

# The Impact of Corporate Headquarter Relocations Announcements on Firm Value in Japan ——Tokyo, Hinterlands and Covid-19——

Toru SAORI\*

## Abstract

This study identifies the effects of the corporate headquarters relocation announcements in an event study framework. This is the first paper to examine the stock market reaction on the announcement of the corporate headquarters relocation before/after the Covid-19 pandemic and the destination of the relocation in Japan. The results indicate that the sign for stock market reactions to the announcements of corporate headquarters relocations was negative and marginally statistically significant at the 10% level. The sign for the companies which announced to relocate headquarters to Tokyo is negative and statistically significant at the 5% level. The study contributes to the literature by not only being first to provide evidence that the stock market reactions to the announcements of corporate headquarters relocations in Japan, but also found out that the impact on the announcements of corporate headquarters relocations in Japan is negative while the United States is positive. Also, this paper provides the first analysis for the corporate headquarters relocation announcements effects on the Tokyo, hinterlands and the Covid-19 pandemic.

**Keywords:** Event Study, Headquarters Relocations, Covid-19, Cumulative Abnormal Returns

## 1. Introduction

This paper examines the impact of corporate headquarters relocations announcements on stock returns considering Covid-19 and the business concentration in Tokyo. This analysis allows us to identify whether corporate

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\* 南山大学大学院社会科学研究科経営学専攻博士前期課程

e-mail: m22cm003@m.nanzan-u.ac.jp

headquarters relocations announcements increase or decrease companies' value or leaves them unchanged.

Corporate managers must weigh the economies and diseconomies to decide and execute future capital expenditure plans, and according to McConnell and Muscarella (1985), if they follow the market value maximization hypothesis, then an announcement of a corporate headquarters relocations should have a positive impact on stock price. One of the objectives of this paper is to reveal the market reactions on the stock price for companies which announced to relocate their headquarters.

According to McConnell and Muscarella (1985), under the market value maximization hypothesis, if the response from the market is consistent with what the managers are expecting from the corporate headquarters relocation announcements, then the managers are likely to reveal information so that the market participants evaluate the stock price correctly. This is reasonable that the managers have more information about their headquarters relocations comparing to the information of the market.

The concentration of economic activities in urban regions has become a significant trend in Japan since the 1960s, and the agglomeration to the Tokyo metropolitan area is the most prominent. According to Fujita *et al.* (2004), the three largest metropolitan areas<sup>1</sup> experienced a high rate of net migration until 1970s. Since then, Tokyo metropolitan area almost constantly recorded positive net migration while two other metropolitan areas recorded either negative net migration or remained constant.

The business concentration in Tokyo metropolitan area is considered as one of the reasons of the Tokyo agglomeration. Mizuno (2020) argues that extreme concentration in one area causes problems such as overcrowded commuter trains, higher living expenses and rent. Mizuno (2020) also argues the positive sides on the agglomeration, and it enables firms to contact efficiently and conduct business in a much easier manner by sharing and learning knowledge because the headquarters of nearly half of the listed companies are in Tokyo. In addition, a higher population provides a larger pool of qualified workers which in turn enables corporations to find highly skilled workers that match their needs. Similarly, Marshall (1890) argues that once an industry chose a locality for itself, it is likely to stay there for a

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1 Tokyo Metropolitan area, Osaka Metropolitan area, and Nagoya Metropolitan area

long time. Marshall (1890) states this as “so great are the advantages which people following the same skilled trade get from near neighborhood to one another.”

Taking look at the arguments from local governments and chamber of commerce, they also have had a strong interest in the business concentration in Tokyo and maintaining corporate headquarters in their metropolitan area. Hirai (2006) argued that having corporate headquarters are important for regional economies because the corporate headquarters provide employment, tax income, and entrepreneurship to the local economies with spillovers to the local industry.

Despite the fact that the agglomeration to one location has received a significant amount of attention, not much research has been done on the impact of corporate headquarters relocations announcements on corporate market value as far as the author knows. The objective of this paper is to reveal the assessment of the market on the stock price for companies who announced relocating their corporate headquarters to/from Tokyo.

The sample period of this paper includes the pre-/post-Covid-19 periods which have had not only a huge impact all over the world, but also had an impact on the way of thinking by Japan business. According to the Teikoku DataBank report<sup>2</sup> (Teikoku DataBank LTD., 2023/March/15), the net loss of the number of corporate headquarters relocations from greater Tokyo reached its record high over the past 20 years. The report argues that the pandemic of the Covid-19 introduced remote work and web meetings to the workplace, and these changes forced to companies to reconsider the role of their headquarters. The report also mentioned that the relocation to the hinterlands can be set up as backup office so that the companies can hedge risks and maintain their business in case of emergency.

The companies which announced corporate headquarters relocations to the hinterlands, were praised by the media and hinterlands community. Because it was a continuing issue at the sample periods, there is little research on relocation’s impact on the value of the company. Since there were no major pandemics and relocating to the hinterlands was not so common in Japan, the praise for relocation to the hinterlands are likely to have been unobserved, resulting in very little research on the issue. This leads us to other questions: Did the COVID-19 pandemic matter in the assessment of stock prices?

The goal of this paper is to reveal the stock market’s behavior on companies

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<sup>2</sup> The data includes both unlisted companies and listed companies

who have announced relocating their headquarters. It will also explore how geographic factors impact the pricing and the timing related to the impact of the pandemic and/or relocation announcements.

The paper is organized as follows. Section 2 presents a review of the relevant literature. Section 3 introduces the hypotheses. Section 4 describes the data we use. Section 5 describes the event study methodology. Section 6 provides the result of the event study. Section 7 is implications and conclusion.

## 2. Literature Review

The literature on corporate announcement effects goes back to the seminal paper of McConnell and Muscarella (1985) that focuses on the announcement effect of future capital expenditure plans and common stock prices using event studies. They also addressed the question: Is the market response consistent with what the announcement of future capital expenditure plans suggests. They reported that industrial firms that announced increasing (decreasing) future capital expenditure had higher positive (negative) excess returns with statistical significance respectively. For public utility firms, increases/decreases in planned capital expenditure were not associated with statistically significant positive (negative) excess returns.

