

Article

The Impact of Postponing 2020 Tokyo Olympics on the Happiness of O-MO-TE-NA-SHI Workers in Tourism: A Consequence of COVID-19

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Received: 14 August 2020; Accepted: 29 September 2020; Published: 3 October 2020



Abstract: The 2020 Tokyo Olympics have been postponed due to the novel coronavirus (COVID-19) pandemic. The implications for industries related to the Olympics—tourism, hotels and restaurants, and others—are expected to be affected by reduced demand. Japanese workers in these industries were prepared to offer their hospitality to visitors from around the world. They would be benefited not only by an increase in income but also in offering visitors a taste of Tokyo’s great hospitality if the Olympics had been held in 2020. However, postponement of the sporting event is likely to have a significant impact on their happiness level. We independently collected individual-level panel data from March to April 2020. In the survey, the respondents were asked about their happiness levels by choosing from 11 categories: 1 (very unhappy) and 11 (very happy). They were also asked about expected income changes from 2020 to 2021. Based on this, we examined the effect of postponement on happiness level and expected income change. The sample was divided into sub-samples of areas including and excluding Tokyo. We found that the happiness level of workers in the tourism and restaurant sectors declined drastically after the announcement of the postponement. Only two weeks later, their happiness level did not alter from the pre-announcement level. This tendency was strongly observed in Tokyo and the surrounding prefectures, but not in other prefectures. However, workers engaged in the tourism and restaurant sectors did not predict a decrease in their income even after the postponement. Combined, these findings indicate that loss of extending hospitality, rather than reduction in income, temporarily reduces the happiness level of workers.

Keywords: COVID-19; Tokyo Olympics 2020; sustainability; happiness; subjective well-being; OMOTENASHI; Japan

1. Introduction

In the Session of the International Olympic Committee in Buenos Aires on 8 September 2013, French-Japanese TV announcer Christel Takigawa drew significant attention to her speech by using impressive words with a dazzling smile and graceful gestures. She spelled out O-MO-TE-NA-SHI as the core attribute of Japan’s legendary hospitality. In this study, workers in the tourism and restaurant sectors are referred to as OMOTENASHI workers. OMOTENASHI is believed to have contributed to the selection of Tokyo as the host for the 2020 Olympic Games. The 2020 Tokyo Summer Olympics have been postponed due to the COVID-19 pandemic. The decision was made only four months before the Olympics were scheduled to start on 24 July 2020. The Olympic Games have never been canceled for any public health reasons in their history (Vaishya [1]). There is a possibility that the Tokyo Summer Olympics will be canceled if the COVID-19 pandemic persists in 2021. This caused a

significant economic shock on the host country because the Olympics is too commercialized to avoid a large amount of economic loss. The sustainability of the Summer Olympics is under threat. In this regard, postponement of the 2020 Tokyo Summer Olympics is related to the issue of sustainability.

The Olympics are a mega commercialized event to boost the economy with the inflow of a large number of visitors and tourists who visit the host country to enjoy the sporting event and tourist spots. The unexpected and unintended change in the schedule could have a detrimental shock on the economy in Tokyo and surrounding areas. In particular, tourism and restaurant businesses are experiencing a major setback due to the loss of a large amount of revenue. The Olympic Games have significant health and socioeconomic impacts on the population of host countries (McCartney, Thomas, Thomson, et al. [2]). Mass gathering events such as the Olympics have also been the source of infectious diseases that have spread worldwide (Memish et al. [3]; Memish, Steffen, White, et al. [4]). Specifically, the Olympic Games increase the risk of transmission of infectious diseases such as COVID-19 (McCloskey, Endericks, Catchpole, et al. [5]). Therefore, the argument that the Olympics should be postponed in order to safeguard athletes from such health consequences is convincing (Mann RH, Clift BC, Boykoff, et al. [6]). (It is required for sports medicine communities to establish uniform and safe conditions to resume sports activities and call for “maximal caution” when making decisions about when to restart sports activities (Corsini A, Bisciotti, Eirale, et al. [7])).

The impact of cancelling mega events on the future well-being of communities through economic recessions or job losses must also be considered (McCloskey, Brian., et al. [8]). Before the postponement, it was estimated that Tokyo would receive approximately 20 million visitors, to be attended by 70,000 volunteers for the games and 8000 for the city. About 11,090 Olympic athletes and 4400 Paralympic athletes were expected to participate in the games. During the games, 14 million food dishes were expected to be delivered to the participants (Gallego, Viviana., Nishiura, et al. [9]). An enormous increase in consumption was expected for the tourism and restaurant sectors. It was anticipated that the Tokyo Olympics would promote Japan’s economic growth.

Existing works show that economic factors such as per capita GDP, population size, status as communist, and status as current host are positively associated with high performance, as captured by the total medal tally (Noland Stahler [10], Bernard and Busse [11]). (The determinants of medals have also been analyzed by Johnson & Ali [12] and Lui & Suen [13]) Therefore, the Olympics is considered not only a sporting event but also an opportunity to enhance national prestige and extend the country’s influence and power overseas. In fact, the Olympic Games has had side effects on host countries. The Olympics increased host countries’ exports by 20%, and this effect persisted later (Rose and Spiegel [14]). Many research works analyzed the outcome of mega sporting events such as the Olympics and the soccer world cup in the labor market of the host countries (e.g., Miyoshi and Sasaki [15], Hagan and Maennig [16], Hagan and Maennig [17]). It has been observed that the Olympics increase employment by 17%. There are arguments that mega sporting events ultimately have only minimal economic impact (Miyoshi and Sasaki [15], Hagan and Maennig [16], Hagan and Maennig [17], Jasmand and Maennig [18], and Baade and Matheson [19]). However, when we focus on specific industries, the hospitality industry, such as restaurants and hotels, benefitted from the Olympics. The tourism industry was observed to thrive during the Olympics, whereas other industries did not benefit from the Games (Spilling [20]). (The Olympics did not bring economic benefits to the tourism industry as well as other industries (Teigland [21])) Overall, OMOTENASHI workers were, reasonably, anticipating an increase in income from the Tokyo Summer Olympics. Naturally, postponement of the Olympics has left them disappointed as they stand to lose benefits and are unhappy.

