Capitalization of Public School Quality into Housing Prices: An Empirical Analysis Based on School District Housing for Public Primary Schools in Shanghai

Tiancheng Zhou

Shanghai Pinghe School, Shanghai, China
Email: zhoutch2001@sina.cn

Abstract

This paper examines the capitalization of public school quality into housing prices in the specific context of China's compulsory education system and "district correspondence enrollment" policy, which stipulates a strict correspondence between residential estates and enrollment into public primary schools. Taking 344 neighborhoods in 7 main districts of Shanghai, China as its sample, this paper carries out detailed descriptive analysis of the data. It also employs the traditional Hedonic Price Model and 2SLS regression method to quantitatively calculate the exact capitalization rates while isolating eight non-school attributes affecting housing prices. It yields the conclusion that for every one-rank improvement in the quality of the corresponding public primary school, the average housing price of a neighborhood is projected to increase by 3.1%, 2.8%, and 1.9%, on the citywide, urban, and suburban scale, respectively. The capitalization effect of public school quality in housing prices is statistically significant, so the status-quo of the distribution of public educational resources in Shanghai is still considerably unequal. In the final section of this paper, the significance of this research is discussed and comprehensive policy recommendations and action plan are given in an attempt to mitigate the school district housing fever and educational inequality.

Keywords

Capitalization of Educational Quality, Housing Prices, School District Housing Fever, Shanghai, China, Hedonic Price Model, Two-Stage Least Squares (2SLS) Regression Method

1. Introduction

There is a deeply-rooted tradition in the Chinese culture that regards excellence in education as almost the only key for children's success in life. Motivated by a host of stories such as "Meng Mu San Qian" and "Zi Lu Bai Shi" that tell the herculean efforts of ancient elites (and their entire families) in pursuing top education, Chinese parents of all socioeconomic status are willing to make every possible effort to secure their children's access to advanced educational resources. Because of the severely limited number of top-ranking public institutions, the fight for enrollment starts as early as for primary schools and creates great educational inequality, since the wealthy could afford admissions fees for their kids to get into better schools.

In an attempt to equalize access to public educational resources and enhance fairness in the enrollment process, the "district correspondence enrollment" policy was first adopted back in 1986 (Sixth National People's Congress, 1986). It divided residential estates into designated school districts in correspondence with nearby public primary and junior middle schools and stipulated that children living in the neighborhoods in a given school district enroll in the corresponding school. In 2014 (The State Council, 2012), this policy was strengthened to apply to 100% of the enrollment for public primary schools and over 90% of the enrollment for public junior middle schools.

The policy did almost eliminate school selection, but it also set the start of the *School District Housing Fever*, which is the soaring housing price in districts corresponding to Key Primary Schools (KPS) and Key Middle Schools (KMS). As a folk concept that has been in use for decades, KPS and KMS refer to those schools with capable teaching staff, favorable learning environment, and promising student body. Though there aren't clearly-defined criteria for a school to qualify as KPS or KMS, they are usually reputed locally. In October 2017, sales price averaged ¥113,000/m^2 in Quandong neighborhood (Lianjia, 2017a) because the houses entail enrollment in Mingzhu primary school, the reputed best public primary school citywide. Yet in Weifang No.2 neighborhood which is out of the Mingzhu school district, the average sales price for apartments was only ¥69,800/m^2 (Lianjia, 2017b). The two neighborhoods are only one block away, and both were constructed over 30 years ago, leaving their correspondence to schools as almost the only viable explanation for the apparent disparity in housing prices.

The reason is still the lack of high-quality educational resources and its uneven distribution as a public good. At its core, the designation of school district housing connects enrollment to estates, which is a private good, so that the desire of getting into KPS and KMS turns into an excess demand in the real estate markets of hot districts. In this way, enrollment is still unequal, even more so than before as housing prices are pushed to unprecedented levels.

China's real estate industry also set the stage of the country's school district

housing fever. Since the industry's takeoff 30 years ago, it has been growing at an exponential level. From 2009 to 2013, the industry grew more than 22%, of which second-hand sales of school district estates accounted for more than 13% (National Data, 2018). According to Forbes, China has one of the highest home ownership rates in the world with over 90% of families owning their homes. This universal possession of estates means that most families can and do choose to sell off their houses in dissatisfactory districts and switch to districts with better schools, a process by which the feverish hike of school district housing prices takes place.

These observations render it crucial to study the School District Housing Fever, since a balanced educational system is key to maintaining equality in educational opportunities. Also, higher social mobility will give the society a boost in human resources, as the poor will no longer be prevented from receiving quality education by unaffordable housing prices and kept at the bottom for generations.

Facing the deeply-rooted problem of school district housing, the Chinese central government has been taking a variety of measures. In February 2016, Shanghai adopted a new policy (Shanghai Education Commission, 2016) stipulating that only one enrollment opportunity is available for each estate in every five years, regardless of changes in its ownership. This means that after one child is enrolled, the house will be ineligible for enrollment for five years. In terms of the educational system, the government is trying to equalize the qualities of schools across districts. One measure was to join each district with a higher-quality school with a district corresponding to a lower-quality school and randomly enroll children in the joint district into either of the two schools. This way, the disparity in school quality can be evened out theoretically. However, these policies are still of limited effect in cooling down school district housing in real practice.

Therefore, by engaging in a scientific examination of the cause and development of the phenomenon, this paper aspires to propose several possible remedies based on supply-side economics so that the welfare of the entire society can be maximized.

2. Literature Review

As a basic societal good, public education is financed by the government with its tax revenue and is provided to all the citizens. These characteristics render it a typical public good in classical economic theory. Public education creates a positive externality: As more people are educated, the society's labor productivity increases while its crime rate tends to fall, which benefits other members of the society. Therefore, other assets absorb the cost of public education, and the prices of these assets rise consequently. This economic phenomenon is referred to as *capitalization of public goods* (Liu & Yi, 2011). China's school district housing

fever, in which housing prices are higher in districts with higher-quality public schools, is a manifestation of capitalization of public goods.

2.1. Background on China's Contemporary Public Educational System

China's school district housing fever arises in the context of the China's contemporary public educational system, which underwent four stages of development (Zou, 2008).

The first stage spanned from 1977 to 1985 and witnessed the reorganization of China's Public Educational System. In this period, more than 230 higher education institutions were established, and a number of high-quality primary, middle and high schools were formally recognized and distinguished by the government to the general public at district and city levels. These developments created a social atmosphere highly passionate for education, and most families competed fiercely for high-quality educational resources.

The second stage was from the year of 1985 to 1989 and witnessed the reorganization of China's Public Educational System. On July 1ˢᵗ, 1986, the *Compulsory Education Law of the People's Republic of China* was formally promulgated, which guaranteed nine years of compulsory education for every Chinese citizen and instructed its detailed implementation: Residence estates were divided into designated school districts in correspondence with nearby public elementary and junior middle schools, and children living in a school district can enroll in the corresponding school without selection. The main purpose of the *Law* was to enhance educational fairness for low-income families by replacing selective enrollment fees with the relatively fixed locations of residence estates. However, since estates are private commodities available for purchase, the adoption of the *Law* set the start of China's school district housing fever.

The years 1990 through 2003 can be regarded as the third stage where the industrialization of China's Public Educational System took place. The *Decision of the Central Committee of the Communist Party of China on the Acceleration of the Development of the Tertiary Industry* of 1992 classified education as a tertiary industry. Education was thereby redefined as a constituent of "social productivity" instead of a former "superstructure". Under this principle, the government prioritized educational outcome ahead of educational fairness. Also, the scale and capacity of the educational system was rapidly enlarged. This led to an industrialization of Chinese education. Meanwhile, with the legalization of private institutions for basic education in 1999, the regulation of the educational system loosened and the competition for high-quality educational resources was fueled as enrollment fees were collected by many institutions. The prices of school district housing remained high through this period.

From 2003 until this present day, the development of China's Public Educational System is in its fourth stage. Into the 21ˢᵗ century, the government has reemphasized the fairness of public education. In May 2005, the Ministry of

Education formally issued *Opinions on Further Promoting the Balanced Development of Compulsory Education*. It placed a total ban on any kind of enrollment selections such as fees or exams and ordered a stricter enforcement of the "district correspondence enrollment" policy (Ministry of Education of People's Republic of China, 2014a, 2014b) (refer to the Introduction of this paper for an explanation): School districts were re-specified, and children are obliged to enroll accordingly. Up until 2014 (General Office of the Ministry of Education of People's Republic of China, 2014), this principle has been applied to 100% of the enrollment of public primary schools and 95% of that of public junior middle schools in 19 major cities across the country.

As of 2017 when this paper is composed, an average child can enroll in high-quality elementary education either by paying for private education or by buying school districts housing for public school. However, in 2016, the average tuition fee of private primary schools in Shanghai was ¥24,500 (≈$3720) per semester and still rising (which is more than ten times the tuition fee charged by public education). For most families, this sum was a significant economic burden, so the competition for entrance into high-quality public schools and corresponding houses remained and intensified. From March 2015 to March 2016, the average price for high-quality primary school district housing in Shanghai rose by over 62.8%, equivalent to about ¥26,000 (≈$4000) per square meter (Xingdd, 2016) (Figure 1).

2.2. Western Researches—Overview and Analysis

Over the past 60 years, with the development of economic theories and its applications, a large number of Western researches were conducted on the capitalization of public education on estate prices.

In 1956, American geo-economist Charles Tiebout became the first to put forward a theoretical model (Tiebout, 1956) to describe the provision of public goods. He observed that local residents automatically move away from
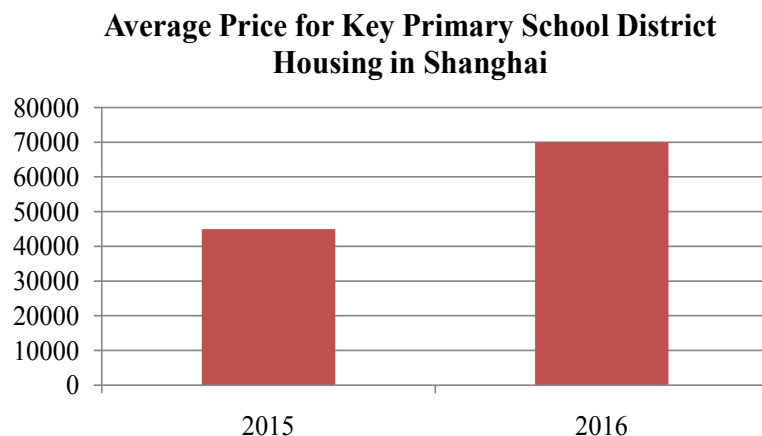
Figure 1. Average price for key primary school district housing in Shanghai, 2015-2016.

communities with dissatisfactory public services to where the public goods best satisfies their preferences, a process which he called "vote with their feet". He hypothesized a corresponding capitalization effect in the prices of the estates and suggested that a market solution can exist for public goods at the local level, where the government and consumer-voters can communicate their supply and demand of public services through the market of real estates across different communities.

Oates (1969) empirically verified the Tiebout hypothesis in 1969. By working with data from fifty-three residential communities in northeastern New Jersey, Oates concluded that local property values bear a significant negative relationship to the effective tax rate and a significant positive correlation with expenditure per pupil of the public schools.

From the 1970s onwards, as the capitalization of public education on estate prices arose in more places, many scholars took different perspectives and approaches in investigating the phenomenon. Most of the published findings confirmed the positive effect of school quality on the prices of private estates, while the precise magnitude and choice of variables were varied.