Among the various announcements made by corporations, I focus on the announcement effect of headquarters relocation in this paper. Alli, Ramirez and Yung (1991) examined the stock market reaction on the announcements of corporate headquarters relocations. They concluded that corporate headquarters relocations announcements were associated with a statistically significant positive stock return in an event study framework. They examined the financial and geographical factors related to wealth effects and the factors that influenced the decision to relocate corporate headquarters using a cross-sectional regression. The abnormal returns were positively related to the availability of labor, and negatively related to the cost of living in the new location and changes in employment level.

Ghosh, Rodriguez and Sirmans (1995) did empirical research on investors' perception of the relative advantages and costs of spatial agglomeration and examined the impacts on stock price returns due to headquarters relocation. They used an event study framework and a cross-sectional analysis which revealed that the stock market reacted positively with statistical significance when the corporate

headquarters relocations were associated with cost savings. In contrast, the stock market reacted negatively with statistical significance when the relocation was associated with managerial self-interest. They also observed that the relocation away from New York City offsets the losses in beneficial economies from agglomeration and higher cost savings. Following the argument of Ghosh *et al.*, (1995) I anticipate that the stock returns of companies relocating from the largest city in a country offers differential agglomeration economies (i.e. Tokyo) to other cities (i.e. Osaka) in Japan.

Yoshino and Okamoto (2018) is the first paper that examined corporate headquarters relocations in Japan. They found out that the corporate headquarters relocations did not affect corporate market value with the exception of the period from the 1950s to the 1960s when Japan experienced a high economic growth.

### 3. Hypothesis

To verify the impact of corporate headquarters relocation announcements on stock returns, I am going to test the following hypotheses.

#### 3.1 Individual Factor

##### Hypothesis 1: Impact of the Headquarters Relocation Announcements

The first hypothesis is that the companies which announced headquarters relocation have a positive impact on their stock price. McConnell and Muscarella (1985) argue that under the market value maximization hypothesis, managers should choose an investment opportunity that has positive net present value, which a project creates profit in the future. This indicates that the corporate headquarters relocation announcement will have positive impact and this result will be consistent with Alli *et al.* (1991).

##### Hypothesis 2 and 3: The Headquarters Relocation Announcements to/from Tokyo

The second hypothesis is to examine the impact of the announcements to relocate corporate headquarters to/from Tokyo. The hypothesis follows this logic: The companies which announced relocating their headquarters to/from Tokyo are expected to be negative/positive respectively and the signs will depend on the reason of relocation and/or the time point of announcements. This argument

is consistent with Ghosh *et al.* (1995). According to the report from the MRES<sup>3</sup>, the ratio of rent to tsubo<sup>4</sup> in Tokyo is about twice of the hinterlands. The report clearly explains that business in Tokyo costs more than that of the hinterlands, and this increment of costs can heavily depreciate the net present value of the corporate headquarters relocation project.

Hypothesis 4 and 5: The Headquarters Relocation Announcements made during the Pre-/Post-Covid-19

The next hypothesis to examine is the period of the corporate headquarters relocations announcement, and they are the following: companies which announced corporate headquarters relocation in the pre-/post-Covid-19 period experienced negative/positive impact on the stock price respectively. As I discussed in the introduction, the report from the Teikoku Databank (2023) argued that the net loss of the number of corporate headquarters relocation from Greater Tokyo reached a record high over the 20-year period prior to 2020. The pandemic of the Covid-19 clearly changed the role of corporate headquarters. During the post-Covid-19 period, *Nihon Keizai Shimbun* (Mar. 23, 2021) reported that the commercial land value has dropped all over Japan which enabled corporations to obtain a new office relatively cheaper than in the pre-Covid-19 period.

### 3.2 Joint Impact

I examine the joint impact on the headquarters relocations to/from Tokyo factors and the pre-/post-Covid-19 factors. The joint impact on the headquarters relocation analysis provides precise impact on the cumulative abnormal returns.

Hypothesis 6: The Headquarters Relocation Announcements to Tokyo during Pre-Covid-19

The companies which announced to relocate their headquarters to Tokyo during Pre-Covid-19 are expected to suffer a loss of their value. Alli *et al.* (1991) argued the market responds negatively on the increase of the costs. Relocating headquarters to Tokyo will increase the future cost of running a company.

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3 Mitsubishi Real Estate Services Co., Ltd, Jan/25/2023

4 1 tsubo  $\approx$  3.3 meters square

Hypothesis 7: The Headquarters Relocation Announcements from Tokyo during Pre-Covid-19

The companies which announced to relocate their headquarters from Tokyo during Pre-Covid-19 are expected have a slightly positive impact. According to Ghosh *et al.* (1995), these results indicate that any relatively higher cost savings available to firms moving out of New York City are offset by losses in beneficial economics from agglomeration. This argument can apply to our paper by replacing New York City to Tokyo.

Hypothesis 8: The Headquarters Relocation Announcements to Tokyo during Post-Covid-19

For the companies that announced to relocate their headquarters to Tokyo during Post-Covid-19 are expected be indecisive. Although land values in Tokyo decreased due to the Covid-19 pandemic, the land value is still much more expensive than in the hinterlands. However, the land value can be considered cheaper for that Tokyo brand and relocating to Tokyo can be seen as a good decision. Therefore, the impact on the market is indecisive.

Hypothesis 9: The Headquarters Relocation Announcements from Tokyo during Post-Covid-19

The impact for the companies which announced relocations of their headquarters from Tokyo during the Post-Covid-19 period are expected to be positive. It is clear that running business in the hinterlands is cheaper compared to Tokyo. Also, the pandemic introduced remote work and web meetings to the workplace, thus it became less necessary to locate corporate headquarters in Tokyo.

