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Equal Rights for Tenants and Landlords -
Evaluation of the Impact of School
Enrollment Policy on the Real Estate Market
in China

MO Chun San
NGAI Tsz Fung
MAN Pui Tsz
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1. Abstract

Children normally go to school nearby their living area for lower transportation costs. However, this may not be the case in China. This is because only the owners of the properties have the right that their children can go to school in the corresponding school districts which are nearby their living area, while the tenants of the properties do not have the right to do so. This paper will, firstly, introduce China’s real estate market as the background information. Secondly, we will discuss a new policy which aims at equalizing the right for tenants and owners. After that, different models will be employed to evaluate the impact of this policy on China’s real estate market. A conclusion of models’ implications will be drawn in the end.

2. Background Information: the real estate market in China

2.1. General trend

2.1.1. Housing Price

Housing issue has long been a controversial topic in China. One of the underlying reason is that Chinese people see houses as a kind of necessity. According to the China Household Finance Survey (China Household Finance Survey and Research Center, 2016), residence spending accounts for 21.8% of the overall consumption expenditure, which is the second highest among all the other areas. It is obvious that housing is important to Chinese people. In addition, real estates are treated as a kind of investment tool. Since there are strict restrictions on capital movements in China, investment channels available for investors are limited. Given a declined interest rate, real estates, the kind of assets that can generate a return in long run, are more attractive to investors. Some of the investors even use them for speculative purpose. Partly because of these reasons, China property price keeps surging for years.

Compare to the figure in 2010, the average property price has increased by almost 40% in six years time (see appendix I). The situation is more overwhelming in the first tier cities where more than 80% increase in the average property price is recorded. Among the four Tier 1 cities, Beijing, Shanghai, Guangzhou and Shenzhen, the housing price surged the most in Shenzhen. It jumped suddenly in mid-2015 and outdistanced the other cities (see appendix II). Such strong rebound was attributed to the relaxation of Home Purchase Restrictions. It is also claimed that the positive wealth effect brought by the well-performing stock market in Shenzhen has made the city outperformed the other market.
In contrast, the growth in property price in the second tier cities is relatively mild, with around 40% increase in price in 6 years which is a lot lower than that in the first tier cities. One of the underlying reason is that these cities are less attractive than the first tier cities. As the result, the housing units there is less valuable in comparison with those in the first tier cities. Investors have less incentive to invest in these properties. Relatively fewer labor move to these regions as well. The demand for housing is thus lower, so as the property price. For the third tier cities, the property price did not show big changes over years.

2.1.2. Housing Construction & Housing Stock
The level of construction of residential housing in Tier 1 and Tier 2 cities started to increase in the late 1990s and early 2000s respectively. Although there is an increase in housing project in the past years (see appendix III), not all the cities have increased in construction. In fact, due to the limited land resources in the first tier cities, a decrease in construction level of new residential housing units is actually recorded since 2005 (Fang, Gu, Xiong and Zhou, 2016). In contrast, steady growth in construction level is observed in the second and the third tier cities at the same period of time. It gives reason to the over demand situation in first-tier cities and oversupply problem in second and third-tier cities. As there is relatively more supply of housing in lower-tier cities, more times are needed for the market to clear the unsold housing units in those regions. The gap is the largest in 2012 and it started narrowing from 2014. Now, it takes around 10 months to clear the housing units in all the cities (see appendix IV).

2.1.3. Rental Prices
The overall rental price increased steadily over the past decades. Compare to the figure in 2010, it has increased by 40% in 6 years time which is similar to the average increase in overall property price. Unlike the sales market, the rate of change in rental price in different tier cities did not show a large difference. One thing that is similar to the sale market is that the rental price in first-tier cities are higher than the lower tier cities.

2.2. Major incidents
2.2.1. Fiscal recentralization
In order to transform from the planned economy to the market economy, the PRC government implemented a fiscal reform aimed at adjusting the distribution of tax revenues between the central and local governments in 1994. The reform fundamentally changed the way revenues were shared between the central and local governments. Rather than a negotiated percentage
or amount being remitted to the central government, now taxes were divided into three distinct categories: central, local, and shared. Central taxes would go into the central coffer and local taxes into local budgets. As for shared taxes, they were to be divided between the central and provincial governments according to some established formulas (Wang, 1997). It successfully eliminated the fiscal deficit of the central government but the local governments have suffered structural revenue shortfalls (Muto, Matsunaga, Ueyama and Fukumoto, 2010).