Oates used expenditure per pupil as the dominant factor in measuring a school's quality, which focused on the school's educational input. However, Rosen & Fullerton (1977) argued that proficiency test scores are a better measure of school quality, because the educational output effectively takes into account both the school's efforts and the unquantifiable learning environment and peer effects the school offers. In this way, their 1977 paper obtained results with a significant level as high as 90%.

Rosen and Fullerton's finding was cited by a large body of researches, and K-12 student achievement measures replaced expenditure to become the most commonly-used factor in subsequent studies on the relation between estate prices and public school quality. Haurin & Brasington (1996) used the pass rate on a ninth-grade statewide proficiency test and calculated that the capitalization of school quality occurred on a per lot basis rather than per square foot of land. It is worth noting that their study separated the capitalization effects in the prices of the estates caused by other variables, such as the house's structural characteristics and its distance to the city's CBD. In this way, they were able to isolate the precise effect of school quality on house prices.

Another measure of school quality is the value added, which refers to the marginal effect of school education on students' achievements over a given time period. In this sense, schools with higher value added are better, meaning that they boost students' achievements to a greater level apart from the impact of their families or innate aptitudes. Downes & Zabel (2002) used a sample of 1173 house prices data in the Chicago metropolitan area and found that higher average levels of academic achievement raise house values, but value-added did not. Brasington (2006) arrived at a similar conclusion: Using data from 310 school districts and 77,000 house transactions in 2000 in Ohio, they found that households consistently value a school's average proficiency test scores and expendi-

tures instead of the value-added. They calculated that the elasticity of house prices with respect to school expenditures was 0.49, and an increase in test scores by one standard deviation raised house prices by 7.1%, while the effect of value added on house prices was insignificant. Hayes & Taylor (1996), however, found that in addition to absolute achievement levels, homebuyers are willing to pay an extra premium for value added. Other researches that discussed this method include Boardman & Murnane (1979), Aitkin & Longford (1986), and Hanushek, Rivkin, & Taylor (1996).

There are other notable studies that took unique perspectives. Dubin & Goodman (1982) studied the impact of twelve variables of crime and twenty-one variables of education on house prices in Baltimore and found that these variables substantially explain house prices. Black (1999) studied housing price at the convergence of two or more school districts so that the effects of housing and geographical characteristics could be isolated. He calculated a slight capitalization effect of school quality 50% less than the average rate obtained in other studies. Dills (2004) showed that improved performance on college entrance exams was associated with increased overall housing value aggregated to the district level.

More recent researches took a more practical angle as scholars evaluated the outcomes of school district policies. In 2008, Hu & Yinger (2008) investigated the impact of school district consolidation in New York State since 1990 on the capitalization effects of public schools. They found that the policy boosted house prices by 25% in very small districts but had no marked effect in those with more than about 1700 pupils. In 2011, Nguyen-Hoang & Yinger (2011) made a comprehensive review of empirical studies on the capitalization of school quality into house prices since 1999 and confirmed that significant capitalization effects did exist especially for educational outputs. But they concluded that although challenges still remained, much progress had been made on the issue.

Although past researchers used different types and scopes of the variables in calculating the capitalization effect of school district housing, the *hedonic price model*, or *hedonic price regression*, was the commonly-used methodology to determine the relationship of each housing attribute to its transaction price and measure each of these relationships isolated from the effects of other attributes (Monson, 2009). In this case, the model can isolate the effects of other attributes and measure the net capitalization effect of the quality of public education on housing prices.

2.3. Chinese Researches—Overview and Analysis

A large body of Chinese literature studies the capitalization effect of public education in estate prices. Due to the relatively later emergence of the capitalization effects in China, most Chinese researchers employed the hedonic price regression model and similar methodologies as Western researches. But again, their perspectives varied.

An early research conducted by Feng & Lu (2010) in 2010 studied monthly panel data of Experimental Model Senior High Schools (EMSHS) and corresponding housing prices in 52 school districts across Shanghai. Their study marked the presence of capitalization of public education and calculated an average rise of 6.9% of housing price when an extra leading EMSHS is added to district. Wen, Yang, & Qin (2013), Huang (2010), Meng & Jia (2014), and Wang, Ge, & Zhang (2010) attained similar results using data in Hangzhou, Xi'an, Guangzhou, and Nanjing, respectively.

Liu & Sun (2015) based their study on the panel data of second-hand deals of school district housing in Wuhou District, Chengdu. They concluded that public education did have a marked price premium on the estates price, and the amount of premium showed the Matthew effect, where top schools have a significant positive effect on the price of estates, while price premium of average schools may be tiny or even negative since people are selling the estates off in exchange for those in better school districts. Using data from 202 school districts in Hangzhou City Area, Mao, Luo, & Pan (2014) calculated the price premiums of sought-after middle and primary schools to be 25.5% and 12.8% and concluded that the presence of private education aggravated the local capitalization effect.

2.4. Thoughts and Inspirations

After a thorough review of the background and the status quo of China's school district housing fever in theoretical and empirical lens, we came to the understanding that the problem has been chronic and prevalent across the country, limiting low-income families' access to high-quality educational resources economically. We found that no researches has been conducted on Shanghai's public primary school district housing, so our research paper has practical importance in investigating the local phenomenon at the very basis of education. Also, since Shanghai has a socioeconomic development level ahead of other cities in China, this paper can also shed light on studying the problem in other areas or nationwide. Furthermore, the government's past policy attempts to cool down the housing prices mainly took a demand-side approach but haven't produced effective outcomes so far. Seeing that the latest Western studies have focused on evaluating and advising school district policies, we also considered some of the impacts of recent Chinese policies and used our empirical findings to discuss future policy advice.

The body of past literature guided us of the research methodology. Knowing from existing researches that a wide range of housing attributes can affect house prices, we used hedonic price model to isolate their effects so that the pure effect of public education can be obtained. Specifically, we excluded the effects of eight non-school attributes, namely distance to the corresponding public primary school, distance to the CBD of the district, property management fee, green coverage ratio, elevator, residential area, floor area ratio, and building age.

3. Methodology

3.1. Data and Variable Description

This study selects three main urban districts (namely Xuhui, Huangpu, and Changning) and four main suburban districts (namely Minhang, Jiading, Songjiang, and Baoshan) in Shanghai as its study areas. Among the city's total fifteen districts, the seven are chosen according to their scale of the school district housing fever, which is estimated from the size of the population as well as the number and quality of public primary schools in the district. It is believed that the capitalization effect is more pronounced and observable in districts with a larger population and more schools of higher qualities. Another factor in selecting the study areas is the accessibility and sufficiency of data. Major districts like Pudong weren't included in consideration due to the lack of data arising from its large floating population and other factors. According to existing research, the capitalization effect is only significant for schools of relatively higher quality; it is likely to be negligent or negative for middle- or lower-quality school districts since people are not considering the schools as a factor in real estate purchase of even selling of their estates for those in better school districts. So the top ~30% of primary schools in each urban district and ~10% of primary schools in each suburban district and their corresponding neighborhoods are studied in this paper for a significant causational effect. That said, the sample of this paper covers a total of 10.08 million residents and 43 school districts[1].

In this paper, the dependent variable is the average housing price of a neighborhood. The independent variables include the quality of the corresponding public primary school and eight other factors classified into three aspects according to the framework of the hedonic pricing model: structure, neighborhood, and location. The eight factors are chosen mainly based on the accessibility of standardized data for neighborhoods across the city. For example, although better interior decoration counts towards a higher housing price, there is no quantifiable data to measure or score it, while a simple dummy variable is too arbitrary. Nevertheless, the eight factors are balanced so that they reflect different parts in housing prices. For instance, property management fee accounts for the social status of the residents' composition, while green coverage ratio reflects the quality of the neighborhood's environment.

Since the purpose of this study is to measure the capitalization effect of public school quality into housing prices, the quality of the corresponding public primary school is the main independent variable to be studied separate from the other non-school attributes, which are treated as control variables. Similar to studies Wen & Chen (2014); Wen, Zhang, & Zhang (2014); and Wen & Tao (2015), three methods (actual data, scoring method, and dummy variable) are adopted to quantify the variables of the sample as accurately as possible. Specifically, the actual data of housing price, residential area, building age, property

[1]Data last updated by the end of 2016; same for other data in this paper if not otherwise specified.

management fee, floor area ratio, green coverage ratio, the distance to the corresponding public primary school, and the distance to the district's CBD are used to measure their contents directly. Since there is no standardized test for primary school students' academic performances in China, the quality of the corresponding public primary school is given by a score equal to its rank within the district, which can reflect its educational quality relative to other schools in Shanghai.

The variable names, classification, description, quantification, and expected signs and scales are all listed below in Table 1, and the comprehensive data is provided in the **Appendix**. The rankings of the schools are obtained from 51test.net, China's largest educational portal website and Hatong-shsx, one of Shanghai's largest Wechat Official Accounts providing information on examinations, and educational activities with over 2.63 million subscribers (Hatong Shanghai Shengxue, 2017). The correspondence between the schools and the neighborhoods and the estimated average housing prices in each neighborhood are obtained from the study conducted by sh.bendibao.com, which is a trusted portal website providing all-rounded information for local life such as transportation and real estate trading. Referring to portal websites for these data is justified because school-related information is not released by government agencies so as not to intensify the school district housing fever. The sources cited in this paper are credible since they are universally-recognized by a large user base and the information they provide are also obtained from careful investigations and analyses. The housing information including sales prices and other relevant characteristics is obtained from Fang.com, one of the largest and most renowned real estate information platform covering 642 cities in China with over 6.5 million active subscribers (Fang, 2017). For each neighborhood, the house whose price is closest to the neighborhood average is selected as the representative. In order to ensure the unity of data, this paper only studies high-rise housing apartments and excludes villas and townhouses. These considerations render the choice and analysis of variables in this paper considerably relevant and complete.

3.2. Descriptive Statistics Analysis of Independent Variables

In this section and the one that follows, the data with be analyzed statistically in three dimensions: citywide, urban, and suburban, so that the conclusions and implications are specific and distinguishable.

The descriptive analysis on the citywide scale is given below in Table 2. The average school district housing price is 76,949.81 RMB/m^2, with a maximum value of 150,621 RMB/m^2 and a minimum value of 28,641 RMB/m^2. The quality of the corresponding public primary school, given by its ranks, has an average of 5, maximum of 11 and minimum of 1, which is consistent with our sampling of the data. The averages of distance to the corresponding public primary School, distance to the district's CBD, property management fee, green coverage ratio, elevator, residential area, floor area ratio, and building age are, respectively,

Table 1. Variable description.

Variable Classification	Variable Name	Variable Description and Quantification	Unit and Expected Sign
Main Independent Variable	Quality of the Corresponding Public Primary School	A score equal to the rank of the school in the entire city. The lower the score, the higher the school's quality	N/A, −
Dependent Variable	Housing Price	Sales price of a given house	RMB/m², N/A
Independent Variables—Location Characteristics	Distance to the Corresponding Public Primary School	Straight-line distance from the neighborhood center to its corresponding public primary school	Meters, −
	Distance to the CBD of the District	Straight-line distance from the neighborhood center to the CBD of the district, usually taken as the Wanda Plaza, the major commercial and recreational landmark	Meters, −
Independent Variables—Neighborhood Characteristics	Property Management Fee	The fee every household has to pay for estate upkeep and neighborhood management	RMB/m² per month, +
	Green Coverage Ratio	The percentage of open space covered by greenness in a neighborhood	%, +
	Elevator	Dummy variable is equal to 1 if the neighborhood has elevators or 0 if otherwise	N/A, +
Independent Variable—Structural Characteristics	Residential Area	Floor area within a house	m², −
	Floor Area Ratio	Ratio of a building's gross floor area to the size of the piece of land upon which it is built (Standard definition)	N/A, −
	Building Age	Number of years since the building was built	Years, −

748.13 meters, 2141.80 meters, 2 RMB/m² per month, 34.03%, 0.62, 92.41 m², 2.21, and 19.54 years.

