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Adverse selection versus hold up: Tenure choice, tenancy protection and equilibrium in housing markets

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ABSTRACT

In this paper, we consider the tenure choice problem under different schemes of legal tenancy protection. We analyze the interaction between the rental and resale housing markets under conditions of bilateral asymmetric information regarding housing quality and the type of residents. Home ownership is associated with a trade-off between the loss caused by asymmetric information and rent exploitation by landlords in a holdup problem. With perfect protection for tenants, adverse selection in the resale housing market becomes problematic, and the market disappears. Conversely, the absence of tenancy protection mitigates adverse selection in the resale housing market and leads to a separating equilibrium.

1. Introduction

When information about the quality of goods is asymmetric, the market for such goods may disappear as a consequence of adverse selection. As suggested by Akerlof (1970), resale markets are remarkable examples of this type of serious information asymmetry. Nevertheless, the resale housing market is active and functions well in many countries—although there are certain exceptions. One such exception is Japan, which has a poorly performing resale housing market.

In the Japanese housing market, there were a total of 1,094,000 homes built in 2008. Of these homes, 619,000 (56.6%) were owner-occupied, and the remaining 475,000 (43.4%) were rental units.[1] Conversely, there were approximately 171,000 sales of existing homes (i.e., sales on the resale housing market) during that same year. Thus, the share of existing home sales as part of the total housing sales market was only 13.5%,[2] which is a substantially smaller share than that of newly built rental homes.

Nevertheless, the ratio of owner-occupied housing in Japan was 61.1% in 2008. This ratio is not low; in fact, it is higher than the corresponding figures in Germany (44.3%) and France (57.6%).[3] The reason that the ratio in Japan is relatively high is because of the low quality of rental housing. In Japan, the average floor space of an owner-occupied home was approximately 122.63 m^2 in 2008, whereas the corresponding figure in a rental housing unit was 45.49m^2 in that same year.[4] Many rental homes are too small and rundown for families with children to live in comfortably. Therefore, Japanese households, particularly those with children, prefer owner-occupied housing to rental

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[1] Data source: Housing starts, Ministry of Land, Infrastructure, Transport and Tourism, Japan (http://www.mlit.go.jp/toukeijouhou/chojou/stat-e.htm).

[2] This figure is from the "White Paper on Land, Infrastructure, Transport and Tourism in Japan (2011)" published by the Ministry of Land, Infrastructure, Transport and Tourism, Japan. (http://www.mlit.go.jp/english/white-paper/2011.pdf). However, some researchers note that the share of existing home sales is underestimated because the numerator does not include rental housing sales, but the denominator includes newly constructed rental houses (See, e.g., Harano (2014)). However, even when we exclude the sales of rental houses from the denominator, the share increases only to 21.6%. Thus, the figure remains very low.

[3] See Table 1 in Section 7.

[4] Source: Ministry of Internal Affairs and Communications, Statistics Bureau, Director-General for Policy Planning (Statistical Standards) & Statistical Research and Training Institute, Survey Results of the Housing and Land Survey 2008 (http://www.stat.go.jp/english/data/jyutaku/results.htm).

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housing such that the ratio of owner-occupied housing has become relatively high in relation to countries in Europe. However, existing homes are not frequently sold in Japan, although existing homes are generally less expensive than newly built homes. The price of a home in Japan, on average, is approximately 5.65 times the average annual revenue of a laborer in Japan, which is higher than the corresponding figure for the United States (4.49 times).[5] Thus, the choices in the Japanese housing market are somewhat curious.

These observations about how the Japanese resale housing market compares with other developed countries that have high-functioning resale housing markets suggest that there are important but unknown mechanisms at work causing a resale housing market to function well. In this paper, we develop a new hypothesis for housing tenure choice and explain why the resale housing market is active in many countries but not in others, including Japan, in particular.

We focus on the interaction between the resale and rental housing markets under conditions of asymmetric information regarding housing quality and with housing-specific investment opportunities for residents. Asymmetric information about housing quality causes adverse selection in the resale housing market, whereas house-specific investment by tenants is the origin of a well-known holdup problem.[6] Home ownership can be used to avoid the holdup problem but may result in lower housing quality relative to the purchase price. Thus, there is a trade-off in objectives between avoiding loss caused by asymmetric information and precluding rent exploitation by landlords in the holdup problem.

In our model, there are two types of residents, long-term and short-term. Long-term residents are willing to live in a home for two periods and have house-specific investment opportunities. Short-term residents live in a home for only one period and cannot access house-specific investment opportunities because these outcomes accrue only in the subsequent period. The resident knows what type of resident he (or she) is, but this characteristic is not observable by the landlord or the seller of a house.[7] Thus, our model has a simple bilateral asymmetric information structure.