Ever since the reform, real estate development has recently served as an important source of revenue to offset this shortfall. In 2009, it is estimated that real estate related income accounted for 40% of the total revenue of the local government. Given such revenue structures, local governments tend to welcome active transactions in the property market; local governments thus have an incentive to promote real estate development by companies and lending to the real estate sector by local commercial banks. Local governments also earn income through real estate development by expropriating land from farmers at around the agricultural productive value of the land and then selling it to either real estate developers, or the so-called “urban development investment vehicles” that local governments themselves invest in. Because of the difference in incentives between the central and local governments, the central government’s measures to prevent the property market from overheating often ended up not as effective as intended.

2.2.2. Relaxation of capital controls
Due to the greater integration of the Chinese economy into the global economy and the gradual relaxation of capital control in recent years, the volume and volatility of private capital flows have increased. The speculative hot money that is not under the control of the authorities has flowed into China’s domestic markets bypassing capital regulations as short-term funds. The influx of funds from overseas to some extent helped to drive up the China's real estate market.

2.2.3. Global financial crisis
In response to the global financial crisis that peaked in the fall of 2008, the Chinese authorities lowered the policy interest rate several times, lifted quotas on annual lending by commercial banks, and promoted loans. There has been evidence indicating that some of the new bank loans have been infused into the stock markets and property markets. Since February 2009, the housing prices in some coastal cities have surged by 40% on average (Zhang, 2009).
2.3. Buy-rent analysis

The homeownership rate in China is the highest in the world (Trading Economics, 2014). 18.6% of the owners interested in buying more housing units and the multiple-home ownership rate had attained 21% in 2014. With a rise in property price in recent years, the ability for house owners to buy an additional house has increased. It is thus believed that the rate would be higher in recent years. In fact, China Household Finance Survey showed that the first-time buyers are not the major purchasers in China in 2013 to 2014, the dominant buyers are the households looking for their second house.

Although there are many people having one or more houses, it does not necessarily mean that those houses are available in the rental market. Some of the house owners would rather leave their house vacant than renting out their flat. It is due to the fact that the rental yields are low in China. The short run rental return is even lower than the speculative gain in long run. Since the house owners can still make a reasonable return with their units vacant, they have less incentive to rent out their flats just for little in return. In addition, China Household Finance Survey (China Household Finance Survey and Research Center, 2016) found that for every 10% increase in price-to-rent ratio, there would be 0.6% increase in house vacancy rate. Given a relatively low gross average rental yield of 2.4% in China, it is believed that the incentive for Chinese people to rent out their units are relatively lower than that in other countries. The rental market is thus underdeveloped and has room to improve.

3. The New Policy: Equal Rights for Tenants and Landlords

3.1. Brief description of the policy


Although it was originally meant for the regulation of the leasing market, several items in the Notice attracted great attention and raised heated discussion, especially those about the rights of the children of the tenants, who do not have the household register in the city, to go to school in the nearby area. Together with other rights stated in the Notice, it is now referred to as the equal rights for tenants and landlords.
Moreover, during the Two Sessions held in March, several proposals were put forward for the purpose of enhancement and implementation of the *equal rights for tenants and landlords* policy, including but not limited to the appliance of property tax, etc (Lü, 2018).

Prior to Beijing, according to Xinhua News Agency, Guangzhou had become the first city to put forward similar policies in July. Later, twelve cities including Shenzhen, Nanjing, Wuhan were chosen to be the housing rental pilot (Wang, 2017).

3.2. Reasons for the policy

A household register, or known as hukou in Chinese, is a civil registry used in many countries to track information of a genealogical or family-centric legal interest (The National People’s Congress of the People’s Republic of China, 1958). Usually, a child inherits his or her household register from parents or the legal guardian in some special cases and the location of hukou can’t be changed unless certain strict requirements are satisfied.