The descriptive analysis for the urban areas is given below in Table 3. Most notably, the average school district housing price is 88,311.57 RMB/m², 14.77% higher than the average value citywide.

The descriptive analysis for the suburban areas is given below in Table 4. The average school district housing price is 49,993.49 RMB/m², over 35% lower than the average value citywide. In comparison with the data of the urban areas, the average green coverage ratio and distance to the district's CBD are greater in the suburban places while the property management fee is cheaper and there are fewer elevators. Also, the public schools in suburban areas generally have lower ranks than those in urban areas, reflecting the relative lack of educational resources in suburban areas. As these patterns match properly with the actual

Table 2. Descriptive analysis of independent variables, citywide.

Variable	Unit	Average	Standard Deviation	Maximum Value	Minimum Value
Quality of the Corresponding Public Primary School	no unit	20.31	11.41	44	1
Housing Price	RMB/m^2	76,949.81	24,548.04	150,621	28,641
Distance to the Corresponding Public Primary School	Meters	748.13	504.75	4600	10
Distance to the District's CBD	Meters	2141.80	1439.08	7700	70
Property Management Fee	RMB/m^2 per month	2	1.72	14.8	0.3
Green Coverage Ratio	%	34.03	9.24	70	10
Elevator	no unit	0.52	0.50	1	0
Residential Area	m^2	92.41	50.92	404	18
Floor Area Ratio	no unit	2.21	1.09	8.9	0.36
Building Age	Years	19.54	12.27	178	1

Table 3. Descriptive analysis of independent variables, urban.

Variable	Unit	Average	Standard Deviation	Maximum Value	Minimum Value
Quality of the Corresponding Public Primary School	no unit	14.53	7.58	29	1
Housing Price	RMB/m^2	88,311.57	18,676.47	150,621	50,933
Distance to the Corresponding Public Primary School	Meters	650.94	383.03	1900	10
Distance to the District's CBD	Meters	2059.59	1376.79	7700	70
Property Management Fee	RMB/m^2 per month	2	1.96	14.8	0.13
Green Coverage Ratio	%	32.72	9.17	70	10
Elevator	no unit	0.62	0.49	1	0
Residential Area	m^2	92.10	53.37	404	18
Floor Area Ratio	no unit	2.47	1.08	5.68	0.38
Building Age	Years	20.80	13.83	178	1

environmental and economic situations in Shanghai, they prove the validity and real-life significance of the sample and data sources of this paper and lay the foundation for following technical analyses.

The number of KPS in each district of Shanghai is listed below in Table 5 and illustrated in Figure 2. The four districts with the most KPS are Xuhui, Huangpu, Pudong, and Yangpu in order. These districts are all in the urban area and share the characteristic of advanced socioeconomic activities and educational

Table 4. Descriptive analysis of independent variables, suburban.

Variable	Unit	Average	Standard Deviation	Maximum Value	Minimum Value
Quality of the Corresponding Public Primary School	no unit	34.23	5.98	44	22
Housing Price	RMB/m^2	49,993.49	13,077.58	80,060	28,461
Distance to the Corresponding Public Primary School	Meters	978.72	662.43	4600	40
Distance to the District's CBD	Meters	2336.86	1566.97	7100	110
Property Management Fee	RMB/m^2 per month	1.07	0.71	3.5	0.2
Green Coverage Ratio	%	37.16	8.72	70	17
Elevator	no unit	0.30	0.46	1	0
Residential Area	m^2	93.13	44.82	303	29
Floor Area Ratio	no unit	1.57	0.86	8.9	0.36
Building Age	Years	16.55	6.45	38	2

Table 5. Number of key primary schools (kps) in shanghai, by district.

District	Number	District	Number	District	Number
Xuhui	14	Pudong	14	Huangpu	13
Yangpu	10	Minhang	9	Jiading	9
Baoshan	8	Jing'an	7	Putuo	6
Jinshan	6	Songjiang	6	Hongkou	5
Changning	4	Fengxian	3	Qingpu	2
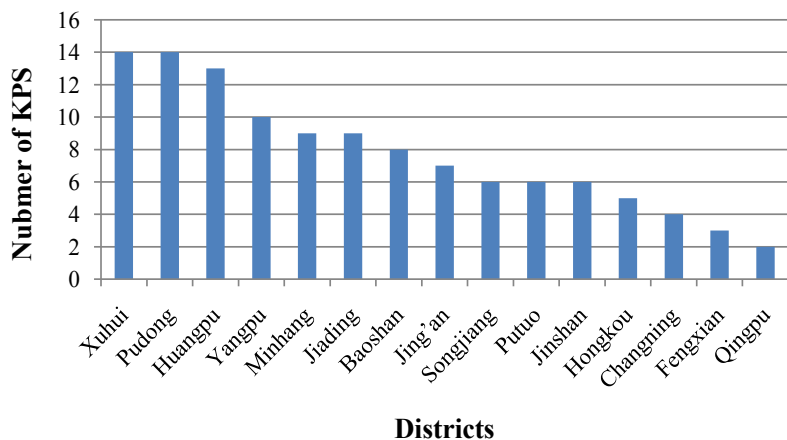
Figure 2. Number of KPS in Shanghai, by district.

resources, and thus relatively higher housing prices. The suburban districts, by contrast, generally have less developed economies and lower-quality educational resources.

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Figures 3-4 offer a clearer observation of the more pronounced capitalization effect of public school quality into housing prices in the urban districts by visualizing the distribution of housing prices. The distribution of housing prices in Huangpu District is illustrated graphically below in Figure 3 where the peaks and troughs correspond to the different housing prices of neighborhoods in different school districts and the trend of change between them. One school may correspond to several neighborhoods whose housing prices decrease as the distance to the school increases. The conspicuous peaks are likely to be caused by sought-after schools whose housing prices are significantly higher than those of others. The varying heights of the peaks illustrate the different housing prices for different schools.

Figure 4 and Figure 5 illustrate the distributions of housing prices in Xuhui and Changning Districts, respectively. Similar to Figure 3, the peaks and troughs correspond to neighborhoods in different school districts. But the unique characteristic setting these two districts apart from Huangpu is the differences between housing prices of different neighborhoods are obvious in Xuhui and Changning. In Huangpu, however, there isn't such sharp difference.

3.3. Hedonic Price Model

To calculate the exact capitalization rates, the traditional Hedonic Price Model is employed. The basic assumption of our econometric model assumes that housing price reflect the market values of public school quality and other characteristics.

After referring to existing researches on real estate valuation and considering the quantification of the variable studied here, the logarithm functional is used to establish the basic model. Specifically, positive and continuous independent variables (e.g., distance, building age, floor area ratio) are adopted in logarithmic form, while the variables quantified through scoring or dummy variables (namely quality of corresponding public primary school and elevator) are adopted
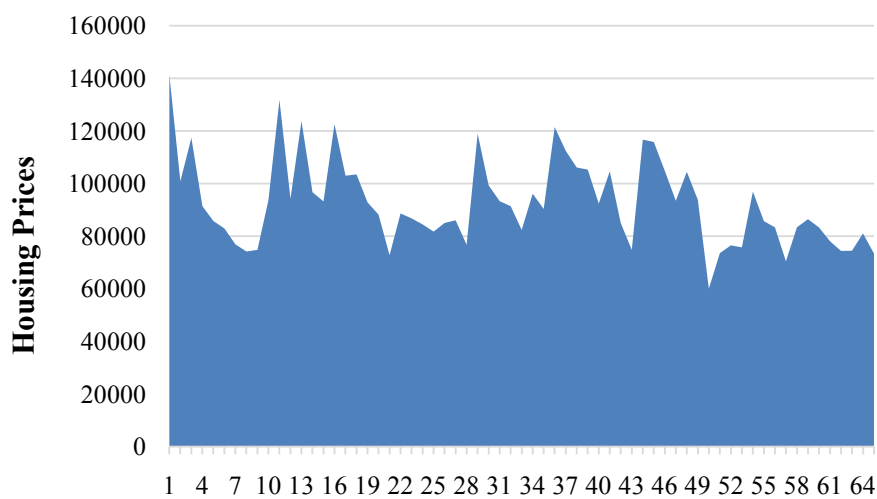
Figure 3. Distribution of housing prices in Huangpu district.
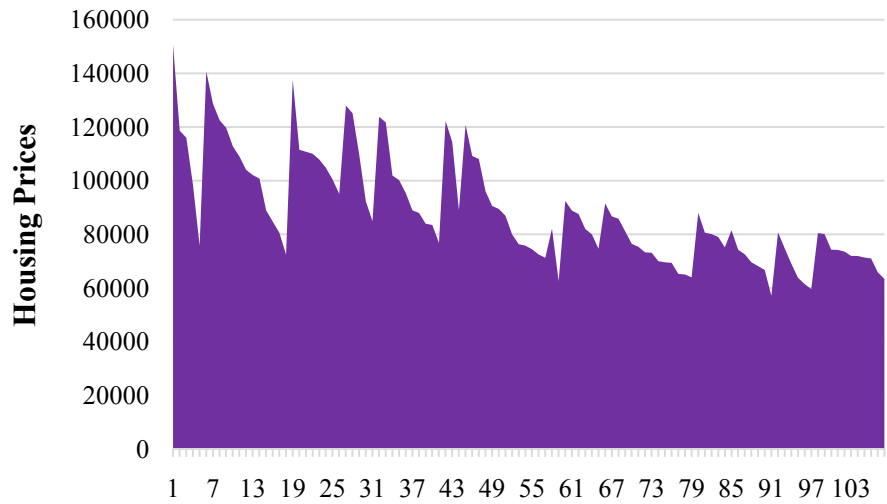
Figure 4. Distribution of housing prices in Xuhui district.
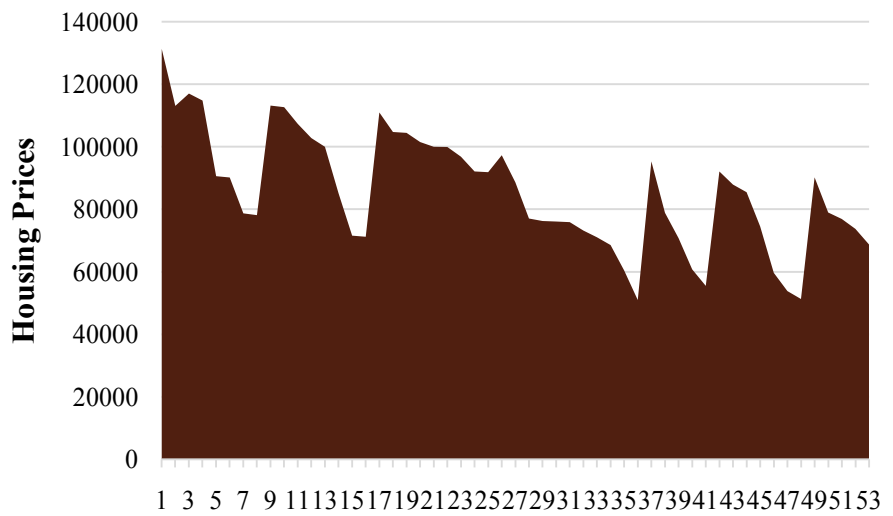
Figure 5. Distribution of housing prices in Changning district.

in linear form. We assume a standard form for the empirical hedonic house price function:

$$\ln P_{ij} = aX_j + \sum b_k X_{ijk} + b_0 + \varepsilon$$

where, $\ln P_{ij}$ is the natural logarithm of housing price for the representative house in the ith neighborhood that corresponds to school j. X_j is the quality of school j, and X_{ijk} is the set of the seven control variables of the representative house in the ith neighborhood that corresponds to school j. ε is the error term, and a is the key coefficient to be estimated.