### 3.3 Greater Tokyo and Hinterlands

Interestingly, 10 out of the 14 firms that announced relocations<sup>5</sup> of their corporate headquarters to the Greater Tokyo area, which are the Tokyo Metropolis excluding 23 special wards, Kanagawa Prefecture, Saitama Prefecture and Chiba Prefecture. I also test hypotheses for the companies which announced relocations of their headquarters to Greater Tokyo area.

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5 6 firms announced to relocate their headquarter to the Greater Tokyo Area, which is the same for the headquarter relocation announcements from Tokyo and Pre-Covid-19.

Hypothesis 10: The Headquarters Relocation Announcements to the Greater Tokyo area

The impact for the companies which announced relocations of their headquarters to the Greater Tokyo area are expected to be positive. The costs of rent and other expenses are relatively lower than the 23 wards of Tokyo, and the Greater Tokyo area is well known for its most extensive railway network, providing easy access to central Tokyo.

Hypothesis 11: The Headquarters Relocation Announcements to the Greater Tokyo area during Post-Covid-19

The companies which announced relocations of their headquarters to the Greater Tokyo area during the post-Covid-19 period are expected to have a positive impact

Table 1 Summary of Hypothesis

Hypothesis: Form of Headquarters Relocation Announcements	Expected Coefficient	Reference
1: The Impact	Positive	McConnell and Muscarella (1985)
2: To Tokyo	Negative	Ghosh et al. (1995), Mitsubishi Real Estate Service (2023)
3: From Tokyo	Positive	Nihon Keizai Shimbun (2021), Teikoku Databank (2023)
4: The Pre-Covid-19	Negative	Alli et al. (1991)
5: The Post-Covid-19	Positive	Ghosh et al. (1995)
6: To Tokyo and Pre-Covid-19	Negative	Ghosh et al. (1995), Mitsubishi Real Estate Service (2023), Alli et al. (1991)
7: From Tokyo and Pre-Covid-19	Positive	Nihon Keizai Shimbun (2021), Teikoku Databank (2023), Alli et al. (1991)
8: To Tokyo and Post-Covid-19	Negative/ Positive	Ghosh et al. (1995), Mitsubishi Real Estate Service (2023)
9: From Tokyo and Post-Covid-19	Positive	Nihon Keizai Shimbun (2021), Teikoku Databank (2023), Ghosh et al. (1995)
10: To the Greater Tokyo area	Positive	Ghosh et al. (1995)
11: To the Greater Tokyo area during the Post-Covid-19	Positive	Ghosh et al. (1995), Nihon Keizai Shimbun (2021), Teikoku Databank (2023)
12: From Tokyo but to an Area Outside Greater Tokyo	Positive	Ghosh et al. (1995), Nihon Keizai Shimbun (2021), Teikoku Databank (2023)



on firm value. Since relocation to the Greater Tokyo area in the post-Covid-19 period still has the advantages of lower cost and its extensive railway network, I assume that the market will react positively to these headquarters relocation announcements.

Hypothesis 12: The Headquarters Relocation Announcements from Tokyo but to an Area Outside Greater Tokyo during Post-Covid-19

The companies that announced to relocate their headquarters to the outside of the Greater Tokyo area during the post-Covid-19 period are expected to have a positive impact. The relocation to the hinterlands clearly saves the running cost of a company, and the announcement to relocate corporate headquarters to the hinterlands were given significant attention from the media<sup>6</sup>.

#### 4. Data

Corporate headquarters relocation announcements provide an opportunity to examine investors' perception of the relative benefits, cost of agglomeration or deagglomeration, and the risk of Covid-19. To identify corporate headquarters relocations, I manually compiled and compared the headquarters address on the *Kaisha Shikihou (Japan Company Handbook, Toyo Keizai)* from the 2018 spring edition to the 2022 spring edition. I also used *Nikkei Telecom 21* (Nikkei Inc.) to identify the companies who announced their headquarters relocations but have not yet moved to new headquarters. I searched for such companies using key words like "headquarters", "relocation" and "office integration" in Japanese.

Because I am going to analyze and compare the geographic location of the new headquarters and the impact of the Covid-19 pandemic, I define each factor as the following. For the geographic location factor, I define "Tokyo" as the 23 special wards of Tokyo since nearly one half of the listed company headquarters in Japan are in this area.<sup>7</sup> I define the rest of Japan as "Hinterlands" to clarify the problem

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6 Pasona announced to relocate their headquarters to Awaji city, Hyogo prefecture.

7 Fujita *et al.* (2004) and Mizuno (2020) were discussed the economic phenomena of the business concentration to Tokyo metropolitan area, and they did not specify any prefecture in their analysis. From headquarters relocations announcements point of view, it is appropriate to define "Tokyo" as the 23 special wards, in fact nearly 50% of listed companies located in the Tokyo 23 special wards.

Japan is currently facing, i.e. the concentration in Tokyo. For comparison, I present the results where I set part of “Greater Tokyo” as “Hinterlands”, which consists of the Tokyo Metropolis excluding the 23 special wards, Kanagawa prefecture, Saitama prefecture and Chiba prefecture.

For the Covid-19 factor, I define “Pre-Covid-19” as the 2 fiscal years starting from April 1st, 2018 and ending on March 31st, 2020 and “Post-Covid-19” as the 2 fiscal years starting from April 1st, 2020 and ending on March 31st, 2022. I distinguish the two periods at the end of the fiscal year (March 31st) because many Japanese companies traditionally set April 1st as the start of the fiscal year. Also at the same time, April 7th, 2020, the Japanese government declared the very first state of emergency due to the pandemic of Covid-19 that coincides with the start of the Japanese fiscal year. In addition, the government ended the last pre-emergency measure on March 21st, 2022, which is less strict than the state of emergency, although still limits economical activities. Thus, I set the “Pre-Covid-19” and “Post-Covid-19” periods corresponding to the Japanese fiscal years proceeding/following April 1st, 2020 respectively.

