

Effect of the Removal of the Headquarters of a Criminal Syndicate on Land Prices in Japan

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Abstract

The removal of the headquarters of *Kudokai*, a Japanese criminal syndicate, from Kitakyushu city was announced in November 2019. This study uses the removal of the yakuza headquarters as an exogenous shock and investigates its impact on land prices using the difference-in-differences method. In addition, this study uses official land prices, called *Kojichika*, from 2017 to 2023, which were calculated by the Land Prices Public Announcement Act. I calculated the distance of the locations from the yakuza headquarters using latitude and longitude data maintained by the Ministry of Land, Infrastructure, and Transport and the measurement calculation website of the Geospatial Information Authority of Japan. Furthermore, I constructed individual panel data and controlled for time-invariant factors because official land prices are reported on January 1 every year. It finds that the removal of the headquarters increased land prices probably because people felt that the town was livable after the removal. It also finds that the closer the location was to the headquarters, the greater the impact. Overall, this study ascertains how much the yakuza has affected society. This study contributes the literature by providing a unique evidence in a Japanese characteristic situation which the yakuza overtly set up an office.

Keywords: difference-in-differences approach, Japan, land prices, removal of the yakuza headquarters

1. INTRODUCTION

The removal of the headquarters of *Kudokai*, a Japanese criminal syndicate, from Kitakyushu city was announced in November 2019. It is well known that the syndicate attacked ordinary people and companies who ran campaigns against it, and it boldly used hand grenades against them. The Japanese government considers it an especially dangerous criminal group. Since it is the most dangerous group in the Yakuza world, the United States imposes economic sanctions on it. According to a media report (*Yomiuri Newspaper*, July 2, 2020), Ogura North Ward in Kitakyushu city, which had the *Kudokai* headquarters, was known as the “Violent City.” Especially the *Kudokai* Hall, a four-story, fortress-like white building surrounded by tall walls, barbed wire, and security cameras. However, the headquarters’ removal might have changed this image in the minds of people.

It is interesting to examine how this headquarters’ removal influenced land prices. The largest criminal syndicate in Japan, *Yamaguchigumi*, is located in Nada Ward, Kobe City. It is said that the area around the *Yamaguchigumi* headquarters is unexpectedly safe because of the syndicate’s authority. Therefore, one possibility is that the removal negatively influenced land prices. Conversely, if the town became livable because of the removal, the removal may have positively influenced land prices. This study investigates how the removal of the yakuza headquarters affected land prices using the difference-in-differences method.

2. BACKGROUND

The Japanese yakuza is among the most archetypical, long-lasting criminal groups worldwide (Baradel & Bortolussi 2021). It originated from illegal gambling groups called “*Bakuto*” and street vendors called “*Tekiya*” after the Second World War (Oya 2009). At that time, the yakuza was relatively small. A yakuza boss made a

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profit using a henchman, and by doing so, he fed the henchman. The yakuza was based on these types of pseudo-blood relationships. In the 1960s, the yakuza began to intervene in civil transactions and saved money. It then pretended to legally engage in the construction, real estate, finance, sex, and entertainment industries. Additionally, it blackmailed Japanese listed firms as “*Soukaiya*.” As yakuza members increased in number, the Japanese police felt a sense of danger and enacted *Boutaiho*, an anti-criminal syndicate law, in the 1990s. This law prohibited yakuza members from meeting their violent demands and ensured that ordinary people remained safe from yakuza struggles. For example, the law imposed restrictions on yakuza spaces and prohibited the use of offices during yakuza struggles if there was a risk to nearby residents (*Boutaiho*, art. 3, para. 15). In addition, regulated by the Public Safety Commission, yakuza members could not display signs or objects that made residents or passersby feel uneasy (*Boutaiho*, art. 4, para. 29).

The second action toward the yakuza was taken in 2010 when Fukuoka Prefecture introduced *Bohajorei*. The introduction of *Bohajorei* paved the way for the introduction of similar ordinances all across Japan over the following year. Before *Bohajorei*, the police dealt with the yakuza using *Boutaiho*. However, after the introduction of *Bohajorei*, people recognized that not only the police but also society should deal with the yakuza. *Bohajorei* imposed restrictions concerning buildings and spaces. For example, an estate that leased a building must ensure that it was not going to be used as a yakuza office. If an estate owner became aware that the rented property would be used as a yakuza office, they must ensure that the contract was not enforced. Furthermore, yakuza headquarters could not be located within 200 m of schools, courts of justice, child welfare institutions, children counseling centers, libraries, and probation offices. This is a type of “Criminization,” where an action or activity is regulated by the law and aimed at punishment (see, for example, Wacqunat (2008)).