This paper uses two-stage least squares (2SLS) regression method (an extension of the OLS method) to compute the coefficients in order to avoid the endogeneity bias of education quality and quantity. The following results are obtained using the data processing tools in Excel and are analyzed on the citywide scale, in the urban areas, and in the suburban areas.

The results of regression analysis and variance analysis on the citywide scale are given in Table 6 and Table 7, respectively. The variance analysis confirms that the model fits very well with the experimental data and so the coefficients it yielded can be used to explain the sample. Every coefficient fits with its expected sign, and their P-values further verify that most coefficients are statistically significant. Specifically, the coefficient of the quality of the corresponding public primary school is −0.031, meaning that housing price increases by 3.1% for a one-rank improvement of its corresponding school (which is equivalent to its numerical rank decreasing by 1).

The residual plot and line fit plot for the variable "Quality of the Corresponding Public Primary School" are cited below in Figure 6 and Figure 7 to illustrate its statistical significance.

The results of regression analysis and variance analysis in the urban areas are given in Table 8 and Table 9, respectively. The variance analysis confirms that the model fits very well with the experimental data and so the coefficients it yielded can be used to explain the sample. The P-values of the coefficients further verify that most of them are statistically significant and fit with their expected signs. Specifically, the coefficient of the quality of the corresponding public primary school is −0.028, meaning that housing price increases by 2.8% for a one-rank improvement of its corresponding school (which is equivalent to its numerical rank decreasing by 1).

Table 6. Regression analysis, citywide.

Variable	Coefficient	Standard Deviation	t Stat	P-value
Intercept	12.156	0.199	61.061	2.862E−183
Quality of the Corresponding Public Primary School	−0.031	0.001	−33.790	8.616E−110
Distance to the Corresponding Public Primary School	−0.027	0.010	−2.657	0.008
Distance to the District's CBD	−0.007	0.011	−0.663	0.508
Property Management Fee	0.029	0.019	1.536	0.125
Green Coverage Ratio	0.002	0.032	0.072	0.942
Elevator	0.003	0.022	0.123	0.902
Residential Area	−0.003	0.024	−0.106	0.916
Floor Area Ratio	−0.016	0.020	−0.775	0.439
Building Age	−0.034	0.023	−1.466	0.144

Table 7. Variance analysis, citywide.

Name	df	SS	MS	F	Significance F
Regression Analysis	9	44.456	4.940	208.954	1.9458E−131
Residuals	334	7.896	0.024		
Sum	343	52.352			

Table 8. Regression analysis, urban.

Variable	Coefficient	Standard Deviation	t Stat	P-value
Intercept	12.210	0.207	59.068	8.565E−142
Quality of the Corresponding Public Primary School	−0.028	0.001	−22.069	6.56E−59
Distance to the Corresponding Public Primary School	−0.012	0.010	−1.146	0.253
Distance to the District's CBD	−0.024	0.012	−1.948	0.053
Property Management Fee	0.016	0.020	0.823	0.411
Green Coverage Ratio	0.032	0.031	1.005	0.316
Elevator	−0.010	0.024	−0.429	0.668
Residential Area	−0.001	0.025	−0.041	0.968
Floor Area Ratio	−0.054	0.023	−2.381	0.018
Building Age	−0.071	0.023	−3.122	0.002

Table 9. Variance analysis, urban.

Name	df	SS	MS	F	Significance F
Regression Analysis	9	11.335	1.259	68.296	3.085E−60
Residuals	232	4.278	0.018		
Sum	241	15.613			

Variable "Quality of the Corresponding Public Primary School" Residual Plot
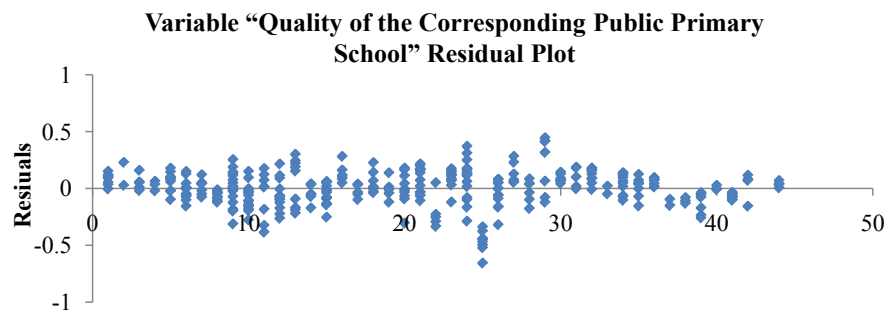
Figure 6. Variable "quality of the corresponding public primary school" residual plot.

Variable "Quality of the Corresponding Public Primary School" Line Fit Plot
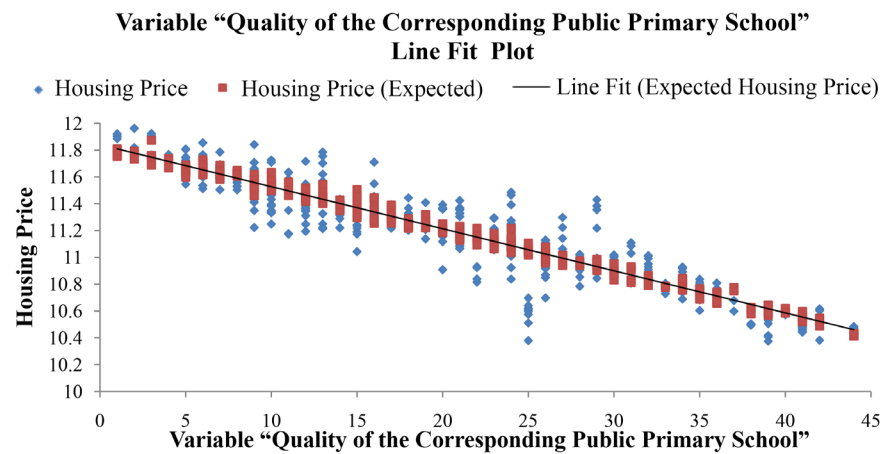
Figure 7. Variable "quality of the corresponding public primary school" line fit plot.

The results of regression analysis and variance analysis in the suburban areas are given in Table 10 and Table 11, respectively. The variance analysis confirms that the model fits very well with the experimental data and so the coefficients it yielded can be used to explain the sample. The P-values of the coefficients further verify that most of them are statistically significant and fit with their expected signs. Specifically, the coefficient of the quality of the corresponding public primary school is −0.019, meaning that housing price increases by 1.9% for a one-rank improvement of its corresponding school (which is equivalent to its numerical rank decreasing by 1).

4. Conclusion

This paper establishes hedonic regression analysis to investigate the capitalization effect of public school quality into housing prices and quantitatively calculate the exact capitalization rates. Using the data of 344 residential neighborhoods over 7 main districts in Shanghai, it yielded the following empirical results:

1) The quality of the corresponding public primary school has a significant positive effect on housing prices. The compulsory educational facilities are capitalized into estate prices in Shanghai. Under the strict enforcement of the "district correspondence enrollment" policy, families are willing to pay higher prices for houses so that their children can enroll in better schools.

2) The capitalization rate of public school quality is calculated to be 3.1%, 2.8%, and 1.9% on the citywide, urban, and suburban scales, respectively. When the rank of the corresponding public primary school improves by one, the average housing price in the neighborhood increases by the given percentage.

3) The capitalization effects of public school quality into housing prices exhibit a Matthew Effect, i.e. the amount of capitalization increases rapidly as the quality of the corresponding public primary school approaches the top citywide,

Table 10. Regression analysis, suburban.

Variable	Coefficient	Standard Deviation	t Stat	P-value
Intercept	10.743	0.520	20.645	2.677E−36
Quality of the Corresponding Public Primary School	−0.019	0.003	−6.246	1.289E−08
Distance to the Corresponding Public Primary School	−0.042	0.021	−2.001	0.048
Distance to the District's CBD	0.042	0.023	1.806	0.074
Property Management Fee	0.016	0.039	0.407	0.685
Green Coverage Ratio	0.069	0.095	0.725	0.470
Elevator	0.075	0.049	1.511	0.134
Residential Area	0.049	0.057	0.868	0.387
Floor Area Ratio	−0.043	0.043	−0.995	0.322
Building Age	0.049	0.062	0.786	0.434

Table 11. Variance Analysis, Suburban.

Name	df	SS	MS	F	Significance F
Regression Analysis	9	1.850	0.206	7.884	1.5289E−08
Residuals	92	2.399	0.026		
Sum	101	4.249			

Note: When the sample is divided into urban and suburban areas for separate analyses, its size diminishes, so the coefficients of a few variables disagree with their expected signs or have P-value greater than 0.1. Also, due to the particularity of the designation of school districts and the real estates in Shanghai, many old, unmodern neighborhoods are in close proximity to high-ranking public primary schools near the city center while the neighborhood and structural attributes vary quite erratically especially in suburban areas. Yet the P-value, residual plot, and line fit plot for the school quality variable in all three dimensions are statistically significant and can thus reliably reveal the causational effects and validate the conclusions of this study.

while the effect is much milder for schools at a middle or middle-lower level. Since the increase in housing price is given in percentages, the higher the rank, the more the capitalization effect compounds. On the citywide scale where a larger disparity in school quality is present, the measured capitalization rate is higher than in separate samples. These patterns reflect the serious inequality of access to public educational resources behind the school district housing fever: The gap between low- and high-quality educational resources widened and became even more unaffordable for the low-income families.

5. Further Implications

5.1. Research Significance

As one of the few existing studies conducted on Shanghai's School District Housing Fever, especially after the strengthening of the "district correspondence enrollment" policy in 2014, this paper examines the status-quo of the local capitalization effect. Most notably, it deals with the lack of sufficient data on public school quality by synthesizing multiple sources. It also samples housing information of 344 neighborhoods in Shanghai and considers seven control variables that account for every aspect in the estate valuation.

Moreover, by using the 2SLS regression method, it avoids the endogeneity bias that has been an issue in most existing researches in the field so that it was able to yield statistically significant results which are also consistent with real-life situations.

5.2. Policy Recommendations and Action Plans to Mitigate the School District Housing Fever

The conclusions of this study reveal that the status-quo of the distribution of public educational resources in Shanghai is still considerably unequal. The "district correspondence enrollment" policy itself is a demand-side policy as it regulate the method for enrollment, and so are most of the policies and measures adopted in an attempt to improve China's educational inequality, such as designating common school districts for higher-ranking and lower-ranking schools

and enroll children in them randomly. Yet as already pointed out in the Literature Review, such policies are predicted to have only a limited effect in mitigating the phenomenon, since although the enrollment mechanism is made to be compulsory, random, or "fair", the gap among the qualities of schools still exists, and the allocation and use of high-quality educational resources would still remain in an unfair advantage to families with better access to other resources, if not even more so.