According to the data from Beijing Municipal Bureau of Statistics (2017), till the end of 2016, there were in total 21.73 million residents in Beijing, out of which around 8.08 million didn’t have the hukou of Beijing, accounting for 37.16%; and in 2006, the three figures were 16.10 million, 4.03 million and 25.20% respectively. The drastically increasing demand and the limited education resources have resulted in the different priorities for schools to accept school-age children possessing different hukou due to the concern of rational allocation of education resources. Principles also vary from schools in different districts when it comes to accepting students, for example, the admission order in Dongcheng District in 2017 (see appendix V) is as follows (in descending order):

1. The hukou of the school-age child and either of his/her parents are located in the school area and the head of the household register is the school-age child or either of his/her parents. The house of the family, the owner of which is the school-age child or either of his/her parents, is located in the school area.

2. The house of the family, the owner of which is the school-age child or either of his/her parents, is located in the school area. The hukou of the school-age child and his parents are not located in the school area but in another area in the district or other districts in Beijing.

3. The hukou of the school-age child and either of his/her parents are located in the school area and the head of the household register is either of the school-age child’s
grandparents. The house of the family, the owner of which is either of the school-age child’s grandparents, is located in the school area.

4. The hukou of the school-age child and either of his/her parents are collective hukou and located in the school area. The house of the family, the owner of which is the school-age child or either of his/her parents, is located in the school area.

5. The school-age child who can be treated as if he/she has a hukou located in Beijing. The house of the family, the owner of which is the school-age child or either of his/her parents, is located in the school area.

6. The hukou of the school-age child and either of his/her parents are located in the school area and the head of the household register is the school-age child or either of his/her parents. The house of the family, which is the military property, is located in the school area.

7. The hukou of the school-age child and either of his/her parents are located in the school area and the head of the household register is either of the school-age child’s grandparents. The house of the family, the owner of which is either of the school-age child’s great-grandparents, is located in the school area.

Two statements in the Notice was worth noticing:

1. if the tenant, who possesses a hukou in Beijing, has rented and lived in the district for at least 3 years and one of the couple’s has legally worked in the same area for at least 3 years, his or her school-age children can attend school in the district;

2. if the tenant does not possess a hukou in Beijing, his or her school-age children can attend school in the district under the regulation regarding Non-Beijing school-age children accepting compulsory education

For years, there have been obstacles for Non-Beijing school-age children in attending school in Beijing, some of them fit the requirements and are lucky enough to be able to attend school in Beijing.

In the past 10 years, there were 400,000 students who don’t possess a hukou located in Beijing accepting compulsory education each year, accounting for around 40% of total students. In 2014, a policy was put forward that school-age children whose parents can provide 5 certifications are eligible to attend school in Beijing and those whose parents possess Beijing Work Residence Permit can be treated as if he/she has a hukou located in Beijing.
However, many children who do not fit the requirement are left no choice but to go to other cities around Beijing for education. The news in figure 3.2a is a typical example.

Figure 3.2a News: where did the children with non-Beijing hukou in Beijing go to school? (Sohu Education, 2015)

3.3. Possible effects of the policy
From the government’s perspective, the expectation of this new policy is that difficult situations for children such as the case in the above news can be relieved. But at the same time, this policy should have some impact on the real estate market since it probably drives the growth of the rental market in China. Different opinions have been put forward regarding the policy. Some people think that the new policy may help control the rising trend of the housing
price for the reason that most people are buying a house in the school area so that their children can enter the school nearby, and this need will no longer exist after the implementation of the policy. On the other hand, the increasing demand for renting a house will attract more investors, the result of which is that the housing price will continue increasing. So far there is no guarantee that which factor will dominate the other.

In the following parts, real estate economics models are employed to evaluate the effect of the policy.

4. Models Analysis
4.1. Traditional Wheaton model
4.1.1. Model Introduction
Wheaton model is a four-quadrant diagram which is used to analyze the long run market equilibrium in the real estate market (DiPasquale and Wheaton, 1992). The endogenous variables are, namely, rent (R), price (P), construction (C) and stock (S). The exogenous variables are, for example, consumption demand for space, investment demand for property, replacement cost of real estate and depreciation rate.