In the efforts to exclude the yakuza, a police campaign to eradicate *Kudokai* led to the removal of the *Kudokai* headquarters. This campaign was started because *Kudokai* attacked the houses and workplaces of people who were against the yakuza with guns. They were so violent that they even used hand grenades against people. *Kudokai* was established in 1946 (Yabu 2021) and had nearly 1000 members in its peak period. Its territory encompassed the Kitakyushu city in Fukuoka Prefecture. There are two possibilities for how the headquarters’ removal influenced land prices. The first possibility is that the removal decreased land prices. This can be explained by the example of *Yamaguchigumi*, the largest yakuza group, whose headquarters is located in Nada Ward, Kobe city. People say that the areas in the headquarters’ vicinity are safe because other criminal groups are terrified of *Yamaguchigumi* and engage in violence. Moreover, *Yamaguchigumi* has endeavored to adapt to the community, and it even gives sweets to children on Halloween (*Yomiuri Newspaper*, November 19, 2019). The second possibility is that the removal increased land prices because people started feeling that the town was livable as yakuza members decreased in number.

Chay & Greenstone (2005) investigated the effect of the Clean Air Act Amendments enacted in 1970 on housing prices. According to the Act, if pollution concentrations in a county exceed the federally determined ceiling, the Environmental Protection Agency designates the county as “nonattainment.” Polluters in nonattainment counties face far more stringent regulations than those in attainment counties. They used the nonattainment status as an instrumental variable for examining the impact of the changes in total suspended particulates between 1970 and 1980 on the changes in county-level housing prices. They found that the decline in total suspended particulates in nonattainment counties was approximately 12% more than that in attainment counties. They also found that the increase in housing prices in nonattainment counties was approximately 2.5% more than that in attainment counties. Kavetsos (2012) investigated the impact of hosting the London Olympics in 2005 on housing prices. He found that housing prices around Olympic venues rose by 2.1%–3.3% before the Olympics. This study uses the removal of the yakuza headquarters as an exogenous shock and investigates its impact on land prices.

3. ANALYSIS

This study used official land prices, called *Kojichika*, from 2017 to 2023, which were calculated by the Land Prices Public Announcement Act (see, for example, Kanasugi & Ushijima (2018)). These official land prices are not the actual transaction prices. However, they are values evaluated by experts using actual transaction information collected from the Land Transactions Survey. Consequently, official land prices inform a survey price that reflects changes in the market. I constructed individual panel data and controlled for time-invariant factors because official land prices are reported on January 1 every year. I calculated the distance of the locations from the yakuza headquarters using latitude and longitude data maintained by the Ministry of Land, Infrastructure, and Transport and the measurement calculation website of the Geospatial Information Authority of Japan.

Furthermore, I used the data of 41 locations in Ogura North Ward, where the yakuza headquarters was located, as the treatment group and the data of 34 locations in Ogura South Ward as the control group. I anticipate that Ogura

South Ward shared similar characteristics with Ogura North Ward, except for having the yakuza headquarters. I limit the constructible locations because I use the hedonic method (see, for example, Rosen (1974)). Figure 1 shows the map.

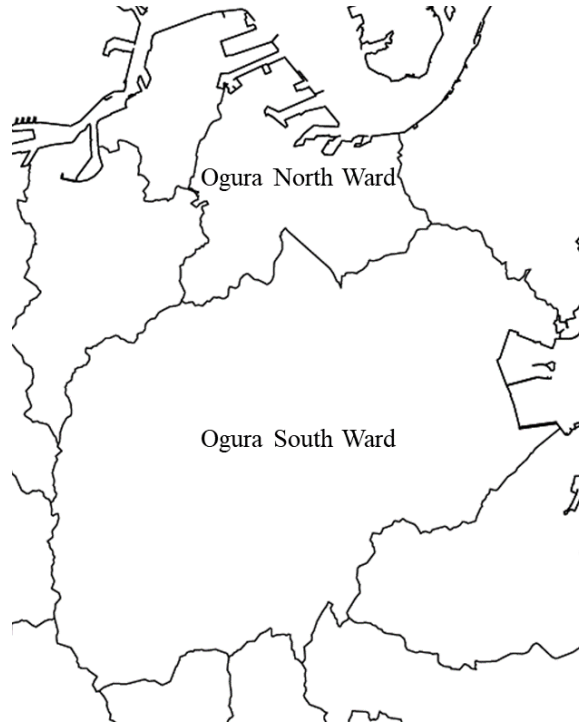


Figure 1 The treatment group and the control group in Kitakyushu city

Table 1 presents the descriptive statistics.