So at its roots, the School District Housing Fever stems from a critical lack of high-quality public educational resource, and the key to promoting educational equality and cooling down the prices of the private estates also lie in equalizing and improving the qualities of public primary schools. Only in this way can families relieve their anxious competition to get their kids into top-ranking schools by all means.

To achieve this end, the government, the educational institutions, and the society as a whole must all take up specific roles and fulfill their responsibilities. Drawing from the conclusions and real-life experiences, this paper proposes the following recommendations for each party to mitigate the School District Housing Fever and the educational inequality with joint efforts.

Since China's public education is primarily financed and regulated by the government, it should increase its educational input to provide more high-quality educational resources. In fact, this can be done without increasing the tax burden on citizen by instead drawing from higher housing price which arises from the capitalization effect studied in this paper. For those housing estates traded at a price distinctively higher than those of similar estates, a certain proportion of its sales price can be levied as tax (the exact rate of which should be designated based on the amount of capitalization of public school quality in its price). This sum of tax revenue can then be transferred into establishing a Fund for Balancing School District Housing (name only provisional, and the precise working mechanism of such a Fund also requires further discussion in greater detail). Money can then be allocated by the Fund to middle- or lower-quality public institutions in an effort to improve their educational quality. If adopted, this supply-side approach may be able to bridge the gap among the qualities of public schools and enhance educational equality. In preliminary stages, separate Funds can operate with individual districts, while a citywide program can be established as the mechanism matures.

In addition to directly allocate funds to middle- or lower-quality public institutions to improve their educational quality, the government can also work to increase their access to higher-quality educational resources by adopting and promoting programs that involve the exchange and circulation of resource or personnel. By, for example, letting inexperienced teachers and facilitator engage in training programs led by capable teaching staffs from higher-quality institutions, the disparity between educational qualities may also diminish.

But one drawback of these supply-side solutions is that it may take long before they take effect. In the immediate future, one way to increase low-income fami-

lies' access to high-quality educational resources is to give incentive to public schools. For example, a certain amount of monetary reward can be given for the school to enroll one pupil from humble family backgrounds, and the funding may as well come from the Fund collected from the feverish housing prices. This measure may propel the schools to take initiatives towards educational inequality on their parts. Also, in the housing market regulation process, the important role of public goods layout and urban planning policy should also be emphasized so that the workings of the real estate market does not interfere with or exacerbate the School District Housing Fever.

When it comes to public educational institutions, they should take a proactive part in enhancing and equalizing educational qualities among themselves. This can be done by encouraging the exchange and circulation of resources on the school level and seeking the support from local governments. Several schools, including higher- and lower-quality ones, in Changning District has already been engaging in such an initiative: Teachers and staff that participate in cross-school exchange and training programs are prioritized in promotions of their professional titles and are given extra bonuses. Being advocated by the district's Educational Bureau, this program is expanding its scale to involve more participant schools.

The responsibility of the society as a whole is to facilitate the circulation of information and give support to the improvement and equalization of the educational qualities. One way to do this is by volunteering in programs and initiatives that trains teachers and facilitator, especially for lower-quality institutions. Another way for private entities to mitigate the fierce competition of high-quality public schools is to allocate more social capital in establishing private educational institutions, so that higher-income families may have more choices and the excess demand for public institutions can be balanced. Lastly, average families, homebuyers and investors should refrain from speculative purchases of school district housing that exacerbates their feverish prices and makes them even more inaccessible to low-income families.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix

(a)

Neighborhood	Housing Price	Quality of the Corresponding Public Primary School	Distance to the Corresponding Public Primary School	Distance to the District's CBD	Property Management Fee
Huarun Waitan Jiuli Neighborhood	131,224	13	127	4500	7.7
Haiqi Garden	120,840	13	110	4300	2.4
Shanghaitan Garden	127,307	13	260	4100	1.5
Changfeng Garden	111,397	13	874	4500	2
Yuelai Neighborhood	105,714	13	308	4100	0.7
Yangguan Cuizu Garden	82,905	13	1000	4300	1.7
Yangguanli/Yangguan Neighborhood	76,859	13	940	4500	1.7
Xueshui Garden	74,137	13	930	5100	1.3
Fuxin Building	74,766	13	240	4300	1.35
Shilin Hua Garden	93,661	16	440	3500	2
Sinan Mansion	121,720	16	470	3300	5
Yandang Building	94,202	16	1100	1700	1
Xiangshan Lishe Apartment	103,684	16	300	2600	5
Ruixue Building	86,666	16	1100	3900	0.5
Road Shangxi Nan, Lane 271	83,181	16	1100	3800	0.5
Yongye Apartment	122,516	12	460	3500	2.22
Huilong Apartment	102,953	12	910	3500	2.25
Shunfeng Apartment	103,448	12	700	3200	0.8
Taoyuanxin Garden	92,813	12	970	3800	1.5
Baihui Building	88,147	12	600	3500	2
Mengxi Neighborhood	72,727	12	760	3100	0.6
Singapore Garden	88,611	12	340	2600	2.45
Fuxingjia Garden	86,727	12	510	4500	1.6
Yuntai Apartment	84,445	12	40	3700	1.48
Yinxin Garden	81,699	12	1100	4100	1.5
Beimengsan Neighborhood	85,000	12	690	3200	0.5
Lili Neighborhood	86,000	12	560	4000	0.8
Chengshen Apartment	76,691	12	70	3900	1.5
Yaojiang Garden	138,924	9	320	4600	2.5
Nankang Apartment	109,272	9	1400	5000	1.6
Zhongnan Neighborhood	103,269	9	1000	4400	1.2
Huixiang Apartment	101,369	9	1500	5100	1.5
Jinzhong Garden	102,352	9	700	4700	2

Continued

Shimin Neighborhood	106,090	9	1300	4600	0.35
Honghui Neighborhood	90,322	9	1300	4000	1.8
Jianle Neighborhood	121,422	9	920	2100	1
Danshuiwan Garden	112,403	9	930	3200	3.5
Jiande Neighborhood	116,060	9	1600	2600	1.35
Madang Neighborhood	115,263	9	920	2100	1.1
Danshui Apartment	92,347	9	40	2500	1.6
Bashi Neighborhood	104,586	9	100	2700	0.85
Fuxing Neighborhood	84,913	9	860	2500	2
Ruijin garden	74,777	9	610	2800	1
Changjiang Apartment	156,666	2	610	1700	2
Huasheng Mansion	135,771	2	640	1300	2.8
East Huihai Apartment	104,761	9	1200	2500	1.8
Taoyuan Neighborhood	93,421	9	770	2400	0.6
Zhongfu Huayuan Yong Apartment	134,411	5	1300	4700	1.8
Haichao Neighborhood	133,757	5	950	4300	1.2
Road Haichao, Lane 256	120,000	5	1100	4400	1.2
Nanpu Apartment	123,529	5	1100	4700	1.2
Renbao Apartment	126,470	5	990	4300	1.8
Baihui Apartment	125,728	5	1300	4700	1.2
Jinri Shijia Neighborhood	116,893	5	630	4000	1.9
Haizhou Guoji Garden	115,664	5	790	4300	2
Tianzhushan Neighborhood	103,333	5	910	4400	1.2
Quxi Village	120,416	5	910	4300	0.6
Liyuan Village	93,333	18	940	4000	0.6
Yilv Apartment	86,425	18	1000	4100	0.5
Dingda Apartment	83,293	18	970	4100	0.61
Dongyu Garden	78,070	18	1300	4800	2
Santana Building	74,358	18	1100	4200	1.5
Road Mengzi, Lane 395	74,444	18	390	4000	0.35
New Jiangnan Shiji Garden	81,000	18	290	4300	1.7
Daxin Building	73,333	18	520	4100	0.6
Jiayuting	150,621	3	353	1300	14.8
Shijia Neighborhood	148,631	3	135	1100	0.6
Road Jiashan, Lane 232	125,931	3	660	1300	0.5
Wutong Garden	128,314	3	540	1500	2.2
Dingxin Building	125,696	3	710	1700	4

Continued

Oriental Manhattan, Shangdong Neighborhood	140,686	6	470	670	8
Zhongyuan Village	128,681	6	570	1500	0.8
Wending Tianxia Garden	122,502	6	430	1600	2.56
Taide Garden	119,617	6	270	1300	2.8
Road Yude, Lane 66	112,738	6	520	1600	0.8
Oriental Manhattan	118,916	6	450	930	3.35
Jinghui Garden	113,967	6	70	1300	1.6
Yifeng Garden	112,032	6	310	1200	2
Road Xuhong, Lane 110	110,762	6	640	850	0.8
Shiye Apartment	108,910	6	910	510	2.5
Taide Hua Garden	99,888	6	370	1700	2.5
Kaixuan Haoting	110,525	6	500	1800	2.8
Kaihua Apartment	102,410	6	730	2000	2
Road Kangping, Lane 207	147,585	1	850	800	0.5
Gong'an Building	131,474	1	750	1400	0.5
Tianping Neighborhood	130,731	1	1200	730	1.3
Jingfu Garden	149,981	1	1000	1100	2.4
Road Gao'an, Lane 9	147,834	1	110	1700	0.5
Road Henshang, Lane 696	134,723	1	840	1100	0.8
Huaqiang Apartment	150,370	1	440	1400	1.4
Wuxing Apartment	145,044	1	550	1400	1.2
Yi Garden	97,916	10	240	1900	1.5
Yueyang Building	95,117	10	50	2100	1.2
Road Yueyang, Lane 200	99,686	10	140	2200	0.5
Baroque Palace	92,271	10	320	1800	6.5
Gaoxing Apartment	84,883	10	560	1800	2
Zhongkai Chengshi Zhiguang	123,789	10	300	1500	6
Dongfang Shikong Apartment	121,656	10	380	900	2.2
Hongqiao Leting Pojin	101,881	10	240	1100	2.3
Nandan Neighborhood	100,189	10	460	770	0.76
Minghui Garden	95,367	10	600	1400	1.2
Kaixuan 1st village	88,924	10	350	1500	0.6
Fannan Neighborhood	87,928	10	190	1300	0.8
Nanyi Garden	83,930	10	720	1300	1.45
Yanggang Mansion	83,459	10	650	1700	2.2
Jiaoda Apartment	76,751	10	430	930	1.1

