affecting the Housing Prices in the Yangtze River Delta Region of China, it was found that knowledge can be summarized. It can be diagrammed as follows.

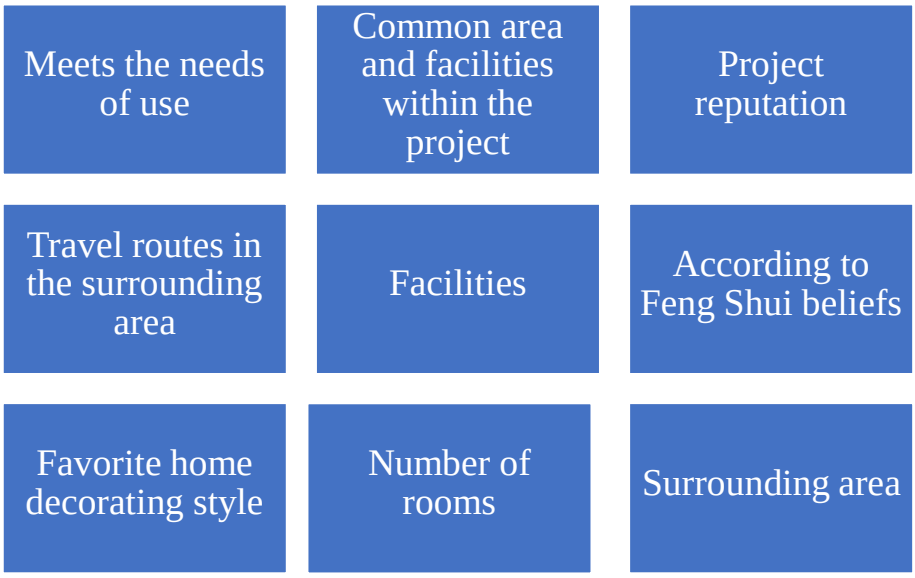

Diagram 2 shows how employment city selection affects housing prices in China's Yangtze River Delta.

Diagram 2, shows that a home is a place of residence used for relaxation, activities, and spending time together among family members. Therefore, having the first home is the dream of many people who want it. stable in life But the price is quite high due to various factors such as the location of the place. facilities or high demand for buying a home This makes it very important to buy your first home. 1. Choose the house you want. How to choose a house based on location or details of the project is good. But there are still some people who are interested in beliefs about home feng shui as well. Home feng shui principles will help promote good energy into the house so that you and the members of the house can receive only Good things and good fortune Helps enhance finances and work If the house project is well known or famous It will be another help guaranteeing that you will receive a good quality home. You may receive advice or methods for purchasing a home before and after purchasing for greater convenience and ease, such as preparing documents. home inspection and various services such as security or convenience for residents of that

housing project to meet the needs of use.

Therefore, choose to buy a house with 9 things to know that will help you know the details. carefully before making a decision, such as the location of the project Financial planning to prepare for buying a home How to check the condition of the house Incl uding various precautions That will make you worry less about buying your first home.

References

Anderson, B., Poeschel, F., & Ruhs, M. (2021). *Rethinking labour migration:* Covid-19, essential work, and systemic resilience. *Comparative Migration Studies, 9,* 1-19.

BAI Junhong, Wang Yue, JIANG Fuxin, Li Jing. *Research and development factor flow,* spatial knowledge spillover and economic growth. Economic Research, 2017,52(07):109-123.

Bao Xing. *Research on mechanism of housing price differentiation [D].* Central China Normal University, 2018.

Bian Yuanchao, Wu Lihua, Bai Junhong. *(2018).* The opening of high-speed rail, factor flow and regional economic gap . *Finance and Trade, 39(06),* 147-161.

Cervero, R. (1989). Jobs-housing balancing and regional mobility. *Journal of the american planning association, 55(2),* 136-150.

CAI Fang. Two processes of labor migration and its institutional barriers . Sociological Research, 2001(04):44-51.

Can China's real estate purchase restriction policy effectively inhibit the rise of housing prices based on an empirical study of 70 large and medium-sized cities . *Science of Finance and Economics, 2018(01),* 41-53.

Chen Shuyun, Tang Jiangwei. *(2017).* Does the unequal supply of public services Exacerbate the divergence of domestic housing prices? Empirical study based on panel data of 286 cities at prefecture level and above . *Reform of Economic System, (04),* 181-187.

Cheng Fengfeng. (*2020).* The influence of Internet popularization on urban migrant labor inflow: An empirical test based on 255 prefecture-level cities in China . *Technical Economics and Management Research, (11*), 92-97.

Dorn, D., & Zweimüller, J. (2021). Migration and labor market integration in Europe. *Journal of Economic Perspectives, 35(2),* 49-76.

Donovan, K., Lu, W. J., & Schoellman, T. (2023). Labor market dynamics and development.

The Quarterly Journal of Economics, 138(4), 2287-2325.

De Fraja, G., Matheson, J., & Rockey, J. (2021). Zoomshock: The geography and local labour market consequences of working from home. *Covid Economics, (64), 1*-41.

Ding Shouhai. *(2006).* Migrant workers' wages and rural labor transfer: An empirical analysis . *China Rural Economy, (04), 56*-62.

Fan Shide, Golden Nursery Rhyme. (*2020).* The internal mechanism and effects of labor mobility on household poverty in China: An empirical study based on Panel Logit model and Random effects model . *Jiangsu Social Sciences, (06):*79-89+242-243.

Fan Xin-ying, Zhang Suo-di. *(2013).* Research on the effect of land policy and monetary Policy on housing price based on time-varying parameters and VAR model . *Economic Economics & Weft, (04), 88*-93.