I gathered a sample of 24 announcements of corporate headquarters relocations appearing in the *Kaisha Shikiho* and *Nihon Keizai Shimbun* from April 1st, 2018 and March 31st, 2022. Table 2 explains the relationship between the geographic factor and the Covid-19 factor. Ten out of the twenty-four companies announced their headquarters relocation to Tokyo and fourteen out of the twenty-four companies announced their headquarters relocation to the hinterlands. Twelve companies announced their headquarters relocation during both the pre-/post-Covid-19 periods. Companies that announced the relocations of their headquarters to Tokyo during the pre-Covid-19 period are six and four companies announced their headquarters relocation to Tokyo during the post-Covid-19 period. Six companies announced relocations of their headquarters to the hinterlands during the pre-Covid-19 period and eight companies announced to relocate their headquarters to the hinterlands during the post-Covid-19 period. Among the eight companies that announced relocations of their headquarters to the hinterlands during the post-Covid-19 period, four companies announced headquarters relocations to the Greater Tokyo area and the remaining four companies announced to move from the outside of the Greater Tokyo area. No companies announced to relocations of their headquarters to outside of the Greater Tokyo area during the pre-Covid-19 period, the Covid-19 pandemic undoubtedly changed the mindset of

Table 2 Geography and Covid-19 factors

	Pre-Covid19	Post-Covid19	Total
<b>To Tokyo</b>	6	4	10
<b>To Hinterland</b>	6	8	14
<b>Total</b>	12	12	24

	Pre-Covid19	Post-Covid19	Total
<b>Greater Tokyo</b>	6	4	10
<b>Outside of Greater Tokyo</b>	0	4	4
<b>Total</b>	6	8	14

Note.

“Pre-Covid-19” indicates the interval starting from April 1st, 2018 to March 31st, 2020.

“Post-Covid-19” indicates the interval starting from April 1st, 2020 to March 31st, 2022.

“To Tokyo” indicates the companies which announced to relocate their headquarters from the hinterland to Tokyo.

“To hinterland” indicates the companies which announced to relocate their headquarters from Tokyo to the hinterlands.

“To Greater Tokyo” indicates the companies which announced to relocate their headquarters from Tokyo to the Greater Tokyo.

“To Outside of Greater Tokyo” the companies which announced to relocate their headquarters from Tokyo to outside of Greater Tokyo.

corporate managers.

I need two types of data to examine whether corporate headquarters relocation announcements change the value of stocks in an event study: the daily stock prices of companies which announced their headquarters relocations and the corresponding daily market index prices.

I obtained the daily stock price for each company from the eol database for the period of 2018 to 2022 because the eol database provides the daily stock price for the past 5 years. The daily market returns and any additional data needed to fill up the estimation window were collected from Nikkei Media Marketing (NEEDS).

## 5. Methodology

The sample consists of 24 corporate headquarters relocation announcements. Among them, 14 moved from Tokyo and the remaining 10 companies moved their headquarters to Tokyo. The first step to conduct an event study is to determine an event date, which for this research, is the day the corporation or newspaper announced the headquarters relocation. I designate this date to be day

0. Although determining the first press-release of the announcement date is not quite easy, I define the announcement date to be that day stated on the corporate press-release of the home page. If I could not find the announcement date from the corporate home page, I use the date that it appears in the newspapers, such as the *Nihon Kieizai Shimbun* or local newspapers.

As illustrated in Figure 1, for each security, I use 291 daily return observations for the period around its relocation announcement date, starting from day  $-270$  and ending day  $+20$  relative to the event. The first 250 days in the period are designated as the “estimation window” and the period from day  $-20$  to day  $+20$  is designated as “event window”. I also set a smaller interval, “point of interest window”, to focus on the announcement. By setting a “point of interest window”<sup>8</sup>, I can minimize the impact of changes in the rate of return that are caused by events unrelated to the relocation announcement or related to non-public knowledge of the relocation.

In general, I will follow a similar procedure as that done by Ghosh *et al.* (1995) and Kobayashi and Bremer (2022). According to Kobayashi and Bremer (2022), a three-day event window is appropriate because over this extended period relocation announcements, the announcement will be clearly established in the public record and well-known to all market participants. Also, for comparison, I used an 11-day interval and a 2-day interval like Alli *et al.* (1991) and Ghosh *et al.* (1995).

Following the procedures described by Brown and Warner (1985), Alli *et al.* (1991) and Kobayashi and Bremer (2022), I use a standard event study approach to examine the relationship between the corporate headquarters relocation announcements and the stock return response. First, I estimate the rate of return

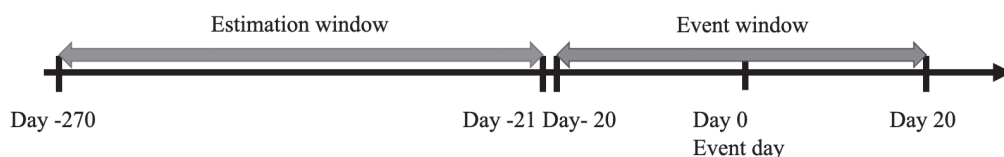


Figure 1 Timeline

Note.

The Estimation window is set to estimate the rate of returns that no announcement has done.

The Event window is set to evaluate the impact of the announcement.

The Event Day is the day that firms announced their headquarters relocation.

<sup>8</sup> I used  $(-5, +5)$ ,  $(-1, +1)$ ,  $(-1, 0)$ ,  $(0, +1)$  intervals for the “point of interest window”

for each security by using daily rate of returns in the estimation window so that I can calculate the abnormal return (AR). I will initially consider three models to estimate the expected rate of return.

### The Market Adjusted Model

The market adjusted model is the simplest way to estimate the rate of return for a security. The estimated rate of return for a security for each day in the event window will become the market portfolio return obtained from Nikkei NEEDS for the same day. The equation for the model will be,

$$\hat{R}_{i,t} = R_{m,t} \quad (t = [-20, +20])$$

where  $\hat{R}_{i,t}$  is the estimated rate of returns for security  $i$  at day  $t$  in the event window and  $R_{m,t}$  is the actual rate of return for the market portfolio at day  $t$  in the event window. The estimated expected rate of return represents the rate of return that would be anticipated if no corporate headquarters relocation announcement took place.