In addition to the economic impact, postponement of the Olympics was expected to have a psychological impact. Dolan et al. [22] found that the London Olympics increased the subjective well-being of London residents during the event. Unpaid volunteer workers were prepared to contribute to the Olympics. Even if there were no economic benefits, postponement of the Olympics possibly influenced the mental condition of OMOTENASHI workers to participate in the Olympics through their indirect role of introducing the Japanese culture to visitors from abroad. However,

no researchers have considered this aspect. (Postponement of the Olympics is expected to influence the mental condition of athletes who qualified to participate in the Olympics (Schinke [23])) Hence, this work examines the impact of the postponement of the 2020 Tokyo Summer Olympics on workers in the tourism and restaurant sectors in Tokyo and the surrounding areas. With respect to the analysis of COVID-19, Fetzner et al. [24] gathered data from 58 countries through internet surveys that were conducted between late March and early April 2020. They investigated how the COVID-19 pandemic influenced respondents' perceptions and mental conditions. However, they could not compare them before and after the COVID-19 pandemic because they did not construct panel data. Layard et al. [25] compared the costs and benefits of the lockdown to mitigate the spread of COVID-19 in the United Kingdom (UK). They considered not only traditional economic indices such as income and unemployment but also mental health. However, no study examined the impact of COVID-19 and the postponement of the Olympics on the well-being of workers in the host city where the event was scheduled to be held.

As a natural experiment during the COVID-19 pandemic, we independently conducted three surveys from March to April 2020 to construct individual-level panel data. The second wave was conducted directly after the announcement of the Tokyo Summer Olympic postponement. Using the data, we found that the happiness level of tourism workers and restaurants in Tokyo and surrounding areas had declined directly after the announcement of the postponement of the Games. However, their happiness level returned during the third wave to the level in the first wave. The contribution of this study is to show the negative impact of postponement on the happiness of OMOTENASHI workers, which disappeared two weeks later.

The remainder of this article is organized as follows. Section 2 presents an overview of the influence of COVID-19 in Japan. The data and methods are described in Section 3. Section 4 presents the estimated results and the interpretation. Section 5 provide a discussion. The final section provides some reflections and conclusions.

2. Overview of the Influence of COVID-19

In Figure 1, the three-quadrant curve indicates the changes in the total number of people infected with COVID-19 during the period between 10 March and 10 April 2020. Just prior to March 2020, the Japanese government requested that schools start closing in March, although it was legally unenforceable. Accordingly, various schools—primary, junior high, and high schools—were closed from 2 March, even though the number of people infected with COVID-19 was only about 250, and the pace of its increase was very slow. The 2020 Tokyo Olympics were to be held in July 2020. This schedule suffered harsh criticism from Japan and other countries. Eventually, on 24 March, it was announced by the Japanese government that the Olympics was postponed by one year.

After the announcement that the Olympics was postponed, there was a surge in the number of people infected with COVID-19. This caused the government to declare a state of emergency on 7 April. This was not legally enforceable, which was different from the “lockdown” announced in other countries such as Italy, the U.K., France, and the United States (US). However, similar to other countries (Baldwin and Mauro [26]), the request was substantially effective in closing art museums and amusement parks and cancelling various professional sports events such as baseball and football games. To reduce the spread of COVID-19, people were requested to maintain social distance and stay at home. Therefore, people avoided person-to-person contact and crowded gatherings in closed indoor spaces.

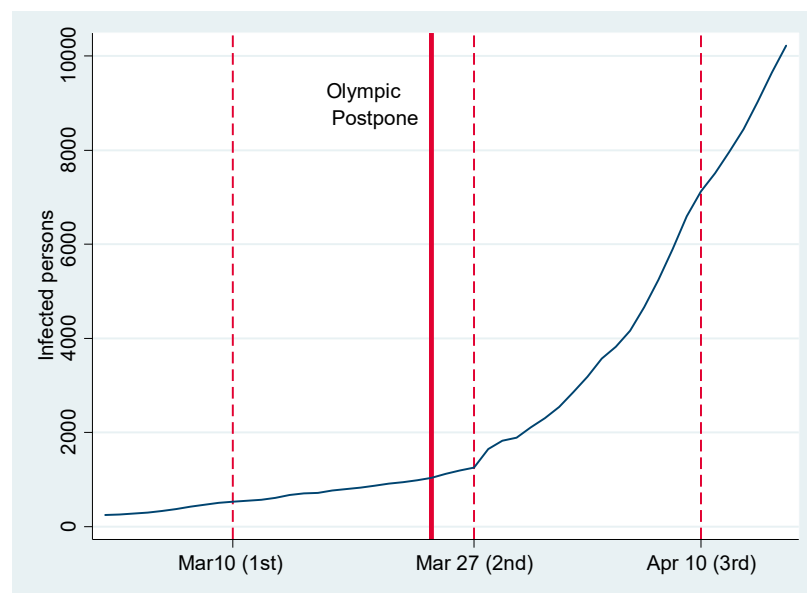


Figure 1. Timing of surveys and postponement of Olympic Games. Note: The curved line indicates the cumulative total number of infected persons. The thick solid line indicates the date of the announcement that the Olympics was postponed. The dashed lines indicate the time points of Waves 1 (10 March), 2 (27 March) and 3 (10 April).