The north-eastern quadrant of the model represents the property market for space where rent is determined (figure 4.1.1a). The x-axis is the stock of space while the y-axis is the rent. The supply of stock is given and fixed in the short run because the production of property takes a long time. The quantity supplied of the property is not flexible, resulting in a vertical short-run supply curve of property. The demand for the property is a function of economic conditions and rent. The demand curve is downward-sloping with reference to the law of demand. At equilibrium, quantity supplied of the property is equal to quantity demanded for the property. The equilibrium rent would then be determined. If there is an increase in the demand for property, with the fixed supply curve, rent will increase accordingly (figure 4.1.1b).
The north-western quadrant represents the asset market of property where price is determined (figure 4.1.1c). The x-axis is the rent while the y-axis is the price of the property. The curve extended from the origin is the capitalization rate for property assets. That is, the ratio of rent to price. It is the current yield which investors demand to hold property assets. Capitalization rate includes the following factors in general: the long-term interest rate, the risks associated with the rental income, the expected growth in rents and the taxation system in the economy. The price is determined by adjusting according to the capitalization rate and the rent which is given from the north-eastern quadrant. An increase of capitalization rate would rotate the curve clockwise, meaning that investor will pay a lower price under the same level of rent if the capitalization rate increase (figure 4.1.1d).
The south-western quadrant represents another part of asset market of property where the construction of new properties is determined (figure 4.1.1e). The x-axis is the price while the y-axis is the new construction of the property. The curve here represents the replacement cost of real estate. It is assumed that the cost of construction increases with the increase in new construction, resulting in an upward-sloping cost curve here. The curve is not extended from origin due to the existence of fixed cost in construction. The new construction of property is determined when the price given from the north-western quadrant is equal to the replacement cost of the asset. An increase in fixed cost or marginal cost will decrease the new construction of real estate (figure 4.1.1f).

![Figure 4.1.1e Asset market: new construction](image)

![Figure 4.1.1f Asset market: increase in marginal cost](image)

The south-eastern quadrant represents another part of property market for space where the stock of space is determined (figure 4.1.1g). The x-axis is the new construction while the y-axis is the stock of space. The curve here represents the relationship between the stock and the new construction. Construction is equal to the depreciation of stock at the steady state since the change of stock is equal to zero. An increase in depreciation rate will decrease the level of stock if the new construction remains constant (figure 4.1.1h).

The Wheaton model is combining these four quadrants into one diagram (figure 4.1.1i). First of all, the rent is determined in the property market. Then, the price is determined by the given rent in the asset market. After that, the new construction is determined by the given price. At
last, the level of stock is generated by the level of new construction. At equilibrium, the initial and ending level of stock of space is the same.

**Figure 4.1.1g** Property market: stock adjustment

**Figure 4.1.1h** Property market: increase in depreciation rate

**Figure 4.1.1i** Wheaton Model: combining all four quadrants into one diagram
4.1.2. Analysis and Implications

In our case, the policy provides one more right to tenants. This will increase people incentives to rent. As such, the demand for property market increases, resulting in the increase in rent, price, level of new construction and level of stock (Figure 4.1.2a).

![Figure 4.1.2a Traditional Wheaton model: demand increase in property market due to the policy effect](image)

4.1.3. Limitations

The implications of the Wheaton model is precise. However, one of the limitations of Wheaton model is the inability to address the issue of tenure choice. This is an important issue in real estate economics. Many researchers in the past tried to address this issue. For example, Weiss (1977) studied the relationship between the tenure choice and capital gain. Also, Henderson and Ioannides (1983) provided a comprehensive model about the determinants of tenure choice in real estate market. On top of that, Ioannides and Rosenthal (1994) studied empirically about the consumption and investment demands for real estates and their effect on real estate tenure status. Wheaton model, however, unable to do so due to the separation of consumption demand
and investment demand for property. In other words, owner-occupiers are absent in the Wheaton model. End-users of the properties are tenants and owners of the properties are investors. Housing services are only obtained from renting the properties but not from self-occupation.

In order to evaluate the policy effect on the tenure choice in China’s housing market, we try to modify the Wheaton model in the following parts.

### 4.2. Modified Wheaton model

#### 4.2.1. Model Introduction

To address the issue of tenure choice in the Wheaton model, we focus on modifying the quadrant of asset market where the price is determined.

We refer the curve in the Northwest quadrant of Wheaton Model as the investment demand for owning a house. As mentioned above, the only purpose of owning a house assumed by the Wheaton model is to receive rental income. This implies there is no intrinsic value for the investors. In case the houses no longer generate rental incomes, the investors would not be willing to pay even a single dollar to buy a house.

