

The impact of in-house death on nearby housing rents and prices: Evidence from Tokyo Metropolitan Area.

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1. Introduction

We employ a hedonic approach to investigate the effect of in-house death on nearby sales and rents by using extensive data on property transactions in the Tokyo Metropolitan Area of Japan from 2012 to 2020.

The hedonic approach has been widely used to assess the psychological distress of residents caused by unfavorable events, such as crime, disasters, and epidemics, and to estimate their inclination to expend financial resources in order to avoid them. There may be two kinds of psychological distress associated with such event, the one due to changes in subjective risk for the future and the other due to stigma associated with the previous event, while identifying these two effects empirically is difficult. Few hedonic studies have focused on the latter type of distress. This study sheds light on the role of the "risk-free" stigma in the housing market by exploiting the nature of in-house deaths, whose occurrence is often considered random conditional on neighborhood characteristics and rarely changes subjective risk. Previous studies on in-house death have examined its impact on either sales or rental market in a particular city. By analyzing both markets in the Tokyo Metropolitan Area, accounting for one-third of nation's population, this study provides a better understanding of the differences between buyers' and renters' reactions to the event as well as the heterogeneity of impact across regions.

2. Data and Estimation Design

We obtained the data on in-house deaths from *Ooshima-teru*, a private online platform that collects information on in-house deaths through user postings. The data comprises approximately 61,000 records of death with such information as date, location and cause of each incident along with posting date. All the records were checked and incorrect information was removed or modified to ensure the integrity and reliability of the dataset used in our study. By matching the in-house death data and property transaction data (REINS data) based on address and name of apartment building, we have 4,156 transactions for sale and 3,024 transactions for rent in apartment buildings with record of in-house death. Note that these transactions were made not at the units of in-house death but at different units within the building, thereby this study examines the externality of the event within the building, not the impact on the unit itself. In the hedonic estimation, we adopt the traditional event study method, while several alternative estimations such as the staggered event study (introduced by Sun and Abraham: 2021) were conducted to ensure the robustness of the result.

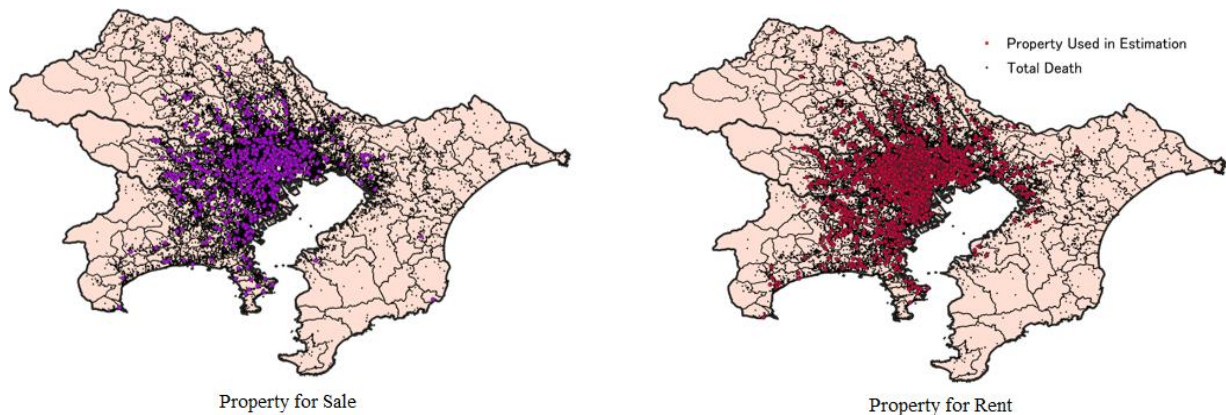


Figure 1. Distribution of our Sample

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3. Estimation Results

Figure 2 presents the results based on staggered event study approach, which illustrates price dynamics (with 95% confidential interval) by year before/after the occurrence of in-house death after controlling for various covariates. The result shows that in-house deaths have significantly negative effects on sale prices of nearby units within building and the impacts last more than 8 years. On the other hands, there is no impact of in-house death on rents of nearby units. These results implies that buyers matter or/and are aware of the presence of in-house death in the apartment building more than renters. This observation is consistent to recent previous studies (e.g. Caplan et.al.:2021) which suggest that homeowners have larger willingness to pay for amenities than home renters.