Continued

Dongfang Paris Garden	122,221	4	330	3500	3.8
Yongtai Neighborhood	124,308	4	740	2800	0.6
Mingyuan Shiji City	128,909	4	310	3200	2.2
Baoli Xi'an	90,765	15	570	3300	7
Haibo Xuhui Fudi	99,195	15	1000	3600	6
Shanghaiwan Haoting	88,000	15	1200	3900	4
Linjiang Haoyuan	96,018	15	70	2700	2.2
Xuhui Garden	90,538	15	1600	2800	2.8
Shuangfeng Neighborhood	89,416	15	760	3000	0.8
Shenhang Neighborhood	86,899	15	1500	2600	0.8
Wannan fifth Village	79,960	15	730	3200	0.6
Xiechang Neighborhood	76,274	15	1200	2400	1
Wannan sixth Village	75,761	15	1200	2500	0.8
Dong'an Garden	74,392	15	810	3200	1.5
Huarong Neighborhood	72,448	15	640	3100	0.5
Meike Apartment	71,225	15	990	1900	0.6
Dongan fourth Village	82,096	15	420	2400	0.6
Dong'an 2nd Village	62,500	15	1100	3000	0.6
Shuxiang Yiju	92,410	14	640	7700	1.35
Shanghai Middle School Neighborhood	88,823	14	1200	2900	0.6
Xinluo Garden	87,522	14	530	2400	2
Changqiao 5th Village	81,990	14	190	2400	0.5
Guanghua Garden	79,960	14	980	2600	0.6
Changqiao 1st Village	74,607	14	330	2700	1
Zhonghong Huizhiyuan	91,473	21	520	220	1.7
Kehui Jingyuan	86,665	21	580	1200	1.5
Zhonghai Xinyuan	85,775	21	910	1100	2.5
Hebin Guoji Apartment	81,130	21	480	570	2.15
Mingjia Garden	86,435	21	1500	2000	1.3
Caoxi 3rd Village	85,317	21	90	800	0.6
Xuejiazhai	83,237	21	330	1000	0.35
Zishuyuan	83,099	21	620	760	1.55
Road Qinzhou, Lane 111	69,957	21	700	840	1.8
Road Longwu, Lane 11	69,541	21	1100	1700	0.5
Xuhui Apartment	69,352	21	1200	990	1.5
Huafu Apartment	65,221	21	970	1600	1.4
Caoxi 1st Village	65,010	21	590	1000	0.8

Continued

Longcao Building	63,947	21	800	420	1.2
Aijian Garden	67,945	26	750	1100	2
Tianlin 11th Village	60,576	26	310	1200	1.2
Kehua Apartment	60,057	26	750	170	1.8
Tianlin 12th Village	59,004	26	290	620	0.7
Yibiao Xin Village	55,118	26	1300	760	0.6
Tianlin 14th Village	51,510	26	510	1500	1.2
Huading Guangchang	44,235	26	1200	1700	1.2
Tianlin Tiyu Apartment	52,530	26	690	830	1.2
Qinzhou Aparment	59,530	26	370	1000	0.3
Fuyuan Neighborhood	68,125	26	50	1100	1.2
Tianlin Xin Garden	66,666	26	590	1000	1.45
QinzhouXin Garden	57,057	26	210	1300	0.8
Tianran Ju	80,683	27	790	2200	1.98
Yuannan 3rd Village	74,783	27	460	1800	1
Yuannan 1st Village	69,035	27	190	1600	1.3
Yuannan 2nd Village	63,789	27	110	1800	0.6
Bailong Neighborhood	61,443	27	1300	2700	0.8
Zhongheng Garden	59,557	27	1300	3000	0.45
Haishang Huating	80,445	23	1000	900	1.85
Changqing Fan	80,074	23	220	1800	0.5
Zijin Garden	74,242	23	1300	2000	1
Changxin Garden	74,166	23	930	1900	0.5
Shouyi Fang	73,519	23	530	1400	0.5
Wanxiang Garden	71,923	23	1800	2500	0.6
Chahua Garden	71,892	23	740	1200	1.4
Road Weat Guilin, Lane 101	71,310	23	910	2500	0.8
Changfeng Fang	70,986	23	270	1700	0.5
Guiping Neighborhood	65,812	23	1900	990	0.65
Changhong Fang	63,355	23	60	2100	1.3
Lan Ting	131,272	7	1400	1300	14.3
Jiali Huating	113,029	7	220	450	5.5
Dingxiang Apartment	116,972	7	390	940	1.8
Jianghua Jidian Building	114,732	7	500	420	1
Dongfang Yayuan	119,546	7	290	840	3
Xinhai Neighborhood	99,129	7	510	360	0.85
Yanwu Jidian Building	108,652	7	620	230	1.2

Continued

Jiaxin Chengshi Apartment	118,085	7	810	540	1.8
Qishan Village	113,122	11	490	1300	0.8
Yuyuan Mansion	112,618	11	240	1200	2.8
Nanhui Neighborhood	107,280	11	280	1400	0.28
Road Xuanhua, Lane 268	102,733	11	110	990	1.2
Xuanhua Neighborhood	99,940	11	250	1300	0.8
Fu'an Neighborhood	85,068	11	40	1100	0.8
Haixin Huayuan	71,524	11	330	1000	1.5
Zhongbao Apartment	71,174	11	210	1400	5
Gubei Guoji Garden	110,922	8	580	1700	3.85
Gubei Zhongyang Garden	104,678	8	1000	1200	3.45
Yucui Haoting	104,400	8	780	1900	4.5
Gubei Ruishi Garden	101,460	8	630	1600	4.8
Jinse Beilawei	109,943	8	460	2200	3.65
Hualijiazu Gubei Garden	109,885	8	250	2000	3.95
Gubei Guoji Plaza	106,773	8	760	1500	3.35
Qiangsheng Gubei Garden	99,059	8	600	2100	3.8
Gubei Jianian Garden	101,825	8	1000	1100	3.2
Raofeng Jiayuan	97,241	24	900	220	2.5
Changxin Neighborhood	88,569	24	320	1100	0.6
Jinyang Neighborhood	77,005	24	70	1000	1.2
Liyuan Kaixuan Neighborhood	76,205	24	1300	650	0.9
Wanhua Neighborhood	76,043	24	610	1100	0.8
Huayuancun Yayuan	75,845	24	430	1200	1.8
Huaxin Neighborhood	73,159	24	490	1400	1
Daming Neighborhood	71,001	24	550	1300	0.5
Wanhang Neighborhood	68,519	24	770	1700	1.2
Xinglian Building	60,379	24	230	960	0.6
Zhaofeng Garden	50,933	24	320	1300	2.9
Changning 88 Jinting	95,279	24	120	160	3.3
Changjiang Neighborhood	78,831	24	410	280	1.2
Road Changning, Lane 234	70,715	24	30	210	0.82
Yinxin Neighborhood	60,747	24	380	270	0.8
Daqiao Neighborhood	55,462	24	220	70	0.5
Hongqiao Haoyuan	92,043	29	740	880	4.95
Tianshan 2nd Village	87,858	29	30	170	0.6
Cuiting	85,420	29	560	540	0.9

Continued

Zhongzi Neighborhood	74,451	29	640	780	0.6
Ziyu Building	59,632	29	690	830	1.1
Jingming Building	53,801	29	880	1000	11.4
Xinshiji Plaza	51,263	29	590	580	5.7
Renheng Hebin Garden	90,164	19	1200	1200	4
Gusong Neighborhood	78,930	19	10	1400	0.7
Shuixia Neighborhood	76,857	19	150	1300	0.58
Xinxia Neighborhood	73,691	19	750	1900	1.01
Maotai Yayuan	68,702	19	240	1400	1.25
Chang Yuan	88,668	17	340	1500	5
Wangzui Jinpin	83,990	17	530	1100	8
Beiwang Neighborhood	80,298	17	790	1300	0.5
Road West Yanan, Lane 548/60	76,496	17	620	1200	0.6
Huaming Shiji Plaza	74,400	17	880	1300	2.5
Dangdai Xinhua	88,639	20	860	460	2
Tiandu Neighborhood	85,858	20	750	360	0.6
Donghu Mingyuan	85,806	20	700	530	2
Yangzha Neighborhood	76,776	20	530	500	0.8
Xinhua Apartment	73,032	20	820	660	1.5
Huaqian Apartment	72,775	20	750	360	0.8
Huagong Apartment	71,205	20	330	300	0.8
Xinhua Garden	70,028	20	750	360	5
Road Fahuazhen, Lane 878	67,340	20	640	480	0.6
Pujiang Building	54,616	20	780	620	1.6
Taoan Neighborhood	86,557	20	590	760	0.6
Xinshidai Jingting	72,060	22	1300	1900	0.8
Tongji Huacheng	55,868	22	1000	3000	1.5
Hejia Apartment	55,497	22	60	2100	1
Weilan Chengshi Garden	49,775	22	1700	2200	1.7
Huamei Garden	50,956	22	1400	2900	0.43
Yuxing Garden	60,924	28	620	1700	1.35
Shengsong 8th Village	59,354	28	320	2300	0.5
Shengsong 9th Village	61,310	28	600	1600	0.55
Shengsong 5th Village	54,381	28	500	2500	0.8
Shengsong 3rd Village	51,739	28	220	2200	0.5
Dongyuan Jindu Garden	48,249	28	650	1700	0.85
Huangdu Garden	40,992	25	2100	2900	3.5

Continued

Dongfang Garden	40,953	25	1600	1800	1.8
Puhui Xincheng	40,005	25	780	240	0.6
Xiangge Liyuan	40,509	25	280	1100	1.5
Puhui Apartment	39,134	25	730	270	0.44
Xueyuan Xin Village	44,204	25	770	1600	0.6
Baorong Xin Village	41,799	25	990	570	0.4
Xiufeng Cuigu	36,733	25	1400	1300	1.25
Jintai Apartment	32,184	25	940	810	0.8
Xin Shenhua Moli Garden	60,242	30	830	1900	0.74
Chenshen Meigui Garden	60,102	30	840	1700	1.75
Wanke Apartment	60,949	30	360	2400	2.5
Ludi Chunshen Garden	58,859	30	830	2800	1
Shennan Huayuan	58,445	30	1500	2400	0.3
Jiangnan Mansion	57,746	30	1400	2500	1.5
Xinkongjian Jiayuan	54,711	30	1600	2100	0.8
Jinmei Xinyuan	66,760	31	950	2900	3.15
Zhongcheng Luyuan	65,216	31	300	2800	1.05
Changxing Jiayuan	61,728	31	40	2800	0.8
Chunxin Garden	51,397	31	1900	2200	0.6
Lianhua Xin Village	49,436	31	2100	2300	0.45
Miaohuading Garden	60,597	32	1700	2600	1.68
Bilinwan Apartment	59,376	32	780	2400	1.6
Dongfang Garden (First)	60,631	32	1300	2200	1.8
Baixue Gongzhu	60,526	32	760	2300	1.5
Fuli Apartment	57,046	32	1900	2700	0.8
South Bilinwan Garden	55,758	32	1100	2500	1.5
Wantai Garden	54,724	32	920	1800	0.8
Yuanyi Xin Garden	52,111	32	810	1400	0.6
Huabao Garden	50,342	32	510	1600	0.85
Villa Royal	55,729	34	970	2800	1.5
Haoshi Fenghuang	55,130	34	800	3500	1.13
Jianqiao Jinyuan	50,089	34	980	2400	2
YIndu Xincun	49,073	34	420	3100	0.55
Dongyuan Milan	55,664	34	1500	1000	1.6
Jinmin Wenbo Shuijing Apartment	55,218	34	1000	570	2.15
Haoshi Yinyuan	55,213	34	810	1700	2
Tianlai Garden	53,720	34	1600	1200	3.2