![Investment Demand for Owning a House](Figure 4.2.1a)

**Figure 4.2.1a** Investment Demand for Owning a House
If we, however, regard owning a house and renting a house as a pair of imperfect substitute, it makes sense that even if the level of rent is zero, people may still be willing to pay a positive amount of money to buy the house ownership for some reasons. Despite personal preference which usually favors to own rather than to rent, owner-occupiers may have some political or economic advantage over renters. This is especially true in China, where it is much easier to send their kids to local schools for owner-occupiers while it is much more difficult, if not impossible, for renters until the policy of "Equal Rights for Tenants and Landlords".

So, here we construct consumption demand for owning a house. As shown in Figure 4.2.1b, even when the rent is zero, people are still willing to pay $P_0$ to obtain a housing ownership.

![Figure 4.2.1b Consumption Demand for Owning a House](image)

And as rent increase, people are willing to pay a higher price to own a house (just as the price of apple increase, people are willing to pay a higher price to buy an orange). Given any pairs of $R$ and $P$, if the point $(R, P)$ is above the curve of Consumption Demand, people would choose to rent at that point since the price is too high (the rent is relatively low) such that it does not worth the additional benefit of owning. If the point $(R, P)$ is below the Consumption Demand, such as $(P,0)$ where $P < P_0$, people would choose to buy a house since the additional benefit of owning a house is larger than $P$ (the rent is relatively high). The Consumption Demand curve represents all the $(R, P)$ at which people are indifferent between renting a house and buying a house. In later discussion, we arbitrarily assume that people would choose to buy on the Consumption Demand curve.
Putting this together with the curve in the Northeast quadrant of Wheaton Model, which we call the Consumption Demand for Renting a House, we can see the price people willing to pay to rent or buy a house when the housing stock is given (here we assume a housing stock can both be rented or bought).

For example, in Figure 4.2.1d, given S=S₁, people are willing (and indifferent) to
(a) pay R₁ to rent a house or;
(b) pay P₁ to buy a house.
Up to now, there is only one source of demand in the property market (Northeast quadrant) while there are two sources of demand, investors and consumers, in the asset market (Northwest quadrant). The natural question is, “How are the houses allocated in the asset market?” Following the economics tradition, whoever pays the highest price shall be granted with the house.

If the slope of Consumption Demand curve is greater or equal than that of Investment Demand curve, then for every given R, the corresponding P of Consumption Demand is always higher since the intersection point of Consumption Demand curve is larger (Figure 4.2.1e). So, in this case, the consumers are always willing to pay a higher price, and houses are occupied by owners.

![Figure 4.2.1e](image)

If the slope of Investment Demand curve is greater than that of Consumption Demand curve, there exists an intersection point of Consumption Demand curve and Investment Demand curve. On the right of this intersection point (i.e. for large R), one can see that the Investment Demand is always stronger (Figure 4.2.1f). On the left of the intersection point (i.e. for small R), the Consumption Demand, however, dominates (Figure 4.2.1g). Intuitively speaking, this is because when the rental income is low, the consumers still are willing to pay relatively high price to buy the houses due to the additional benefit of owning over renting while the investors...
are not willing to pay this premium as rental income is the only thing they concern. Similar reason holds for the case of large rental income.

As a result, combining the “upper part” of the two demands, the Demand for Owning is shown in Figure 4.2.1f. Example of investor-dominance case (Figure 4.2.1i) and consumer-dominance case (Figure 4.2.1j) are provided.
Figure 4.2.1h Demand for Owning

Figure 4.2.1i
The **slop**e difference between the two demands can be due to several reasons, such as the imperfect substitutability between owning and renting, and different required rates of return between investors and consumers.