In addition, we find that the effect of in-house death is more pronounced in municipalities with higher vacancy rates. The stigma of in-house death can be strong and well recognized in rural areas with relatively high interaction among residents compared to cities with rapid turnover of residents. Also, the supply effect, the negative impact on property price due to oversupply of properties, may be more severe in the rural area with low demand.

4. Discussions and Conclusion

The number of in-house deaths has been and will be increasing worldwide against the background of aging of the population and the increase in stress, and investigating the impacts would become more important. This study contributes to the literature by providing the new evidence on the presence of risk-free stigma of in-house death and its heterogeneity across location and residential characteristics.

There are limitations of our study. First, because this study just uses property transaction data, we cannot observe the tenant offering process. Although the negative impact of in-house death on rents was not observed in this analysis, there is a possibility that property owners of rental apartment buildings in which an in-house death occurs strategically refrain from recruiting tenants at lower rents in anticipation that the stigma will fade away within a few years. In addition, we cannot observe data for residents who contract each property. There are previous studies focusing on the relationship between households' characteristics and their evaluation for amenities. Additional studies focus on the relationship between residents' heterogeneity and preference for avoiding in-house death is a future task.

Reference

- Caplan AJ, Akhundjanov SB, & Toll K. Measuring heterogeneous preferences for residential amenities. *Regional Science and Urban Economics*; 2021; 87; 103646.
Sun L & Abraham S. Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *Journal of Econometrics*; 2021; 225(2); 175-199.

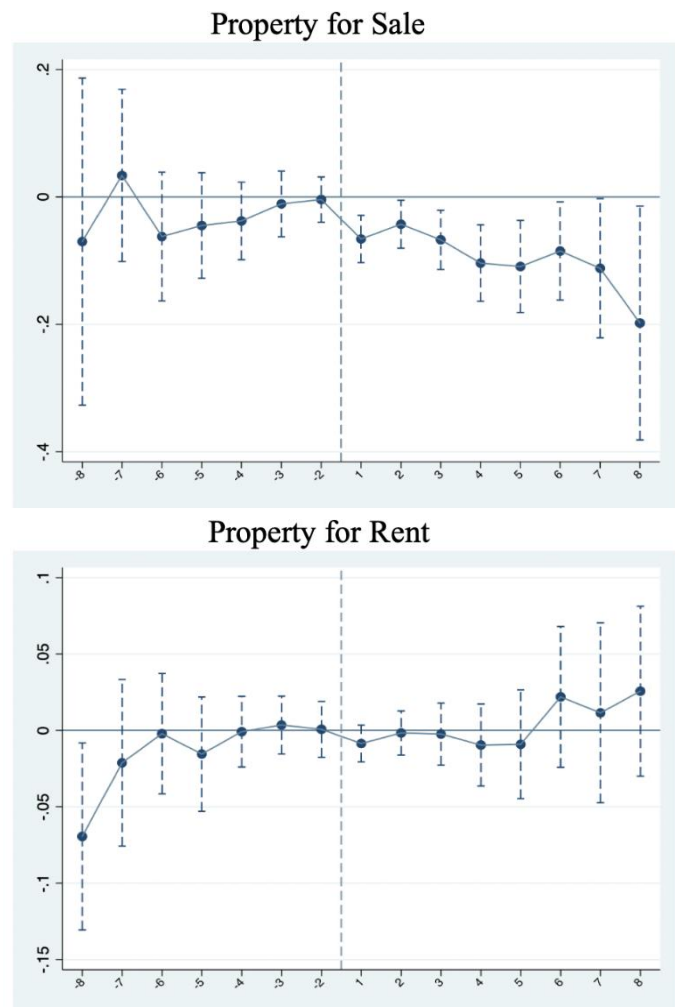


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