Continued

Jianqiao Xin Garden	47,227	34	1000	110	1.85
Villa Saint Teresa	46,103	34	570	1500	3
Xinyin Garden	43,878	34	650	1600	0.52
Baoshan 6th Village	49,024	35	430	2900	0.7
Zhongyi Garden	50,867	35	370	2500	1
Baoshan 2nd Village	49,691	35	530	2600	0.2
Baoshan 10th Village	45,657	35	920	1900	1
Hiajiang 2nd Village	45,633	35	1200	3000	0.4
Haijiang Apartment	43,649	35	650	2900	1.3
Baoshan 1st Village	40,304	35	510	2900	1.6
Kaiyuan Jingjiang Garden	46,808	36	350	1600	1
Baoshan 3th Village	46,706	36	170	1300	0.6
Baogang 7th Village	46,809	36	880	570	0.3
Linjiang 4th Village	49,490	36	140	1400	1.2
Baocheng 2nd Village	47,476	36	260	1200	0.6
Shuishang Xin Village	46,711	36	740	740	0.24
Baogang 11th Village	46,178	36	680	1000	0.3
Baogang 1st Village	49,293	33	680	760	0.6
Baogang 5th Village	45,671	33	780	260	0.3
Jiabao Mengzhiwan	43,407	37	1100	2100	3
Xincheng Youhuocheng	40,099	37	550	1400	2.15
Baoli Haishang Wuyuehua	40,876	40	1120	2900	1.7
Jianing Fang	40,788	40	360	2100	0.9
Jiafu Neighborhood	39,061	40	642	2000	1
Huilong Apartment	40,416	42	690	2500	1.5
Liyuan 1st Village	40,829	42	173	2000	0.8
Chengnan Xin Village	40,244	42	1100	2300	0.45
Qiuxia Apartment	32,281	42	124	2300	0.5
Renle 4th Village	39,697	39	150	6700	0.8
Songshi Garden	39,634	39	880	6900	1.35
Songle Garden	37,460	39	1500	6800	0.4
Xilin Neighborhood	36,527	39	640	7000	0.4
Baiyang Garden	33,451	39	1600	1500	0.56
Renle 3rd Village	33,108	39	220	910	0.8
Ronghui Apartment	32,064	39	600	2100	0.8
Dingxin Apartment	38,606	41	200	800	0.6
Yusheng Haoyuan Apartment	37,320	41	330	820	1

Continued

Mingfeng Apartment	35,988	41	1000	530	0.65
Tianle Neighborhood	35,696	41	970	1400	0.35
Gongjie Garden	34,908	41	1000	1100	1.75
Laidun Neighborhood	35,803	41	4600	1700	1.4
Tianhong 6th Village	34,292	41	2000	2000	0.8
Songyun Shuiyuan	35,568	41	1500	2000	1.35
Tianhong 4th Village	35,268	41	1900	2100	1.2
Dajiang Garden	34,461	41	1200	1300	0.6
Jiangzhong Garden	36,457	38	2000	2100	0.8
Jianghong Garden	36,102	38	1700	5000	0.8
Jiufeng Neighborhood	36,231	38	2400	5800	0.7
Fangzhouyuan 3rd Village	34,574	43	2100	5100	0.6
Tongbo Neighborhood	33,461	43	1000	5800	0.35
Rongnan Garden	35,333	43	1200	7000	0.5
Fangzhouyuan 4th Village	35,754	43	2100	5200	0.6
Rongnan Xinyuan	35,233	43	1200	7100	0.45

(b)

Neighborhood	Green Coverage Ratio	Elevator	Residential Area	Floor Area Ratio	Building Age
Huarun Waitan Jiuli Neighborhood	40	1	245	3.1	6
Haiqi Garden	35	1	119	3.6	14
Shanghaitan Garden	40	1	104	3.3	12
Changfeng Garden	40	1	93	4	10
Yuelai Neighborhood	20	1	42	2	22
Yangguan Cuizu Garden	35	1	117	3.8	12
Yangguanli/Yangguan Neighborhood	35	1	121	3.5	13
Xueshui Garden	35	1	58	3.5	18
Fuxin Building	30	1	107	3.8	16
Shilin Hua Garden	35	1	142	3.5	10
Sinan Mansion	40	1	186	1.13	5
Yandang Building	30	1	138	2	32
Xiangshan Lishe Apartment	40	1	152	3	3
Ruixue Building	30	1	60	3	39
Road Shangxi Nan, Lane 271	30	1	44	3	18
Yongye Apartment	20	1	151	1.6	9
Huilong Apartment	36	1	98.9	4.36	15
Shunfeng Apartment	25	1	58	1.5	22
Taoyuanxin Garden	42	1	138.5	3	15

Continued

Baihui Building	30	1	94	2.8	22
Mengxi Neighborhood	25	0	33	2.2	21
Singapore Garden	40	1	91	2	18
Fuxingjia Garden	40	1	170	3.5	14
Yuntai Apartment	38	1	124	4.5	18
Yinxin Garden	35	1	153	3.6	16
Beimengsan Neighborhood	30	0	30	2	21
Lili Neighborhood	30	0	50	2	20
Chengshen Apartment	20	1	103	2.6	17
Yaojiang Garden	30	1	126	2.3	13
Nankang Apartment	30	1	75	1.6	20
Zhongnan Neighborhood	35	0	52	1.5	18
Huixiang Apartment	35	1	73	2.3	19
Jinzhong Garden	25	1	85	2	20
Shimin Neighborhood	32	0	45	1	52
Honghui Neighborhood	35	1	124	4.35	12
Jianle Neighborhood	30	0	57	1	33
Danshuiwan Garden	41	1	129	2	10
Jiande Neighborhood	30	1	99	1.8	15
Madang Neighborhood	23	1	57	4.1	25
Danshui Apartment	20	1	124	3.77	17
Bashi Neighborhood	20	0	39	1.2	24
Fuxing Neighborhood	30	1	141	2	19
Ruijin garden	35	1	90	2.5	19
Changjiang Apartment	35	1	60	1.8	78
Huasheng Mansion	40	1	112	4.3	12
East Huihai Apartment	45	1	126	5	11
Taoyuan Neighborhood	25	0	38	1.5	22
Zhongfu Huayuan Yong Apartment	30	1	68	2	15
Haichao Neighborhood	35	0	40	4.3	28
Road Haichao, Lane 256	35	0	35	2	27
Nanpu Apartment	26	1	85	2.57	18
Renbao Apartment	30	1	85	2.5	17
Baihui Apartment	35	1	103	3	14
Jinri Shijia Neighborhood	35	1	70	3.1	11
Haizhou Guoji Garden	38	1	142	2.5	12
Tianzhushan Neighborhood	25	0	42	1.8	24

Continued

Quxi Village	20	0	48	1.8	53
Liyuan Village	25	0	18	2.2	29
Yilv Apartment	30	0	86	1.2	21
Dingda Apartment	30	0	84	1.8	7
Dongyu Garden	20	1	114	2.5	15
Santana Building	36	1	78	1.9	23
Road Mengzi, Lane 395	30	0	36	2.2	29
New Jiangnan Shiji Garden	45	1	100	4	16
Daxin Building	25	1	75	1.8	25
Jiayuting	28	1	141	3.65	3
Shijia Neighborhood	30	0	68	1.2	26
Road Jiashan, Lane 232	35	0	48	1.6	36
Wutong Garden	25	1	84	2	19
Dingxin Building	20	1	162.15	2	19
Oriental Manhattan,Shangdong Neighborhood	40	1	181	1.26	13
Zhongyuan Village	35	0	35	1.6	32
Wending Tianxia Garden	35	1	120.7	3.5	14
Taide Garden	40	1	92	2.5	17
Road Yude, Lane 66	25	1	38.89	2	22
Oriental Manhattan	40	1	85	4	14
Jinghui Garden	40	1	80	1.4	19
Yifeng Garden	50	1	55.23	2	11
Road Xuhong, Lane 110	25	0	54	1.5	29
Shiye Apartment	20	1	90.36	2.5	24
Taide Hua Garden	35	1	96	3.85	17
Kaixuan Haoting	30	1	106	4.6	11
Kaihua Apartment	10	0	100	3	17
Road Kangping, Lane 207	25	0	75	1.2	32
Gong'an Building	40	1	46	2.5	24
Tianping Neighborhood	33	1	52	1.5	21
Jingfu Garden	35	1	205	2.37	14
Road Gao'an, Lane 9	35	0	44.6	1.2	31
Road Henshang, Lane 696	20	0	64.8	1.2	37
Huaqiang Apartment	18	1	49	1.8	24
Wuxing Apartment	36	1	72.35	3	18
Yi Garden	12	0	33	1.5	32
Yueyang Building	35	1	40	1.2	30

Continued

Road Yueyang, Lane 200	30	0	71.4	2	18
Baroque Palace	35	1	95	5	16
Gaoxing Apartment	10	1	66	3.8	14
Zhongkai Chengshi Zhiguang	35	1	404	3.5	3
Dongfang Shikong Apartment	36	1	45	3.2	13
Hongqiao Leting Pojin	40	1	152.13	3.8	14
Nandan Neighborhood	15	0	36.17	1.1	23
Minghui Garden	38	1	96.45	2.4	14
Kaixuan 1st village	25	0	40	1.6	27
Fannan Neighborhood	28	0	58	1.6	22
Nanyi Garden	25	0	66	5.5	21
Yanggang Mansion	41	1	106	4	16
Jiaoda Apartment	32	1	80	3	17
Dongfang Paris Garden	61	1	150	5.68	16
Yongtai Neighborhood	20	0	71.8	0.8	30
Mingyuan Shiji City	30	1	166.37	3.9	13
Baoli Xi'an	41	1	200	2.5	1
Haibo Xuhui Fudi	30	1	150	2.3	3
Shanghaiwan Haoting	35	1	219.53	3.23	7
Linjiang Haoyuan	35	1	143	2.94	9
Xuhui Garden	35	1	300	3.13	12
Shuangfeng Neighborhood	30	0	41	1.2	22
Shenhang Neighborhood	30	0	36.05	1.2	32
Wannan fifth Village	30	0	40.6	1.8	36
Xiechang Neighborhood	30	1	74	2.3	22
Wannan sixth Village	30	0	41	1.8	31
Dong'an Garden	35	0	90	1.8	20
Huarong Neighborhood	25	1	69	3	19
Meike Apartment	30	0	70	1.6	26
Dongan fourth Village	35	0	38.48	0.38	37
Dong'an 2nd Village	30	0	32.8	1.98	41
Shuxiang Yiju	35	1	81.16	3	9
Shanghai Middle School Neighborhood	30	0	44	1.2	21
Xinluo Garden	33	0	132.93	1.6	11
Changqiao 5th Village	35	0	43	1.8	26
Guanghua Garden	30	0	82.77	2	22
Changqiao 1st Village	35	0	46.2	1.45	28

Continued

Zhonghong Huizhiyuan	36	1	126.5	2.3	11
Kehui Jingyuan	40	1	72.41	2.5	13
Zhonghai Xinyuan	40	1	145	2.8	15
Hebin Guoji Apartment	40	1	87.18	2.5	9
Mingjia Garden	34	1	106.32	3.5	16
Caoxi 3rd Village	35	0	56	2.8	29
Xuejiazhai	35	0	35.9	1.5	22
Zishuyuan	45	1	101	2.1	18
Road Qinzhou, Lane 111	50	0	72.76	2	19
Road Longwu, Lane 11	40	0	65	2.1	23
Xuhui Apartment	40	1	94.52	3	12
Huafu Apartment	30	0	49.42	5	22
Caoxi 1st Village	26	0	40.6	2.5	38
Longcao Building	35	1	94.49	1.8	24
Aijian Garden	40	0	152	2	13
Tianlin 11th Village	29	0	51.86	5	31
Kehua Apartment	30	0	178	4	178
Tianlin 12th Village	30	0	49.52	2	14
Yibiao Xin Village	20	0	33.51	1.8	25
Tianlin 14th Village	30	0	37	2	29
Huading Guangchang	30	1	114	1.6	15
Tianlin Tiyu Apartment	45	1	91	1.6	19
Qinzhou Aparment	35	1	69.76	2.3	21
Fuyuan Neighborhood	20	1	70	2.5	28
Tianlin Xin Garden	35	1	68	2	23
QinzhouXin Garden	35	1	77	1.7	21
Tianran Ju	41	1	157	1.42	13
Yuannan 3rd Village	30	0	32	1.6	22
Yuannan 1st Village	32	0	43	1.7	28
Yuannan 2nd Village	28	0	46	1.7	25
Bailong Neighborhood	30	0	43	2.2	21
Zhongheng Garden	30	0	49	2.14	18
Haishang Huating	40	1	109	1.7	12
Changqing Fan	10	0	59	1	23
Zijin Garden	40	0	112.19	2.5	16
Changxin Garden	30	0	40.33	2.1	24
Shouyi Fang	14	1	81	1.5	21