We examine the effects of tenancy protection on both the resale and rental housing markets in this scenario. First, as a special case, we consider a scenario in which the tenants are perfectly protected by the law. The effects of tenancy protection on the rental housing market when a tenant makes a house-specific investment have been analyzed by many researchers.[8] However, these arguments do not consider the interaction between the rental housing market and the alternative market, i.e., the resale housing market.

As these arguments show, perfect tenancy protection can mitigate the holdup problem for house-specific investment and induces the first-best investment as long as there are no other distorting factors (e.g., a maintenance investment opportunity by the landlord or the potential for land use conversion); the initial rental price reflects the future implicit income transfer from the landlord to the tenant under tenancy protection. As explained by Kanemoto (1990), a rental contract under perfect tenancy protection is equivalent to giving complete property rights to the tenant. Therefore, if the true quality of the home is observable by a long-term resident, tenure choice will not be a problem under perfect tenancy protection.

However, when information regarding housing quality is asymmetric, the owner of a high-quality home will prefer to rent the home rather than sell it: in the future, when housing quality becomes publicly observable, the rental price of a high-quality home will increase more than the market expects. By contrast, the owner of a low-quality home will prefer to sell the property rather than rent it because the owner can enjoy informational rents by selling the home before its quality becomes observable.

Long-term residents expect that the true value of a home offered for sale in the resale housing market will always be lower than the current market purchase price. Thus, the market price decreases in the direction of the conditional expectation value for the current purchase price. Noting that the conditional expectation of the value of a home on its current purchase price is always lower than the current purchase price itself because of the homeowner behaviors discussed above, we can note that the price adjustment continues until the market price equals the value of the resale homes with the minimal quality (in our model, such quality is normalized to zero). This result implies that the resale housing market disappears, as explained by Akerlof (1970). Therefore, perfect tenancy protection causes a serious adverse selection problem for the resale housing market.

It is important to understand the long-term resident behavior that drives these results. A tenant's house-specific investment is protected perfectly from any rent extraction by the landlord/homeowner such that the rental price for continuation can be set equal to the market rental price for a new resident. Thus, even a long-term resident will not be willing to purchase the resale home in a market characterized by asymmetric information. Instead, the resident will rent the home, and after the quality of the home becomes observable, the resident will continue to rent it at the continuation rental price, i.e., the price of continuing the rental into the future, which reflects the true quality of the home. In this way, the tenant who is perfectly protected by the law can avoid the loss incurred under conditions of asymmetric information without suffering rent exploitation by the landlord. Thus, the behaviors of long-term residents (potential purchasers) make adverse selection a serious problem in the resale housing market.[9]

Next, we consider the general case in which the tenant is not perfectly protected by the law. In this scenario, long-term residents cannot protect the gains from their house-specific investments through tenancy contracts. Thus, home ownership (complete ownership) is the only perfect device for long-term residents to use to protect the gains from their house-specific investments. The beneficial nature of ownership mitigates the adverse selection problem in the resale housing market.

The advantage of purchasing a home consists of two effects. The first effect is that the new homeowner can avoid rent exploitation by the landlord in the rental contract. Property rights ensure that the purchaser (the new owner) will enjoy the full net benefits of house-specific investments. The other advantage is that the new homeowner has the correct incentive for house-specific investment. Because the purchaser will be able to capture the full net gain from any investment, he or she has the correct incentive to make house-specific investments; the purchaser (the new owner) can keep the first-best house-specific investment. Compared with a rental housing contract, the purchase of a home will generate a strictly positive net benefit to long-term residents because of these advantages.

Furthermore, if we apply the intuitive criterion proposed by Cho and Kreps (1987) to landlord beliefs about the types of residents, we can show that the equilibrium is separate because all long-term residents purchase long-term durable homes and all short-term residents are tenants in rental contracts. We can also show that long-term residents in equilibrium will be better off than under perfect legal tenancy protection from an ex-ante perspective because they can achieve

[5] Source: Jyutaku Keizai Data Syu 2012, Jyutaku Sangyou Shinbunsya, p. 109 (in Japanese).

[6] For further details on the holdup problem, see, e.g., Williamson (1985) and Hart and Moore (1988).

[7] Iwata (2002) considers the effect of tenancy protection on the market equilibrium under asymmetric information but considers only the length of tenancy in the analysis.

[8] See, e.g., Kanemoto (1990), Raess and von Ungern-Sternberg (2002), Seshimo (2003) and Otani (2006). For other arguments regarding tenancy protection, see, e.g., Börsch-Supan (1986) and Hubert (1995).

[9] Hendel and Lizzeri (2002) show that a leasing contract (with a buy-back option) and a selling contract are useful for segmenting consumers depending on their different evaluations for durable goods under adverse selection in the used (resale) market. In the model developed by these authors, the concern is the possibility of future adverse selection. In our model, current adverse selection is a concern for the resident.