Alternatively, we attempt to take a different approach (approach II) to explain the demand difference when \( P \) and \( R \) differ. This time, we construct a Consumption Demand taking into consideration of down-payment constraint. So, at every level of \( R \), consumers are not able to afford to pay an amount higher than \( P_c \). But, originally, when \( R < R_c \), the price that consumers are willing to pay is less than \( P_c \), so the constraint is not blinding. For \( R > R_c \), the consumers would have pay higher than \( P_c \), so the down-payment constraint is blinding. Here, we assume only consumers face the down-payment constraint while the investors are constraint-free (or they are facing a looser down-payment constraint, which we would omit as this is not so important for our later discussion). In reality, this is true if most of the property investors have relatively sufficient capital. After this, by arguments similar to our first approach, we get the Demand for Owning as shown in **Figure 4.2.1k**.
Figure 4.2.1k Consumption Demand for Owning—Approach II

Figure 4.2.1l Demand for Owning—Approach II
The characteristics and outcomes of our two approaches are very similar. Below are the Renting Equilibrium and Owning Equilibrium of both Approach I and Approach II:

Figure 4.2.1m Renting Equilibrium—Approach I

Figure 4.2.1n Renting Equilibrium—Approach II
Figure 4.2.1o Owning Equilibrium—Approach I

Figure 4.2.1p Owning Equilibrium—Approach II
Note that in Renting Equilibrium, all house occupants are renting the house; in Owning Equilibrium, all house occupants are owning the house. There are no cases such that a proportion of house occupants are renters and the rest are owners. This is the consequence of homogeneity of the housing unit and housing demand and our intention to make this as simple as possible. Since it has been shown that the DiPasquale-Wheaton Model can quite accurately explain the Chinese real estate market (Leung and Wang, 2007), we would like to keep the major structure of DiPasquale-Wheaton Model while attempt to twist the model so as to estimate the effect of change in preference for renting and owning after the proposal of “Equal Rights for Tenants and Landlords” in China.

Also note that even the society is in Owning Equilibrium, the Consumption Demand for Renting still exist, so as the potential market rental level, despite being unobservable. The potential market rental level, being the cost of renting the alternative choice of owning, is an essential component of forming an Owning Equilibrium.

According to the proposal of “Equal Rights for Tenants and Landlords”, the renters’ offspring can access to the surrounding schools just as the house owners’ offspring. This would attract more people to rent a house so the Consumption Demand for Renting would shift rightward (increase), just as the case of the original Wheaton model shown above in part 4.1. But in our modified Wheaton model, the Consumption Demand for Owning would also shift rightward (decrease), since now rental properties have become a closer substitute to self-occupied properties, the consumers are willing to pay less premium for the additional benefit of owning over renting.

4.2.2. Analysis and Implications
Case 1:
Assume the society is initially in Renting Equilibrium. After the policy, the Consumption Demand for Renting would shift rightward and the Consumption Demand for Owning would also shift rightward. As it is originally in Renting Equilibrium, the decrease in Consumption Demand for Owning has no effect in changing the equilibrium. But the increase in Consumption Demand for Renting would push the rent higher, result in the increase in P, C, and C. The ending equilibrium would also be a Renting Equilibrium (this is intuitively true as people want to rent more than to own). This case is very similar to what we have deduced using the traditional Wheaton Model.
This would be the only possible case if the initial equilibrium is a renting one.

In the following figures, generally, solid lines represent the initial equilibrium and dashed lines represent the ending equilibrium.

![Figure 4.2.2a Case 1—Approach I](image-url)
Case 2:
Assume the society is initially in Owning Equilibrium. After the policy, the Consumption Demand for Renting would shift rightward and the Consumption Demand for Owning would also shift rightward. There are four possible cases (Case 2 – Case 5), depending on the magnitude of the shift. In this case, if the increase in Consumption Demand for Renting is sufficiently large, then however large the decrease of Consumption Demand for Owning, the society would enter the Renting Equilibrium. The four endogenous variables R, P, C, and S would both increase, similar to Case 1. Actually, the only difference between Case 2 and Case 1 is the initial equilibrium, where Case 2 is an owning one and Case 1 is a renting one.
This is the only case where the tenure choice is changed. As renting a house become more attractive, it makes sense that people would change from owning a house to renting a house.