3. Data and Methods

3.1. Survey Design

Before the spread of the COVID-19 pandemic in Japan, we anticipated that the infectious disease would diffuse throughout Japan. COVID-19 was considered an exogenous shock. Therefore, the setting was thought to be a natural experiment. Therefore, internet surveys were planned to pursue identical individuals to explore how COVID-19 influences their happiness and expectations about income in the following year. INTAGE, a research company, had ample experience in academic research and was reliable for conducting the surveys. Hence, we commissioned INTAGE to conduct the surveys. The sampling method was designed to collect a representative sample of the Japanese population considering residential areas, age, educational background, gender and job status. Our survey selected a Japanese population aged 16–79 years across the entire country. Every two weeks, we conducted surveys in March and April. Figure 1 demonstrates the timing of the surveys. We conducted the first wave between 13–16 March and collected 4359 observations. The response rate was 54.7%. On 24 March, even though the total number of infected people increased modestly, it was announced that the 2020 Tokyo Olympics were postponed. Directly after the announcement, the second wave was conducted between 27–30 March. In response to the rapid spread of the COVID-19 pandemic in Japan, the Japanese government declared a state of emergency on 7 April, which led the Japanese people to significantly change their daily life routine (Yamamura and Tsutsui [27]). The third wave was conducted between 10–13 April. The response rates were 54.7% (first wave), 80.2% (second wave) and 92.2% (third wave). Panel data that combined waves 1–3 were used in regression estimations. Therefore, the sample size used in estimations became larger than the sample in the first wave. Hence, even though we use unbalanced panel data, most of the individuals included in the first wave also appeared in the second and third waves. The number of identical respondents is reported as “groups” in Tables 1–6.

3.2. Data

This study examines how the postponement of the Olympics influenced the happiness level of residents in Japan, especially “OMOTENASHI” workers engaged in the tourism and restaurant sectors.

Furthermore, the impact of the postponement of the Olympics is believed to differ according to the respondents' expected probability of holding the Olympics in the summer of 2020. The gap between expectations and the real situation was wider as the expected probability increased. As derived from prospect theory (Kahneman and Tversky [28]), respondents with higher expectations would become unhappier. In the first wave of the survey, we asked respondents about the probability of holding the Olympics as previously scheduled. Figure 2 illustrates the distribution. Clearly, responses were concentrated at 50%. Therefore, respondents with a neutral view were the largest group. The distribution was not skewed. That is, the number of respondents with an expected probability higher than 50% is almost equivalent to those with a probability lower than 50%.

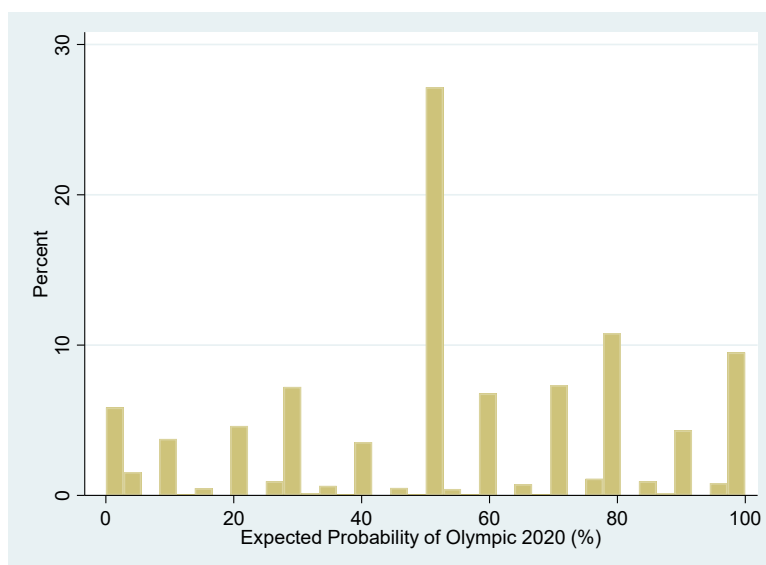
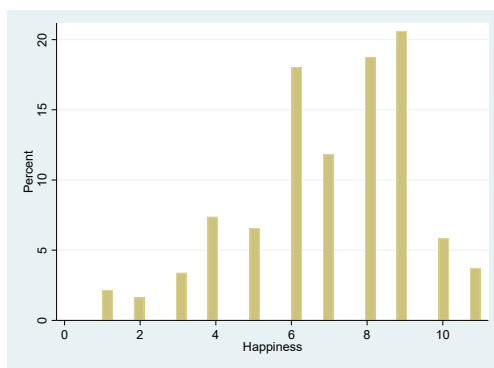


Figure 2. Distribution of expected probability that the Tokyo Olympics will be held in summer 2020.
Note: Entire sample of the first wave is used. The vertical axis shows the percentage of each group.

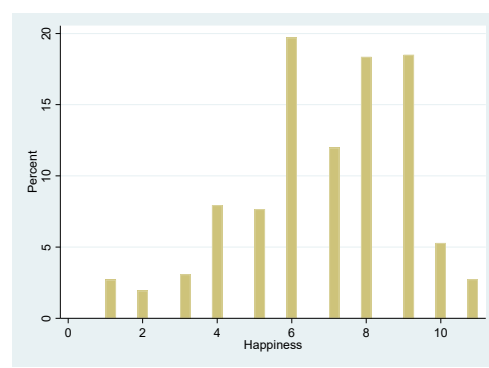
Based on this information, we divided the sample into high and low expected probability of holding the Olympics as scheduled. In this paper, the high expected group is defined to include respondents with an expected probability being equal to or greater than 60%. The low expected group is defined to include respondents with an expected probability being equal to or below 40%. We will use the sub-sample of the high and low expected groups when regression estimations were conducted.