The next step in the analysis is to calculate AR for each security for each day in the estimation window and the event window. The ARs are the difference between the actual rate of returns and the expected rate of returns. The equations for calculating  $AR_{i,t}$  for the method is the following.

### Model

$$AR_{i,t} = R_{i,t} - \hat{R}_{i,t} = R_{i,t} - R_{m,t}$$

I am going to calculate the average ARs by taking the simple average of the number of companies that announced their headquarters relocation for each day. Because I am going to analyze the effect of the announcement from a geographic perspective and/or whether the announcement was in the pre-/post-Covid-19 period, it is reasonable to construct a portfolio or group for each factor. In general, the equation will be,

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t}$$

where  $N$  is the number of companies that constitute the portfolio.

The next step is to calculate the cumulative abnormal returns (CAR). The CAR

represents the average total effect of the event across all companies or companies in a portfolio over the specific time interval. Therefore, I can clearly see the ARs' path, and identify the effect of the announcement. The CAR is the summation of the (average) ARs for each day over the event window. The equation for the CAR will be,

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AAR_t \quad (t_1 \leq t_2)$$

where  $CAR(t_1, t_2)$  is the CAR corresponding to the event window  $(t_1, t_2)$ . Note that the CAR corresponds to the portfolio, and not to the individual security. If  $t_1 = t_2$ , then  $CAR(t_1, t_2)$  is equivalent to the  $AAR_t$ .

To examine whether the corporate headquarters relocation announcements are statistically significant or not, the Student's  $t$ -test is used. The null hypothesis  $H_0$  to be tested is whether the  $CAR(t_1, t_2)$  or abnormal return  $AAR_{i, t, model}$  is equal to zero.

$$H_0: CAR(t_1, t_2) \text{ or } AAR_{i, t, model} = 0$$

$$H_1: CAR(t_1, t_2) \text{ or } AAR_{i, t, model} \neq 0$$

If the impact of the corporate headquarters relocation announcement is value enhancing, stock prices after the release of the information will increase and be observed as significantly positive CAR. If there is no relationship between the corporate headquarters relocation announcement and stock prices, then the CAR in the event window should be equal to zero. If corporate headquarters relocation announcements decrease the value of the stock, then the CAR in the event window will be significantly negative. The test statistic is the ratio of the CAR or AR to its estimated standard error.

The standard error is estimated from the time-series of average ARs. The test statistic  $t$  for CAR and the estimated standard error  $\widehat{SE}(AAR_t)$  will be,

$$t = \frac{CAR(t_1, t_2)}{\sqrt{t_2 - t_1 + 1} \widehat{SE}(AAR_t)}$$

$$\widehat{SE}(AAR_t) = \sqrt{\frac{1}{249} \left( \sum_{t=-270}^{-21} (AAR_t - \overline{AAR_t})^2 \right)}$$

Note that the estimated standard error for each day in the event window is the

same because I am using the same estimation window for a sample drawn from independent and identically distributed ARs.  $\overline{AAR}_t$  is the simple average of the average ARs in the estimation window for which the CAR is made up from. The equation for the average abnormal return will be,

$$\overline{AAR}_t = \frac{1}{250} \sum_{i=-270}^{-21} AAR_i$$

## 6. Results

### 6.1 Individual Factor

In this section, I summarize the estimation results of the model for the six event windows. The estimations were conducted for the population, the Pre-/Post-Covid-19 samples, the to/from Tokyo relocation samples, and the relocations to the Greater Tokyo Area.

#### Impact of the Headquarters Relocation Announcements

Impact of Relocation	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0390	-0.0337	-0.0104	-0.0163	-0.0033	-0.0092
t-statistics	-0.9789	-1.6322 *	-0.9667	-1.8515 **	-0.3779	-1.4785 *
p-value	0.3469	0.1286	0.3528	0.0888	0.7121	0.1534

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

For the total sample of 24 relocation announcements, the signs for the CAR from the Day -20 to +20 are negative. The result of the significant test for the CAR from the Day -20 to +20 are insignificant. The values for the CAR from the Day -5 to +5 are negative. The result of the significant test for the CAR from Day -5 to +5 is marginally statistically significant at the 20% level. The three days interval CAR is negative and statistically insignificant. CAR for the two-day (-1, 0) interval was negative and marginally statistically significant at the 10% level. The two-day (0, +1) CAR was negative and not statistically significant. The AR at the announcement day is negative and marginally statistically significant at the 20% level.

The Headquarters Relocation Announcements to Tokyo

To Tokyo	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.1019	-0.0527	-0.0349	-0.0386	-0.0137	-0.0174
t-statistics	-1.4965 *	-1.4940 *	-1.8912 **	-2.5650 ***	-0.9103	-1.6393 *
p-value	0.1729	0.1735	0.0953	0.0334	0.3893	0.1398

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Among the 24 corporate headquarters relocation announcements, 10 companies announced to move their headquarters to Tokyo. The sign for the CAR from the Day -20 to +20 is negative and marginally statistically significant at the 20% level. The sign for the CAR from the Day -5 to +5 is negative and marginally statistical significance at the 20% level. The sign for the CAR from the Day -1 to +1 is negative and marginally statistically significant at the 10% level. The sign for the CAR from the Day -1 to 0 is negative and statistically significant at the 5% level. The sign for the CAR from the Day 0 to +1 is negative and statistically insignificant. The sign for the AR at the announcement day is negative and marginally statistically negative at the 20% level.