Figure 4.2.2c Case 2—Approach I
Case 3:
Assume the society is initially in Owning Equilibrium. After the policy, the Consumption Demand for Renting would shift rightward and the Consumption Demand for Owning would also shift rightward. In this case, the increase in Consumption Demand for Renting is not as large as in Case 2, but it is still relatively large comparing to the decrease in Consumption Demand for Owning. As a result, it still drives up the rental level, causing the increment in P, C, and S. Different from Case 2, the increase in Consumption Demand for Renting and rental level is not large enough such that it still ends up as an Owning Equilibrium.
Figure 4.2.2e Case 3—Approach I
Case 4:
Assume the society is initially in Owning Equilibrium. After the policy, the Consumption Demand for Renting would shift rightward and the Consumption Demand for Owning would also shift rightward. In this case, the increase in Consumption Demand for Renting is exactly offset by the decrease in Consumption Demand for Owning. As a result, P does not change, and C and S remain constant. Only R increases. The ending equilibrium is also an Owning Equilibrium.
Figure 4.2.2g Case 4—Approach I
Case 5:
Assume the society is initially in Owning Equilibrium. After the policy, the Consumption Demand for Renting would shift rightward and the Consumption Demand for Owning would also shift rightward. In this case, the increase in Consumption Demand for Renting is weaker than the decrease in Consumption Demand for Owning. As a result, P decreases, so do C and S. Only R increases. The ending equilibrium is also an Owning Equilibrium.

Case 4 and Case 5 are the two very interesting cases. They show the price could remain unchanged or even decrease under this policy. An intuitive explanation is that owning a house is no longer as attractive as before, so people are willing to pay a lower price for this.
Figure 4.2.2i Case 5—Approach I
With reference to the above 5 cases, there are some points worth noticing: First, R increase in all of the cases. This should make sense intuitively. Second, if the initial equilibrium is owning, it is possible to end up with owning or renting. If the initial equilibrium is renting, it is only possible to end up with renting. This is to say, there is a tendency for people to change from owners to renters. Third, P, C, and S could increase, decrease or remain unchanged, depending on the exact magnitude of change in tenure preference. Fourth, we cannot find a case that ends up with both renting equilibrium and lower housing prices. As a result, from our model, it is impossible for the government to enlarge the rental market while at the same time keep the property price low just by using this policy.
4.2.3 Limitation

To modify the Wheaton model, there are two important assumptions made here. Firstly, we assume that the capitalization rate of owner-occupants is higher than that of investors, meaning that owner-occupants would like to enjoy the housing service as soon as possible while investors are more patient as they focus more on their future utility. Secondly, owner-occupants suffer more from the down-payment constraint because investors should have more sufficient capital. These assumptions, however, may not be necessarily true in reality. The modified Wheaton model is made based on our intuitive thinking but not rigorous mathematical proof. Please bear with us if there are any flaws.

5. Conclusion

<table>
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<tr>
<th>Models \ Factors</th>
<th>Rent</th>
<th>Price</th>
<th>Construction</th>
<th>Stock</th>
<th>Tenure choice</th>
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<td>Traditional Wheaton Model</td>
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<td>increase</td>
<td>increase</td>
<td>rent → rent</td>
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<td>increase</td>
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</tr>
<tr>
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<td>increase</td>
<td>increase</td>
<td>own → rent</td>
</tr>
<tr>
<td>Case 3</td>
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<td>increase</td>
<td>increase</td>
<td>increase</td>
<td>own → own</td>
</tr>
<tr>
<td>Case 4</td>
<td>increase</td>
<td>unchanged</td>
<td>unchanged</td>
<td>unchanged</td>
<td>own → own</td>
</tr>
<tr>
<td>Case 5</td>
<td>increase</td>
<td>unchanged</td>
<td>unchanged</td>
<td>unchanged</td>
<td>own → own</td>
</tr>
</tbody>
</table>

Table 5a Summary of models’ implications

There are two important pieces of information can be obtained from table 5a. Firstly, rent increase in all cases thanks to the incentive of renting generated from the policy. Also, regarding the equilibrium of tenure choice, there is no such case of renting equilibrium to owning equilibrium because the policy obviously favors tenants rather than owner-occupants. It is not possible to have a case that rational person would prefer more on owning if the policy is put into practice.
This policy, equal rights for tenants and landlords, intended to narrow the inequality of rights between tenants and owners. This is a good intention in the sense that the social problem of large transportation cost and time cost for children going to school can be alleviated. However, some may argue that this policy may escalate the asset market of property as shown as the increase in price in the traditional Wheaton model and some of the cases in the modified Wheaton model. “The road to hell is paved with good intentions” because this policy may eventually add fuel to the already overheated asset market of real estate as suggested in part 2.1.