In waves 1–3, the respondents were asked about their happiness levels by choosing from 11 categories: 1 (very unhappy) and 11 (very happy). Figure 3 illustrates the distribution of the happiness level using a sample consisting of waves 1–3. The distribution was skewed toward the right. Even during the COVID-19 pandemic, respondents who experienced happiness higher than 5 were remarkably larger than those who felt happiness lower than 5.

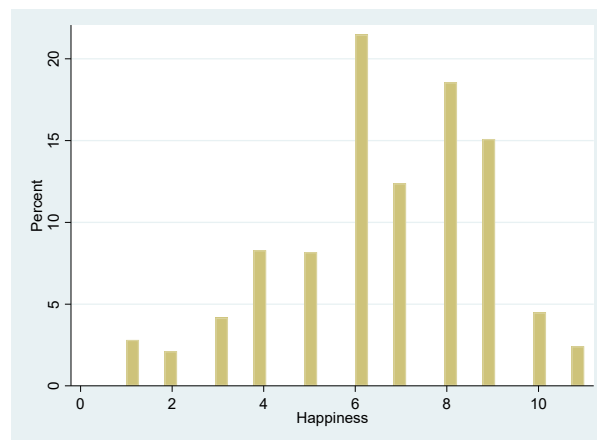
In waves 1–3, the respondents were asked about their expectations regarding the change in their household income from 2020 to 2021. There were six choices: (1) increase by 4% or more, (2) increase by 1–3.99%, (3) 0%, (4) decrease by 1–3.99%, (5) decrease by 4–9.9%, and (6) decrease by 10% or more. We converted each choice into its mid-point (1) 6%, (2) 2%, (3) 0%, (4) −2%, (5) −8%, (6) −15% or more. Figure 4 illustrates the distribution. The majority expected that their household income will remain the same or reduce. This may reflect the negative impact of the COVID-19 pandemic on economic activities.



(1) Wave 1

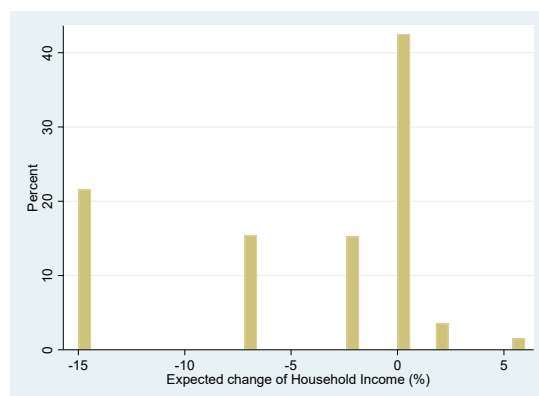


(2) Wave 2

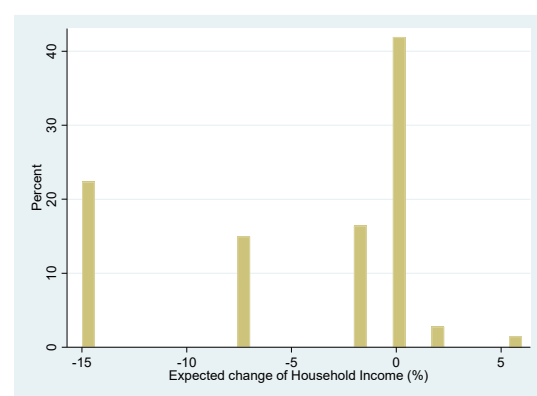


(3) Wave 3

Figure 3. Distribution of happiness levels. Note: The vertical axis shows the percentage of each group. (1), (2), and (3) illustrate the distribution using the sample of Wave 1, Wave 2, and Wave 3, respectively.

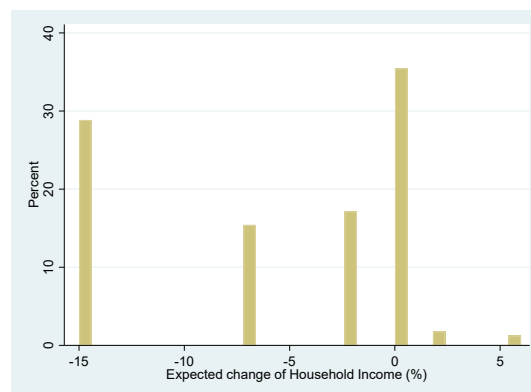


(1) Wave 1



(2) Wave 2

Figure 4. Cont.



(3) Wave 3

Figure 4. Distribution of expected change in household income from 2020 to 2021. Note: 0 indicates that household income would remain the same between 2020 and 2021. The vertical axis shows the percentage of each group. (1), (2), and (3) are illustrate the distribution using the sample of Wave 1, Wave 2, and Wave 3, respectively.

Figure 5 illustrates the change in happiness level from wave 1 to wave 3. It is clearly observed that the happiness level decreased from wave 1 to wave 3. This is considered to reflect the spread of COVID-19. COVID-19 is thought to influence happiness through various channels: (1) recession caused by COVID-19, (2) increased probability of death by infection, and (3) deteriorated mental health and depression due to an unexperienced and unintended lifestyle.