Table 1 Descriptive statistics

Variable	N	Minimum	25%	50%	75%	Maximum	Mean	St.Dev.
Price (yen/m ²)	450	24400.000	51400.000	66850.000	102250.000	650000.000	106460.000	108312.101
Distance from the Headquarters (km)	450	0.107	0.494	0.998	1.592	3.108	1.087	0.672

Employing the difference-in-differences method, the following model was used to investigate the impact of the removal of the yakuza headquarters.

$$\ln(\text{Price}_{it}) = \alpha_i + \beta \text{Treat}_i \times \text{Post}_t + \text{YearFE}_t + \varepsilon_{it},$$

where $\ln(\text{Price}_{it})$ is the natural log of land prices, Treat_{it} is a dummy variable for the locations in Ogura North Ward, and Post_t is a dummy variable for the subsequent period (after 2020). I measured the impact of the headquarters' removal on land prices by observing β , the difference in difference estimator. I anticipated that the nearer the spot was to the headquarters, the greater the impact. Therefore, I added the interaction term of distance from the headquarters to the model.

Table 2 presents the results. The coefficient of the variable of interest, $\text{Treat}_{it} \times \text{Post}_t$, was positively significant at the 1% level. Therefore, I inferred that the removal of the headquarters increased land prices. The coefficient of $\text{Treat}_{it} \times \text{Post}_t \times \text{Distance}_i$ was negatively significant at the 5% level, implying that the nearer the location was, the bigger the impact.

Table 2 Results

Independent Variable	<i>LnPrice_{it}</i>			<i>LnPrice_{it}</i>		
Variable	Coef.		t-value	Coef.		t-value
<i>Constant</i>	11.291	***	3360.860	11.296	***	3419.158
<i>Treat_{it} × Post_t</i>	0.197	***	3.222	0.047	***	3.001
<i>Treat_{it} × Post_t × Distance_t</i>				-0.032	**	-2.190
<i>Year Fixed Effect</i>	Included			Included		
within R2	0.309			0.338		
N	450			450		

Note: The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

4. ROBUSTNESS CHECK

In the difference-in-differences method, it is important to consider whether the treatment and control groups followed similar trends before treatment, that is, whether the parallel trends assumption holds. Figure 2 shows parallel trends by plotting the average land prices in the treatment and control groups. The results showed that the treatment and control groups had similar trajectories until 2020, confirming that the parallel trends assumption holds.

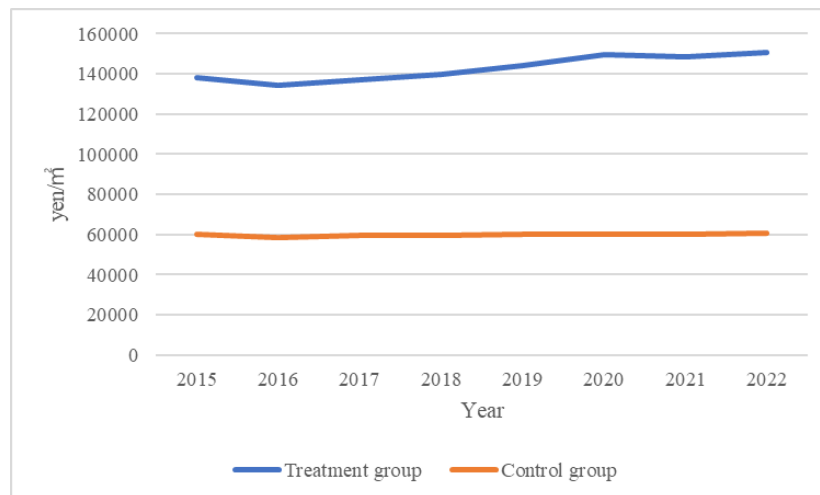


Figure 2 The average land prices in the treatment and control groups

5. CONCLUSION

This study investigates the effect of the removal of the yakuza headquarters on land prices. It finds that the removal of the headquarters increased land prices probably because people felt that the town was livable after the removal. It also finds that the closer the location was to the headquarters, the greater the impact. Overall, this study ascertains how much the yakuza has affected society. This study contributes the literature by providing a unique evidence in a Japanese characteristic situation which the yakuza overtly set up an office. Future studies should investigate this phenomenon over the long term. This phenomenon was observed only in Japan, where the criminal syndicate overtly set up its office. Therefore, this finding cannot be generalized.

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