Continued

Wanxiang Garden	30	0	96	1.6	17
Chahua Garden	34	0	66.98	1.3	23
Road Weat Guilin, Lane 101	43	0	106.2	2.3	16
Changfeng Fang	31	0	41	2.8	23
Guiping Neighborhood	30	0	83	2.3	20
Changhong Fang	45	0	73	1.2	25
Lan Ting	35	1	271.16	5.3	10
Jiali Huating	53	1	180.9	5	14
Dingxiang Apartment	20	0	79.8	4.35	20
Jianghua Jidian Building	32	1	35	2	30
Dongfang Yayuan	30	1	94.83	5.3	16
Xinhai Neighborhood	18	0	41	2.8	41
Yanwu Jidian Building	30	1	49	2.1	26
Jiaxin Chengshi Apartment	45	1	130	0.7	19
Qishan Village	30	0	221	1.8	31
Yuyuan Mansion	45	1	121	1.8	10
Nanhui Neighborhood	30	0	38	1.6	22
Road Xuanhua, Lane 268	30	1	59.52	1.2	31
Xuanhua Neighborhood	28	0	54	0.9	27
Fu'an Neighborhood	35	1	68.19	2.2	29
Haixin Huayuan	25	1	78.9	3.5	19
Zhongbao Apartment	70	1	160.5	2.43	17
Gubei Guoji Garden	56	1	163.97	3	10
Gubei Zhongyang Garden	40	1	159	3	13
Yucui Haoting	50	1	114	3.5	8
Gubei Ruishi Garden	50	1	125.68	3	10
Jinse Beilawei	40	1	117	2.71	9
Hualijiazu Gubei Garden	51	1	138	2.9	11
Gubei Guoji Plaza	50	1	153	2.5	10
Qiangsheng Gubei Garden	51	1	161	3.8	9
Gubei Jianian Garden	60	1	171	1.95	11
Raofeng Jiayuan	35	1	78.35	4.66	12
Changxin Neighborhood	30	1	65.21	1.2	27
Jinyang Neighborhood	35	0	107.81	1.2	29
Liyuan Kaixuan Neighborhood	35	0	75.2	1.98	17
Wanhua Neighborhood	28	1	76.35	0.8	25
Huayuancun Yayuan	31	1	112.07	3.42	14

Continued

Huaxin Neighborhood	32	0	58	1.2	29
Daming Neighborhood	12	0	59	5.6	24
Wanhang Neighborhood	30	1	87.69	2	21
Xinglian Building	30	1	53.25	1.2	17
Zhaofeng Garden	15	1	170	2.1	19
Changning 88 Jinting	50	1	92.29	3.17	5
Changjiang Neighborhood	35	1	79.52	2.3	22
Road Changning, Lane 234	24	0	51	2.5	29
Yinxin Neighborhood	35	1	125.43	1.2	27
Daqiao Neighborhood	15	0	38.5	3	28
Hongqiao Haoyuan	35	1	107	3.7	10
Tianshan 2nd Village	35	0	66.22	1.9	62
Cuiting	40	0	92.47	1.6	15
Zhongzi Neighborhood	30	1	77.8	4.5	20
Ziyu Building	20	1	22	2	20
Jingming Building	30	1	154.63	2.5	29
Xinshiji Plaza	20	1	214.23	4.6	21
Renheng Hebin Garden	68	1	84.84	2.69	12
Gusong Neighborhood	28	0	47.6	2.2	27
Shuixia Neighborhood	30	0	46.8	3	27
Xinxia Neighborhood	20	0	68.3	2.1	21
Maotai Yayuan	30	1	71	2	24
Chang Yuan	30	1	132	4	12
Wangzui Jinpin	35	1	288.73	2.8	7
Beiwang Neighborhood	20	0	54	3.2	22
Road West Yanan, Lane 548/60	30	0	57	1.5	22
Huaming Shiji Plaza	40	1	137.72	3	15
Dangdai Xinhua	30	1	117.3	3.2	15
Tiandu Neighborhood	20	0	35	1.5	20
Donghu Mingyuan	40	1	103.3	1.5	12
Yangzha Neighborhood	36	0	33	1.1	27
Xinhua Apartment	32	1	129	2.5	17
Huaqian Apartment	25	0	55	1.1	25
Huagong Apartment	32	0	51	2	32
Xinhua Garden	40	1	152	2.6	20
Road Fahuazhen, Lane 878	24	1	37	2.6	25
Pujiang Building	30	1	108	2.8	19

Continued

Taoan Neighborhood	42	0	72.54	1.5	24
Xinshidai Jingting	45	1	97	1.44	12
Tongji Huacheng	45	1	92.69	1.93	10
Hejia Apartment	37	1	116.37	1.5	14
Weilan Chengshi Garden	51	1	125	1.63	11
Huamei Garden	30	0	83.52	1.2	21
Yuxing Garden	65	0	124.5	1.6	15
Shengsong 8th Village	40	0	50	1.3	22
Shengsong 9th Village	33	0	82.78	1.77	19
Shengsong 5th Village	36	0	40	1.8	27
Shengsong 3rd Village	32	0	61.48	1.5	28
Dongyuan Jindu Garden	35	0	118	1.6	14
Huangdu Garden	45	1	131	1.9	13
Dongfang Garden	32	1	101	2.15	8
Puhui Xincheng	37	0	47.8	1.24	24
Xiangge Liyuan	40	1	135	1.2	13
Puhui Apartment	50	0	67	0.8	21
Xueyuan Xin Village	30	0	64.53	1.2	19
Baorong Xin Village	30	0	54	1.3	23
Xiufeng Cuigu	30	0	60	1.5	22
Jintai Apartment	35	0	61.86	1.5	21
Xin Shenhua Moli Garden	37	0	64.39	1.5	19
Chenshen Meigui Garden	44	1	100.38	1.74	10
Wanke Apartment	38	1	110	1.7	12
Ludi Chunshen Garden	45	0	128	1.5	14
Shennan Huayuan	30	0	66	1.5	21
Jiangnan Mansion	45	1	91.32	2	12
Xinkongjian Jiayuan	50	0	155	2.5	13
Jinmei Xinyuan	36	1	126	1.81	6
Zhongcheng Luyuan	40	1	53	1.72	11
Changxing Jiayuan	38	0	65	1.9	17
Chunxin Garden	40	0	68	1.8	13
Lianhua Xin Village	40	0	68.96	1.36	18
Miaohuading Garden	55	1	135.6	1.7	11
Bilinwan Apartment	48	1	130.28	1.5	10
Dongfang Garden（First）	36	0	77.7	1.5	18
Baixue Gongzhu	40	1	95.98	1.5	12

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Fuli Apartment	35	0	90	1.5	22
South Bilinwan Garden	40	1	90	1.98	12
Wantai Garden	30	0	66	1.25	19
Yuanyi Xin Garden	30	1	71	1.4	21
Huabao Garden	40	0	99	1.49	19
Villa Royal	45	0	203.98	0.4	15
Haoshi Fenghuang	35	1	102	1.06	12
Jianqiao Jinyuan	40	0	183	0.49	14
YIndu Xincun	35	0	56.65	2.1	21
Dongyuan Milan	35	1	123.73	1.2	12
Jinmin Wenbo Shuijing Apartment	45	1	88	1.1	9
Haoshi Yinyuan	59	0	182	0.7	15
Tianlai Garden	50	0	293	0.36	10
Jianqiao Xin Garden	35	1	125.36	1.2	10
Villa Saint Teresa	62	0	303	0.49	11
Xinyin Garden	35	1	45	1.6	16
Baoshan 6th Village	35	0	55.5	1.61	13
Zhongyi Garden	35	1	141	1.67	13
Baoshan 2nd Village	30	0	56	1.7	22
Baoshan 10th Village	24	0	99.69	1.3	20
Hiajiang 2nd Village	35	0	51.69	1.8	21
Haijiang Apartment	40	0	99	1.7	14
Baoshan 1st Village	28	0	73	1.6	18
Kaiyuan Jingjiang Garden	45	0	141	1.41	13
Baoshan 3th Village	35	0	167	1.5	17
Baogang 7th Village	24	0	29	1.2	38
Linjiang 4th Village	39	0	119	3	26
Baocheng 2nd Village	25	0	67.49	1.5	17
Shuishang Xin Village	24	0	55	1	31
Baogang 11th Village	17	0	50	1	32
Baogang 1st Village	20	0	35	0.72	35
Baogang 5th Village	25	0	58	0.75	26
Jiabao Mengzhiwan	35	1	110.96	1.5	2
Xincheng Youhuocheng	40	1	90.23	2.28	5
Baoli Haishang Wuyuehua	35	1	56.15	1.31	8
Jianing Fang	32	0	87.51	3.2	18
Jiafu Neighborhood	40	0	94	1.36	22

Continued

Huilong Apartment	35	0	96	2.1	20
Liyuan 1st Village	34	0	53.14	1.85	22
Chengnan Xin Village	34	0	59.58	1.38	20
Qiuxia Apartment	35	0	87.91	1.96	22
Renle 4th Village	30	0	58	1.2	19
Songshi Garden	35	0	79	1.6	9
Songle Garden	35	0	102	1.8	13
Xilin Neighborhood	36	0	72	1.5	18
Baiyang Garden	45	0	85	1.8	13
Renle 3rd Village	30	0	58	1.2	23
Ronghui Apartment	30	1	32	1.6	11
Dingxin Apartment	35	0	82	1.2	13
Yusheng Haoyuan Apartment	40	0	136	8.9	10
Mingfeng Apartment	45	1	48	1.3	13
Tianle Neighborhood	30	0	81	0.8	19
Gongjie Garden	35	0	95	2.4	16
Laidun Neighborhood	70	1	122	1.6	5
Tianhong 6th Village	35	0	88	1.6	18
Songyun Shuiyuan	41	1	126	1.7	11
Tianhong 4th Village	30	0	66	1.6	20
Dajiang Garden	40	0	89	1.55	10
Jiangzhong Garden	35	0	80	1.8	17
Jianghong Garden	32	0	120	0.7	16
Jiufeng Neighborhood	26	0	72	1.5	31
Fangzhouyuan 3rd Village	35	0	82	1.2	17
Tongbo Neighborhood	35	0	83	1.2	21
Rongnan Garden	33	0	92	1.8	11
Fangzhouyuan 4th Village	35	0	78	1.6	16
Rongnan Xinyuan	25	1	70	1.8	11