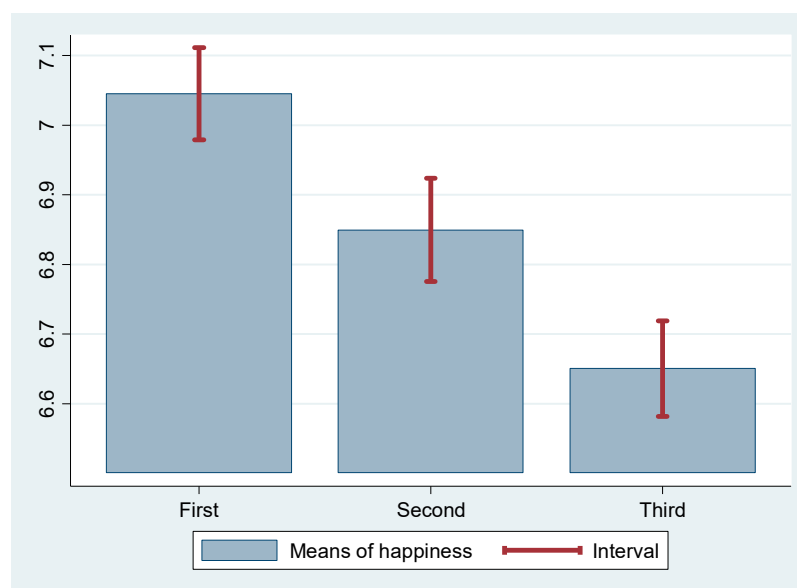


Figure 5. Mean values of Happiness in each period. Note: Error bar represents 95% confidence intervals. Value of Happiness ranges from 1 (very unhappy) to 11 (very happy). We use a combined sample of waves 1–3.

In Figure 6, the mean value of the expected change in household income is illustrated in each wave. In all the waves, the value is below 0, indicating that, on average, the respondents expect their household income to decrease from 2020 to 2021. However, there was no difference between wave 1 and wave 2. This shows that economic activities did not suffer significant damage, even though the 2020 Tokyo Olympics was postponed. From wave 2 to wave 3, expected change in income declined,

showing the significant difference between the two waves, implying that the state of emergency has a direct and significant impact on economic activities.

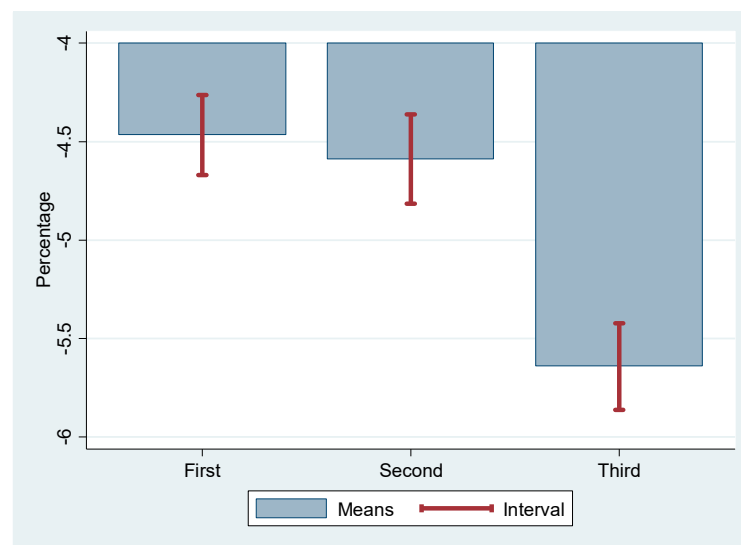


Figure 6. Expected change in income during each period. **Note:** Error bar represents 95% confidence intervals. Vertical axis indicates the mean values of expected change in income. We use sample of waves 1–3 combined.

3.3. Method

We used the regression method to ascertain the determinants of happiness level. The estimated function takes the following form, and the fixed effects model was used for the estimation:

$$\begin{aligned} \text{Happiness}_{it} \text{ (or expected income change)}_{it} = & \alpha_0 + \alpha_1 \text{ Wave2 dummy}_t \times \text{Tourism}_i + \alpha_2 \\ & \text{Wave3 dummy}_t \times \text{Tourism}_i + \alpha_3 \text{ Wave2 dummy}_t + \alpha_4 \text{ Wave3 dummy}_t + \alpha_5 \text{ Infected} \\ & \text{persons}_{it} + k_i + u_{it}, \end{aligned}$$

where Happiness_{it} represents the dependent variable in individual i and period t . With these specifications, we examine the impact of the postponement of the Olympics on happiness level. The coefficient of each variable is represented by “ α ”. $\text{Expected income change}_{it}$ is the dependent variable when we examine the impact of the postponement of the Olympics on expected income change. Time-invariant individual-specific fixed effects are represented by k_i , which capture unmeasured variables including age, educational background, income level, and gender. The regression parameters are denoted as α . The error term is denoted as u .

The *Wave 2 dummy* and *Wave 3 dummy* are included to capture the impact of the spread of the COVID-19 pandemic because economic and social conditions drastically changed during the study period, as illustrated in Figure 1. *Wave 2* takes the value of 1 if observations are collected directly after announcement of postponement of the Olympics, otherwise 0. *Wave 3* takes the value of 1 if observations are collected directly after announcement of postponement of the Olympics, otherwise 0. More specifically, the *Wave 2 dummy* captured the effect of the postponement of the Olympics, while *Wave 3 dummy* captured the effect of the state of emergency. The reference group was the first wave (wave 1). The coefficient of *Wave 2 dummy* shows how the happiness level in wave 2 is different from that in wave 1. Similarly, the coefficient of *Wave 3 dummy* shows how the happiness level in wave 3 is different from that in wave 1. Also, respondents who encountered the huge risk of being infected by COVID-19 were predicted to be unhappy. In order to control for that, the total number of infected persons in prefectures where individuals i resided in wave t , (*Infected persons* _{it}), was included.