Gao Bo, Wang Huilong, Li Weijun. *(2014).* Expectations, speculation and housing price bubble in Chinese cities . *Financial Research, (02), 44-58.* (in Chinese)

Gu Chenglong, Zhou Yingheng, Yan Binjian. Housing accumulation fund system, housing price and housing welfare. *Economics (Quarterly Journal),2016,15(01):*109-124.

Guo Kesha. *(2017).* The demand and regulation mechanism of China's Real Estate Market: An analytical framework to deal with the relationship between government and market . *Management World, (02),* 97-108.

Guo Na, Zhang Qian. (2016). Analysis of financial influencing factors behind real estate Price fluctuations in China . Price Theory and Practice, (11), 106-109. (in Chinese)

Guo Yunan, Yao Y. *Clan network and rural labor flow. Management World, 2013*(03):69-81+187-188.

Severen, C. (2023). Commuting, labor, and housing market effects of mass transportation: Welfare and identification. *Review of Economics and Statistics, 105(5),* 1073-1091.

Head, A., & Lloyd-Ellis, H. (2012). Housing liquidity, mobility, and the labour market. *Review of Economic Studies, 79(4),* 1559-1589.

Han Jun, Kong Lingcheng. *(2020)* Whether the transfer of manufacturing industry and labor flow inhibit the expansion of urban-rural income gap. *The Economist, (11),* 58-67.

Han Libin, Lu Ming. (*2018).* Mismatch of supply and demand: Unraveling the riddle of housing price divergence in China . *World Economy, 41(10), 126-149*. (in Chinese)

He Wei. *(2020).* The impact of public service provision on the choice of labor inflow: Based

on the perspective of heterogeneous labor force.] *Fiscal Research, (03),* 101-118.

He Xin, Tian Lihui, Chu Erming. (*2017).* Spatial heterogeneity of housing price fluctuation in China from the perspective of population mobility . P*opulation and Economics, (06), 43-57.* (in Chinese).

Howard, G. (2020). The migration accelerator: Labor mobility, housing, and demand. American Economic *Journal: Macroeconomics, 12(4),* 147-179.

Hu Jianguo. Urban housing price and labor mobility (1998-2017) . *Jiangsu Social Sciences, 2020(03):*77-87.

Mangum, K. (2015). Cities and labor market dynamics. Andrew Young School of Policy Studies Research Paper Series, (15-05).

Notowidigdo, M. J. (2020). The incidence of local labor demand shocks. *Journal of Labor Economics, 38(3),* 687-725.

Nenov, P. T. (2015). Regional reallocation and housing markets in a model of frictional migration. *Review of Economic Dynamics, 18(4),* 863-880.

An empirical study based on 70 large and medium-sized cities . Journal of Quantitative and *Technical Economics, 2013,30(11):*56-72.

Monras, J. (2020). Immigration and wage dynamics: Evidence from the mexican peso crisis. *Journal of Political Economy, 128(8),* 3017-3089.

LAN Feng, Wu Di. Population mobility and housing price fluctuation: An empirical study based on 35 large and medium-sized cities in China . *East China Economic Management, 2018,32(05*):97-106.

Li Chao, Ni Pengfei, Wan Haiyuan. The mystery of rising housing demand in China: Based on the perspective of population structure . *Economic Research Journal, 2015,50(05):*118-133.

Liu, G., Huang, Y., & Albitar, K. (2023). The impact of urban housing prices on labour mobility: evidence from cities in China. *Economic Research-Ekonomska Istraživanja, 36(2),* 2106284.

Li Chao, Zhang Chao. The causes of high house-price to income ratio and its impact on urban population agglomeration in China: Theory and evidence . *Journal of South China Normal University (Social Science Edition),2015(01):*116-123+191.

Rye, J. F., & Slettebak, M. H. (2020). The new geography of labour migration: EU11 migrants in rural Norway. *Journal of Rural studies, 75,* 125-131.

Tipayalai, K. (2020). Impact of international labor migration on regional economic growth in Thailand. *Journal of Economic Structures, 9(1),* 15.

D'Lima, W., Lopez, L. A., & Pradhan, A. (2022). COVID‐19 and housing market effects: Evidence from US shutdown orders. *Real Estate Economics, 50(2),* 303-339.

Liu, X., Tong, D., Huang, J., Zheng, W., Kong, M., & Zhou, G. (2022). What matters in the e-commerce era? Modelling and mapping shop rents in Guangzhou, *China. Land Use Policy, 123,* 106430.

Lee, J., & Shepley, M. M. (2020). Benefits of solar photovoltaic systems for low-income families in social housing of Korea: Renewable energy applications as solutions to energy poverty. *Journal of Building Engineering, 28,* 101016.

Cavallo, C., Sacchi, G., & Carfora, V. (2020). Resilience effects in food consumption behaviour at the time of Covid-19: Perspectives from Italy. *Heliyon, 6*(12).

Sheth, J. (2020). Impact of Covid-19 on consumer behavior: Will the old habits return or die?. *Journal of business research, 117,* 280-283.

Niamir, L., Ivanova, O., Filatova, T., Voinov, A., & Bressers, H. (2020). Demand-side solutions for climate mitigation: Bottom-up drivers of household energy behavior change in the Netherlands and Spain. *Energy Research & Social Science, 62,* 101356.

Chen, J., Hardin III, W., & Hu, M. (2020). Housing, wealth, income and consumption: China and homeownership heterogeneity. *Real Estate Economics, 48(2),* 373-405.