The Headquarters Relocation Announcements from Tokyo

From Tokyo	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	0.0059	-0.0201	0.0070	-0.0004	0.0041	-0.0033
t-statistics	0.1146	-0.7484	0.5011	-0.0323	0.3564	-0.4096
p-value	0.9107	0.4686	0.6254	0.9748	0.7277	0.6893

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Fourteen companies announced their headquarters relocation from Tokyo to the hinterlands. The sign for the CAR from the Day -20 to +20 is positive and statistically insignificant. The sign for the CAR from the Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from the Day -1 to +1 is positive and statistically insignificant. The sign for the CAR from the Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from the Day 0 to +1 is positive and statistically insignificant. The sign for the AR at the announcement day is negative and statistically insignificant.



## The Headquarters Relocation Announcements made during the Pre-Covid-19

Pre-Covid-19	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0578	-0.0436	-0.0213	-0.0282	-0.0026	-0.0095
t-statistics	-0.0939	-0.1368	-0.1278	-0.2074	-0.0194	-0.0994
p-value	0.9271	0.8939	0.9008	0.8399	0.9849	0.9228

Note.

- \* t-statistic is significant at 20% level for two-tailed test
- \*\* t-statistic is significant at 10% level for two-tailed test
- \*\*\* t-statistic is significant at 5% level for two-tailed test

For the 12 corporate headquarters relocation announcements identified as being during the Pre-Covid-19 period. The sign for the CAR from the Day -20 to +20 is negative and statistically insignificant. The sign for the CAR from the Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from the Day -1 to +1 is negative and statistically insignificant. The sign for CAR from the Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from the Day -1 to 0 is negative and statistically insignificant. The sign for the AR at the announcement day is negative and statistically insignificant.

## The Headquarters Relocation Announcements made during the Post-Covid-19

Post-Covid-19	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0203	-0.0238	0.0004	-0.0044	-0.0040	-0.0089
t-statistics	-0.3181	-0.7205	0.0248	-0.3139	-0.2851	-0.8900
p-value	0.7569	0.4877	0.9807	0.7601	0.7814	0.3944

Note.

- \* t-statistic is significant at 20% level for two-tailed test
- \*\* t-statistic is significant at 10% level for two-tailed test
- \*\*\* t-statistic is significant at 5% level for two-tailed test

12 companies that announced their corporate headquarters relocations during the Post-Covid-19 period. The sign of the CAR from Day -20 to +20 is negative and statistically insignificant. The sign of the CAR from Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is positive and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the Day 0 to +1 is negative and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

## 6.2 Joint Impact

The following section will summarize the results of the joint impacts of the two combined factors.

### The Headquarters Relocation Announcements to Tokyo during Pre-Covid-19

To Tokyo Pre-Covid	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.1268	-0.0690	-0.0477	-0.0547	-0.0132	-0.0202
t-statistics	-1.3181	-1.3842	-1.8320 *	-2.5735 **	-0.6229	-1.3474
p-value	0.2579	0.2385	0.1409	0.0617	0.5671	0.2491

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Six out of the ten companies announced their corporate headquarters relocation from the hinterlands to Tokyo during the Pre-Covid-19 period. The sign for the CAR from Day -20 to +20 is negative and statistically insignificant. The sign for the CAR from the Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is negative and marginally statistically significant at the 20% level. The sign for the CAR from the Day -1 to 0 is negative and marginally statistically significant at the 10% level. The sign for the CAR from the Day 0 to +1 is negative and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

### The Headquarters Relocation Announcements from Tokyo during Pre-Covid-19

From Tokyo Pre-Covid	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	0.0113	-0.0182	0.0051	-0.0017	0.0080	0.0011
t-statistics	0.1333	-0.4159	0.2241	-0.0895	0.4252	0.0866
p-value	0.9004	0.6989	0.8337	0.9330	0.6926	0.9351

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Six out of the fourteen companies announced relocations of their headquarters to the hinterlands during the Pre-Covid-19 Period. All these firms were announced relocations to the Greater Tokyo area. The sign for the CAR from Day -20 to +20 is positive and statistically insignificant. The sign for the CAR from Day -5 to +5

is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is positive and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from Day 0 to +1 is positive and statistically insignificant. The sign for the abnormal return at the Day 0 is positive and statistically insignificant.

#### The Headquarters Relocation Announcements from Tokyo during Post-Covid-19

To Tokyo Post-Covid	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0647	-0.0283	-0.0156	-0.0145	-0.0144	-0.0132
t-statistics	-0.6579	-0.5566	-0.5874	-0.6664	-0.6628	-0.8623
p-value	0.5782	0.6338	0.6164	0.5738	0.5756	0.4794

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Four out of the twelve companies announced their corporate headquarters relocations from the hinterlands to Tokyo during the Post-Covid-19 Period. The sign for the CAR from Day -20 to +20 is negative and statistically insignificant. The sign for the CAR from Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is negative and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from Day 0 to +1 is negative and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

#### The Headquarters Relocation Announcements to Tokyo during Post-Covid-19

From Tokyo Post-Covid	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	0.1150	0.0192	0.0184	-0.0024	0.0122	-0.0086
t-statistics	1.6877 *	0.5431	0.9969	-0.1571	0.8092	-0.8045
p-value	0.1424	0.6066	0.3573	0.8803	0.4493	0.4518

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Eight out of the fourteen companies announced relocating their corporate

headquarters from Tokyo to the hinterlands during the Post-Covid-19 period. The sign for the CAR from Day -20 to +20 is positive and marginally statistically significant at the 20% level. The sign for the CAR from Day -5 to +5 is positive and statistically insignificant. The sign for the CAR from Day -1 to +1 is positive and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from Day 0 to +1 is positive and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

### 6.3 Greater Tokyo and Hinterlands

The Headquarters Relocation Announcements to the Greater Tokyo area

Greater Tokyo	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0115	-0.0255	0.0013	-0.0011	0.0003	-0.0021
t-statistics	-0.1765	-0.7576	0.0763	-0.0733	0.0188	-0.2093
p-value	0.8643	0.4704	0.9411	0.9434	0.9855	0.8395

Note.