Tourism was a dummy variable that had 1 if respondents worked in either the tourism or restaurant sectors, and otherwise 0. In order to consider the difference in the impact of the postponement of the Olympics between O-MO-TE-NA-SHI workers and other ones because tourism and restaurants are thought to greatly depend on the demand from visitors from other countries during the Olympic Games, the cross terms between wave dummies and *Tourism* ($Wave\ dummy_t \times Tourism$) were included. Workers in the tourism and restaurant sectors suffered greater damage due to the postponement than others. Naturally, the coefficient of $Wave\ 2\ dummy \times Tourism$ was expected to have a negative sign when *happiness* was a dependent variable. In order to investigate whether the impact of the postponement was caused by income loss, we checked $Wave\ 2\ dummy \times Tourism$ when *expected income change* was a dependent variable. The postponement had an impact on happiness through the channel of loss of income if the sign of $Wave\ 2\ dummy \times Tourism$ is a negative sign.

4. Results

In Tables 1–6, we report the estimates obtained from the fixed effects estimation. Tables 1–3 report results when happiness level is the dependent variable. Tables 4–6 report the results when expected income change is the dependent variable. Tables 1 and 4 indicate the results using a sub-sample throughout Japan. The impact of postponement of the Olympics is thought to be larger in Tokyo and its surrounding areas than other areas because tourists are more likely to stay in these areas during the Olympics. Therefore, we divided the sample into sub-samples including and excluding Tokyo. Tables 2 and 5 indicate the results using a sub-sample covering Tokyo and its surrounding three prefectures (Kanagawa, Chiba, and Saitama prefectures). Tables 3 and 6 indicate the results using a sub-sample excluding Tokyo and its surrounding three prefectures. Each table reports results based on a sub-sample according to the extent to which respondents subjectively expected the probability of holding the Olympics as scheduled. The group with a high expected probability was equal to or greater than 80% and 60% in columns (1) and (2), respectively. The probabilities were equal to or below 40% and 20% in columns (3) and (4), respectively.

Table 1. Estimation results of the baseline model (dependent variable is “Happiness”): Sample: All regions of Japan.

	High Expected Probability of Holding 2020 Tokyo Olympics		Low Expected Probability of Holding 2020 Tokyo Olympics	
	(1)	(2)	(3)	(4)
	Prob ≥ 80	Prob ≥ 60	Prob ≤ 40	Prob ≤ 20
<i>Wave 2</i>	−0.89 **	−0.74 **	0.35	0.28
$\times Tourism$	(0.39)	(0.30)	(0.24)	(0.33)
<i>Wave 3 dummy</i>	−0.56	−0.32	0.52 *	0.54
$\times Tourism$	(0.47)	(0.36)	(0.30)	(0.47)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2</i>	−0.10 **	−0.14 ***	−0.16 **	−0.11 **
	(0.05)	(0.04)	(0.04)	(0.06)
<i>Wave 3 dummy</i>	−0.20 ***	−0.28 ***	−0.40 ***	−0.37 ***
	(0.06)	(0.05)	(0.05)	(0.07)
<i>Infected persons</i>	−0.20	−0.14	−0.27 ***	−0.22
	(0.20)	(0.10)	(0.10)	(0.15)
Groups	1154	1863	1264	715
Within R-squared	0.02	0.02	0.06	0.05
Observations	3159	5093	3412	1937

Note: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of infected persons was multiplied by 1000. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

We begin by discussing Table 1. Signs of *Wave 2 dummy* and *Wave 3 dummy* were negative and statistically significant at the 1% level in all the columns. In addition, the absolute values of the coefficient of *Wave 3 dummy* were larger than those of *Wave 2 dummy* in all the columns. This indicates that the happiness levels declined as COVID-19 spread, which is consistent with Figure 4. This tendency was observed regardless of the individual's expectation of holding the Olympics in 2020. Turning to the key variable, the coefficients for *Wave 2 dummy* $\times$ *Tourism* showed a negative sign and were statistically significant in columns (1) and (2). Meanwhile, it showed a positive sign despite being statistically insignificant in columns (3) and (4). OMOTENASHI workers with high expectations were more disappointed by the postponement than other people. However, this tendency was not observed for those with low expectations. *Wave 3 dummy* $\times$ *Tourism* did not show statistical significance. In our interpretation, the impact of postponement on OMOTENASHI workers did not persist for only two weeks.

Table 2. Estimation results of the baseline model (dependent variable is “Happiness”). Sample: Tokyo and its surrounding prefectures.

	High Expected Probability of 2020 Tokyo Olympics		Low Expected Probability of 2020 Tokyo Olympics	
	(1)	(2)	(3)	(4)
	Prob $\geq$ 80	Prob $\geq$ 60	Prob $\leq$ 40	Prob $\leq$ 20
<i>Wave 2 dummy</i>	−1.94 ***	−1.58 ***	0.47	0.28
$\times$ <i>Tourism</i>	(0.71)	(0.53)	(0.31)	(0.46)
<i>Wave 3 dummy</i>	−1.19	−0.89	0.12	0.03
$\times$ <i>Tourism</i>	(0.86)	(0.59)	(0.40)	(0.53)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2 dummy</i>	−0.05	−0.12	−0.27 ***	−0.15
	(0.10)	(0.08)	(0.08)	(0.10)
<i>Wave 3 dummy</i>	−0.06	−0.11	−0.38 ***	−0.39 **
	(0.15)	(0.11)	(0.14)	(0.15)
<i>Infected persons</i>	−0.30	−0.27 *	−0.32 **	−0.18
	(0.21)	(0.15)	(0.16)	(0.19)
Groups	327	553	391	201
Within R-squared	0.03	0.03	0.09	0.08
Observations	900	1511	1057	543

Notes: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of *Infected persons* was multiplied by 1000. The sample consists of residents in Tokyo, Kanagawa, Chiba, and Saitama prefectures. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