Still, we think that this conclusion should not be affirmed because the rental property has become a closer substitute to self-occupied property. Potential buyers of properties may change their mind to rent the properties due to the equalization of rights between owners and tenants. This may cool down the overheated asset market of property as shown as the decrease in price in the case of modified Wheaton model. In short, this policy may transfer some of the upward pressure on price in the asset market to rent in the rental market.

The actual effect of this policy is ambiguous as the policy is still in formulation stage in Beijing. Empirical studies can be conducted to examine our theoretical framework after the implementation of the policy.
6. Appendix

Appendix I: **China average property price trends from 2010 to 2017** (Sofun China Index Academy, 2018)

![China average property price trends](chart)

Appendix II: **housing prices in different cities in China** (Wong, 2016)

**Special Economic Zone**
Average selling price of new apartments, percentage change from January 2012

![Special Economic Zone](chart)
Appendix III: status of housing projects in China (Zheng, 2015)

Appendix IV: how many months to clear unsold China housing? (E-House China Research Institute, 2018)
Appendix V: the admission order in Dongcheng District in 2017 (Qida Education. 2018)

根據《北京市教育委员会关于 2017 年义务教育阶段入学工作的意见》（京教基二
（2017）3 号）和《东城区关于 2017 年义务教育阶段入学工作的意见》东教发【2017】
15 号文件有关要求，2017年东城区适龄儿童入学继续实行以“一校一片”为主的入学
方法。针对居住证政策和全面二孩政策落地，建立健全完善、固化入学序列，将按
户口、房产性质、落户居住年限等综合考虑适龄儿童入学问题。对房源大的学区，实
行学区或相邻学区间连片入学。

一、入学顺序

1. 适龄儿童及其父母户口（适龄儿童及其父或母户口、适龄儿童户口）在学校服
务片内且户口方为其父或母或适龄儿童本人在学校的学片内，实际居住地（房屋产权
所有人方为其父或母或适龄儿童本人）同时属于学校服务片内。

2. 实际居住地（房屋产权所有人为其父或母或适龄儿童本人）在学校服务片内，适
龄儿童及其父母户口不在学校服务片内，但户籍在本地其他服务片内或北京市其他区
县。

3. 适龄儿童及其父母户口（适龄儿童及其父或母户口、适龄儿童户口）在学校服
务片内，户口方为其祖父母或外祖父母，实际居住地（房屋产权所有人方为其祖父母
或外祖父母）同时属于学校服务片内。

4. 适龄儿童及其父母户口（适龄儿童及其父或母户口、适龄儿童户口）为集体户
口在学校服务片内，实际居住地（房屋产权所有人为其父或母或适龄儿童本人）同时
属于学校服务片内。

5. 报京籍待审的适龄儿童，实际居住地（房屋产权所有人方为其父或母或适龄儿童
本人）在学校服务片内。

6. 适龄儿童及其父母户口（适龄儿童及其父或母户口、适龄儿童户口）在学校服
务片内，实际居住地（房屋产权性质为集体）同属学校服务片内。适龄儿童父母应出
具部队师旅级以上政治部门开具的现役军人证明及实际居住房屋证明（或提供房产
证）。

7. 适龄儿童及其父母户口（适龄儿童及其父或母户口、适龄儿童户口）在学校服
务片内，实际居住地（房屋产权所有人方为其祖父母或外祖父母）同时属于学校服务
片内。（学校需入户调查其适龄儿童收靠长期居住在此）

学校需依据市、区教委有关要求做好符合条件的适龄儿童入学登记审核工作，对
于特殊情况需进行实地入户核实，并依据顺序接收。因适龄儿童父母或法定监护人提
供材料不完整，或学校实际入户调查与其提供材料和说明情况不符，或学校确实无
学位接收不完全符合条件适龄儿童入学的，其父母或法定监护人需填写“派位侠是
确认单”，由东城区教育招生考试中心义务教育入学办公室通过电脑派位方式安排入学。

二、排序接收及派位原则

随着户籍和实际住所地在学校招生服务范围内的适龄儿童人数逐年增加，而学校
学位有限，出现无法满足所有适龄儿童入学需求的情况。学校需根据学生家长提交的
相关材料，进行排序接收。

东城区教育招生考试中心义务教育入学办公室
2017 年 6 月
7. References