\* t-statistic is significant at 20% level for two-tailed test

\*\* t-statistic is significant at 10% level for two-tailed test

\*\*\* t-statistic is significant at 5% level for two-tailed test

Among the 14 companies that announced their headquarters relocation to the hinterlands, 10 companies relocated their headquarters to the Greater Tokyo area. The sign for the CAR from Day -20 to +20 is negative and statistically insignificant. The sign for the CAR from Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is positive and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from Day 0 to +1 is positive and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

## The Headquarters Relocation Announcements to the Greater Tokyo area during Post-Covid-19

Greater Tokyo Post-Covid	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	-0.0456	-0.0363	-0.0044	-0.0001	-0.0113	-0.0070
t-statistics	-0.3894	-0.5991	-0.1375	-0.0044	-0.4356	-0.3842
p-value	0.7345	0.6099	0.9032	0.9969	0.7056	0.7378

Note.

- \* t-statistic is significant at 20% level for two-tailed test
- \*\* t-statistic is significant at 10% level for two-tailed test
- \*\*\* t-statistic is significant at 5% level for two-tailed test

Among the ten companies that announced their corporate headquarters relocations to the Greater Tokyo area, four companies announced this during the Post-Covid-19 period. The sign for the CAR from Day -20 to +20 is negative and statistically insignificant. The sign for the CAR from Day -5 to +5 is negative and statistically insignificant. The sign for the CAR from Day -1 to +1 is negative and statistically insignificant. The sign for the CAR from Day -1 to 0 is negative and statistically insignificant. The sign for the CAR from Day 0 to +1 is negative and statistically insignificant. The sign for the abnormal return at the Day 0 is negative and statistically insignificant.

## The Headquarters Relocation Announcements from Tokyo but to an Area Outside Greater Tokyo during Post-Covid-19

To Outside of Great Tokyo	Day -20 to +20	Day -5 to +5	Day -1 to +1	Day -1 to 0	Day 0 to +1	Day 0
CAR, AR	0.0494	-0.0067	0.0213	0.0013	0.0136	-0.0063
t-statistics	0.7656	-0.1998	1.2168	0.0934	0.9547	-0.6254
p-value	0.5239	0.8601	0.3478	0.9341	0.4405	0.5955

Note.

- \* t-statistic is significant at 20% level for two-tailed test
- \*\* t-statistic is significant at 10% level for two-tailed test
- \*\*\* t-statistic is significant at 5% level for two-tailed test

Four out of the fourteen companies announced relocations to the non-Greater Tokyo hinterlands area. All four corporate headquarters relocation announcements occurred during the Post-Covid-19 period. Among the ten companies that announced their corporate headquarters relocations to the Greater Tokyo area, four companies announced this during the Post-Covid-19 period. The sign for the

CAR from Day  $-20$  to  $+20$  is positive and statistically insignificant. The sign for the CAR from Day  $-5$  to  $+5$  is negative and statistically insignificant. The sign for the CAR from Day  $-1$  to  $+1$  is positive and statistically insignificant. The sign for the CAR from Day  $-1$  to  $0$  is positive and statistically insignificant. The sign for the CAR from Day  $0$  to  $+1$  is positive and statistically insignificant. The sign for the abnormal return at the Day  $0$  is negative and statistically insignificant.

## 7. Implications and Conclusion

### 7.1 Implications

#### Hypothesis 1: Impact of headquarter relocations announcement

The coefficients of the CAR and the AR for all companies which announced headquarter relocation were marginally statistically significant, therefore I can reject the null hypothesis. However, the result indicates that the coefficient was negative, unlike what is expected from McConnell and Muscarella (1985), the Japanese market did not react favorably to the announcements of the corporate headquarters relocation. The market did not price as managers expected, thus I interpret that the market does not believe that the managers can follow the rule of maximizing the market value of a firm. This result is not consistent with Alli *et al.* (1991) and Chan *et al.* (1992). One possibility why the result is not consistent with the United States is that the United States' tax system differs by state to state, while the Japanese tax system is same for every prefecture. Therefore, relocating the corporate headquarter to a state with a lower corporate tax rate may have significant benefit such that the corporate can invest more in projects with positive prospects instead of paying tax, while corporates are less likely to enjoy this benefit by simply relocating their headquarters under the Japanese tax system.

#### Hypothesis 2: The Headquarters Relocation Announcements to Tokyo

The Student's t-test on the CAR and the AR for the corporate headquarters relocation announcements to Tokyo were statistically significant at the 5% level and I reject the null hypothesis. As I expected, companies announced to relocate their headquarters to Tokyo suffered a loss in their market value. I conclude that the market considers the announcements of headquarters relocation to Tokyo, which corporate managers expect to enhance corporate value, do not maximize the corporate value and discounts the future benefits, even though Tokyo provides a

huge concentration benefit comparing to any other Japanese metropolitan area.

### Hypothesis 3: The Headquarters Relocation Announcements from Tokyo

In contrast with the findings for the headquarters relocation announcements to Tokyo, none of the CAR and the AR for the corporate headquarter relocation announcement from Tokyo to the hinterland are statistically significant and I do not to reject the null hypothesis. Even though the announcements to relocate corporate headquarters from Tokyo to hinterlands slightly impact the stock price, I obtained an interesting result. For the CAR from the day  $-1$  to  $+1$  and the day  $0$  to day  $+1$ , I obtained a positive impact on the CAR as expected. The market reacted positively when companies announced relocating their corporate headquarters to the hinterlands. The lack of statistical significance can be explained by the argument from Ghosh *et al.* (1995). They concluded that the headquarter relocation from New York City offsets savings of costs and benefits that firms can enjoy from the concentration. The result is consistent with Ghosh *et al.* (1995) by replacing New York City to Tokyo.

### Hypothesis 4: The Headquarters Relocation Announcements made during the Pre-Covid-19

The result of the Student's t-test on the CAR and the AR are statistically insignificant but the sign of the coefficient is negative. Therefore, the market did not favor the corporate headquarters relocation announcement before the outbreak of the Covid-19.