We see from Table 2 that *Wave 2 dummy* $\times$ *Tourism* yielded a negative sign and was statistically significant at the 1% level in columns (1) and (2). The absolute values of the coefficients were 1.94 and 1.58 in columns (1) and (2), respectively, approximately two times larger than those in Table 1. We interpret this as implying that the happiness levels of OMOTENASHI workers were 1.95 points lower on the 11 point scale than others when the sample was limited to residents in Tokyo and surrounding prefectures with an expectation of 80% or more that the Olympics would be held in 2020. In the case of respondents with expectation of 60% or more, the happiness levels of OMOTENASHI workers were 1.58 points lower on the 11 point scale. Meanwhile, the statistical significance of *Wave 2 dummy* $\times$ *Tourism* disappeared in columns (3) and (4). From this, we argue that the negative impact of the postponement of the 2020 Olympics became smaller as the expected probability declined. Similar to the results of Table 1, *Wave 3 dummy* $\times$ *Tourism* was not statistically significant in any column. That is,

the announcement of the postponement of the Olympics had a sizable negative impact on the happiness level of OMOTENASHI workers in Tokyo and surrounding areas if they had a high expectation of the 2020 Olympics being held. However, the gap in the happiness level between OMOTENASHI workers and others disappeared after two weeks, suggesting that the negative impact was temporary. (Impact of various variables on the happiness level did not persist in the long term (Tsutsui & Ohtake [29]), Kinari et al. [30])).

In Table 3, neither *Wave 2 dummy* $\times$ *Tourism* indicated statistical significance in any columns. The postponement of Olympic Games did not cause a difference in the happiness level of workers in tourism and other sectors. In our interpretation, apart from Tokyo and surrounding areas, workers in the tourism and restaurant sectors did not expect the Tokyo Olympics to increase demand for their services and their revenue. Therefore, they did not consider the Tokyo Olympics in relation to their business even though they worked in the tourism and restaurant sectors.

Table 3. Estimation results of the baseline model (dependent variable is “Happiness”). Sample: excluding Tokyo and its surrounding prefectures.

	High Expected Probability of 2020 Tokyo Olympics		Low Expected Probability of 2020 Tokyo Olympics	
	(1)	(2)	(3)	(4)
	Prob $\geq$ 80	Prob $\geq$ 60	Prob $\leq$ 40	Prob $\leq$ 20
<i>Wave 2 dummy</i>	−0.34	−0.22	0.28	0.30
$\times$ <i>Tourism</i>	(0.39)	(0.29)	(0.33)	(0.43)
<i>Wave 3 dummy</i>	−0.26	−0.03	0.85 **	1.10
$\times$ <i>Tourism</i>	(0.55)	(0.44)	(0.42)	(0.75)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2 dummy</i>	−0.12 **	−0.14 ***	−0.12 **	−0.10
	(0.06)	(0.05)	(0.05)	(0.07)
<i>Wave 3 dummy</i>	−0.22 ***	−0.29 ***	−0.42 ***	−0.37 ***
	(0.07)	(0.06)	(0.07)	(0.08)
<i>Infected persons</i>	−0.37	−0.40	−0.03	−0.24
	(0.40)	(0.33)	(0.04)	(0.52)
Groups	827	1311	873	514
Within R-squared	0.02	0.03	0.05	0.05
Observations	2259	3582	2355	1394

Notes: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of *Infected persons* was multiplied by 1000. The sample does not include residents in Tokyo, Kanagawa, Chiba, and Saitama prefectures. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

Now, we shift attention to the estimation results for the expected income change from 2020 to 2021. In Table 4, except for *Wave 2 dummy* in column (4), *Wave 2 dummy* and *Wave 3 dummy* showed negative signs. *Wave 3 dummy* is statistically significant at the 1% level in all columns, which is consistent with Figure 5. We interpret from this that people changed their expectations about income not because of the postponement of the Olympics but due to the state of emergency. They believed that the postponement of Olympics hardly had an impact on income generation. People considered that if the impact of the state of emergency persists, it could reduce income growth from 2020 to 2021. *Wave 2 dummy* $\times$ *Tourism* and *Wave 3 dummy* $\times$ *Tourism* did not present statistical significance in any of the columns. Similar to Table 4, these cross terms did not show statistical significance in most of the results.

Table 4. Estimation results of the baseline model (dependent variable is “Expected income change from 2020 to 2021”): Sample: all regions of Japan.

	High Expected Probability of 2020 Tokyo Olympics		Low Expected Probability of Tokyo 2020 Olympics	
	(1)	(2)	(3)	(4)
	Prob ≥ 80	Prob ≥ 60	Prob ≤ 40	Prob ≤ 20
<i>Wave 2 dummy</i>	0.20	0.37	0.15	0.09
<i>×Tourism</i>	(1.05)	(0.83)	(0.24)	(0.75)
<i>Wave 3 dummy</i>	−1.82	−1.14	−1.05	−1.03
<i>×Tourism</i>	(1.56)	(1.42)	(1.10)	(1.53)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2 dummy</i>	−0.29	−0.32 *	−0.06	0.12
	(0.24)	(0.17)	(0.19)	(0.25)
<i>Wave 3 dummy</i>	−1.13 ***	−0.94 ***	−0.90 ***	−0.85 ***
	(0.26)	(0.20)	(0.23)	(0.30)
<i>Infected persons</i>	0.46	−0.01	−0.66	−0.67
	(0.57)	(0.40)	(0.43)	(0.57)
Groups	1091	1745	1164	653
Within R-squared	0.02	0.01	0.03	0.03
Observations	2642	4229	2783	1565

Notes: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of *Infected persons* was multiplied by 1000. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

Table 5. Estimation results of the baseline model (dependent variable is “Expected income change from 2020 to 2021”): Sample: Tokyo and its surrounding prefectures.