### Hypothesis 5: The Headquarters Relocation Announcements made during the Post-Covid-19

The CAR and AR on the corporate headquarters relocation announcements made during the Post-Covid-19 were not statistically significant. The market reaction to the corporate headquarters relocation announcements during the Post-Covid-19 period was mixed which is inconsistent with what I expected. The result indicates that the corporate headquarters relocation announcements during the Post-Covid-19 may not be a negative decision from the market comparing to the result from the Pre-Covid-19 period.

### Hypothesis 6: The Headquarters Relocation Announcements to Tokyo during the

### Pre-Covid-19

The results from the CAR and the AR are marginally statistically significant, therefore the null hypothesis was rejected. Also, as expected, the companies which announced to relocate their headquarters to Tokyo during the Pre-Covid-19 were priced negatively by the market. The market was disappointed with the headquarters relocation announcements to move from the hinterlands to Tokyo during the Pre-Covid-19, even though Tokyo has the concentration benefit, such as firms contacting efficiently and conducting business in a much easier manner by sharing and learning knowledge.

### Hypothesis 7: The Headquarters Relocation Announcements to the Hinterlands during the Pre-Covid-19

The CAR and the AR for firms which announced headquarters relocation were statistically insignificant thus the null hypothesis cannot be rejected. I suspect that the result is statistically insignificant because the headquarters relocation project has a positive impact but the relocation from Tokyo offsets the net present value of the project by losing the advantages of the concentration. The result indicates that the headquarters relocation announcements to the hinterlands during the Pre-Covid-19 may be considered as a positive decision by the market. The new locations of companies' headquarters in the Greater Tokyo area where the companies can still receive the benefits of the Tokyo effect, hence they can save the rent costs. I conclude that the market reacted slightly positive because of the reasons above.

### Hypothesis 8: The Headquarters Relocation Announcements to Tokyo during the Post-Covid-19

The results of the Student's  $t$  test indicate that there is no statistical significance to reject the null hypothesis. The signs of the coefficients are consistent with what I expected. The result indicates that the market considers the investment opportunity is negative. However, I consider that the market slightly discounted on the corporate headquarters relocation announcements, unlike the results from the "To Tokyo Pre-Covid-19" that were statistically significant at the 10% level, where there is no statistically significant results for the "To Tokyo Post-Covid-19" announcements.



Hypothesis 9: The Headquarters Relocation Announcements to the Hinterlands and Post-Covid-19

The CAR and AR results were generally statistically insignificant. Many of the announcements made in the Post-Covid-19 Period included QoL related words, such as “remote working” and “better environment of living”. Therefore, I postulate that the market should positively price the corporate headquarters relocation announcements, not only because the words were related to the Covid-19 pandemic but also the actions the firms are going to take are expected to improve the QoL of their employees.

Hypothesis 10: The Headquarters Relocation Announcements to Greater Tokyo

The result shows that the CAR and AR on the corporate headquarters relocation announcements to Greater Tokyo is not supported. However, unlike what I expected, the market reactions to the corporate headquarters relocation announcements to Greater Tokyo were inconsistent. This group includes both Pre-/Post-Covid-19 periods whose impact may have offset each other.

Hypothesis 11: The Headquarters Relocation Announcements to Greater Tokyo during Post-Covid-19

The result of the *t*-test was statistically insignificant thus the null hypothesis is not rejected. Unlike what I anticipated in the signs of the coefficient, the market reacted negatively on the corporate headquarters relocation announcement. One of the reasons I think why the market disliked the announcement is the timing. The market may consider the headquarters relocation as inadequate, because the land value of Tokyo declined due to the Covid-19 pandemic and companies announced to relocate their headquarters to nearby areas.

Hypothesis 12: The Headquarters Relocation Announcements to the Hinterlands but to an Area Outside Greater Tokyo during Post-Covid-19

The CAR and AR for the firms which announced to relocate their headquarters to the hinterland but to an area outside Greater Tokyo are statistically insignificant, hence the hypothesis is not rejected. Unlike what I expect in the signs in the coefficient, the results were confounding for the headquarters relocation announcements. Despite the fact that the corporate headquarters relocation announcements to the hinterlands received a lot of attention by the mass media,

the market reactions were mixed.

## 7.2 Conclusion

This paper identifies the stock market reaction to announcements of corporate headquarters relocations and examines the effects using the stock returns. Although the studies in the corporate capital expenditure announcement effects are well examined in the United States, the field is not very common in Japan. The study is significant because the analysis provides the evidence that the stock market reactions to the impact of the announcements of corporate headquarters relocations in Japan are negative while the results in the United States are positive. Also, I analyze the corporate headquarters relocation announcements effects on the business concentration in Tokyo and the Covid-19 pandemic. The companies which announced to relocate headquarters to Tokyo are statistically significant and coefficients are negative. The companies which announced to relocate headquarters during the Post-Covid-19 periods were statistically insignificant and the coefficients were mostly negative unlike what we expected. The companies which announced to relocate headquarters to Tokyo during the Pre-Covid-19 periods were statistically significant and coefficients were negative. The companies which announced to relocate headquarters to hinterlands during the Post-Covid-19 periods were marginally statistically significant at the 20% level for the whole event window CAR. The main focus on this study is to discover the effects of the corporate headquarters relocation announcements on the business concentration in Tokyo and the Covid-19 pandemic. The result indicates that the market does not favor the headquarters relocation to Tokyo because the market has serious doubts on the corporate managers decision to relocate. Some advice for those who are considering to relocate headquarters, it is crucial to reveal specific information that the headquarters relocation to Tokyo will provide future gains.

However, the problem for this paper is that the sample of the headquarters relocation announcements are limited by the restrictions in the data. To gain further insight into the corporate headquarters relocation announcements, an extension in the sample period is needed, in order to discover the effects on the announcements. Also, for those who claimed to seek for efficiency by relocating headquarters to Tokyo, there is little evidence to support that the headquarters concentration does help to increase efficiency. Further research is needed to support this argument.

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