	High Expected Probability of 2020 Tokyo Olympics		Low Expected Probability of Tokyo 2020 Olympics	
	(1)	(2)	(3)	(4)
	Prob ≥ 80	Prob ≥ 60	Prob ≤ 40	Prob ≤ 20
<i>Wave 2 dummy</i>	2.04 *	1.34	−0.35	0.41
<i>×Tourism</i>	(1.18)	(1.06)	(0.79)	(0.62)
<i>Wave 3 dummy</i>	0.41	−1.01	0.05	0.60
<i>×Tourism</i>	(2.49)	(2.17)	(0.80)	(0.93)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2 dummy</i>	−0.35	−0.66 *	0.12	0.20
	(0.51)	(0.37)	(0.35)	(0.47)
<i>Wave 3 dummy</i>	−1.35 *	−1.08 **	−0.56	−0.76
	(0.75)	(0.54)	(0.63)	(0.80)
<i>Infected persons</i>	0.69	0.03	−0.93	−0.85
	(0.86)	(0.60)	(0.67)	(0.86)
Groups	309	514	366	188
Within R-squared	0.01	0.01	0.03	0.05
Observations	754	1250	876	448

Notes: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of *Infected persons* was multiplied by 1000. The sample consists of residents in Tokyo, Kanagawa, Chiba, and Saitama prefectures. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

Table 6. Estimation results of the baseline model (dependent variable is “Expected income change from 2020 to 2021”): Sample: excluding Tokyo and its surrounding prefectures.

	High Expected Probability of 2020 Tokyo Olympics		Low Expected Probability of Tokyo 2020 Olympics	
	(1)	(2)	(3)	(4)
	Prob ≥ 80	Prob ≥ 60	Prob ≤ 40	Prob ≤ 20
<i>Wave 2 dummy</i>	−1.14	−0.29	0.58	−0.07
<i>×Tourism</i>	(1.55)	(1.23)	(1.24)	(1.18)
<i>Wave 3 dummy</i>	−3.40 *	−1.22	−1.95	−2.23
<i>×Tourism</i>	(1.84)	(1.88)	(1.81)	(2.53)
<i>Wave 1</i>	Reference		Reference	
<i>Wave 2 dummy</i>	−0.26	−0.18	−0.12	0.09
	(0.26)	(0.20)	(0.24)	(0.30)
<i>Wave 3 dummy</i>	−0.98 ***	−0.87 ***	−0.89 ***	−0.89 **
	(0.32)	(0.25)	(0.29)	(0.38)
<i>Infected persons</i>	−0.58	−0.19	−1.45	−0.28
	(1.85)	(0.14)	(1.42)	(1.76)
Groups	782	1231	798	465
Within R-squared	0.02	0.01	0.03	0.03
Observations	1888	2979	1907	1117

Notes: Numbers within parentheses are robust standard errors, clustered by individuals. For convenience of interpretation, the coefficient of *Infected persons* was multiplied by 1000. The sample does not include residents in Tokyo, Kanagawa, Chiba, and Saitama prefectures. *** $p < 0.01$, ** $p < 0.05$, * and $p < 0.1$.

Considering Tables 1–6 jointly leads us to argue that the postponement of the 2020 Tokyo Olympics reduced the happiness level of OMOTENASHI workers in Tokyo and surrounding areas, even though the postponement did not change expectations about their income. (We obtained results similar to those in Tables 2 and 5 by dividing the sample of Tokyo and surrounding prefectures into two separate samples: Tokyo and prefectures. The results are available upon request from the corresponding author.) That is, OMOTENASHI workers felt unhappy not due to loss of their expected income, but due to other psychological reasons.

5. Discussion

In comparison with expectations prior to the COVID-19 spread, the number of tourists and visitors to Tokyo and surrounding areas will decline drastically, which could lead to a reduction in revenue for the tourism and restaurant sectors in Tokyo and surrounding areas. According to prospect theory, people consider lower outcomes as losses and greater ones as gains (Kahneman and Tversky [28]). However, they became directly unhappy only after the announcement of the postponement. Economic damage following the postponement due to loss of expected revenue in 2020 did not change within a few weeks. According to our estimated results, OMOTENASHI workers did not consider the impact serious, at least during March–April, 2020. Overall, OMOTENASHI workers were disappointed because they could not contribute to the Olympics through O-MO-TE-NA-SHI hospitality.

Apart from revenues and economic benefits, OMOTENASHI workers feel happy to provide their hospitality to tourists during the 2020 Tokyo Olympics. In this regard, the values of the Olympics should be reconsidered. It is widely acknowledged that the modern Olympics has been commercialized to stimulate host countries to pursue economic benefits. However, the gigantic shock of the COVID-19 pandemic is postponement of the 2020 Tokyo Olympics, as the Games were expected to generate large

economic benefits. Moreover, the motivation to host the Olympics would be reduced among countries if unexpected and unintended shocks such as the COVID-19 pandemic are considered. As prospect theory states, people are likely to give more importance to losses than to pursue gains (Kahneman and Tversky [28]). In the future, it seems plausible that no city will be a candidate to host the Olympics. Inevitably, a critical problem arises: are the modern Olympics sustainable? A possible approach to sustain the Olympics is to make it more compact and less commercialized. That is, it is time to return to the philosophy of the Olympics and give more importance to sporting amateurism in the new world after the COVID-19 pandemic.

Postponement of mega sporting events such as the Olympics is expected to fundamentally change the way the sports industry operates in the future. We must examine the impact of these changes from a socio-cultural, economic and political perspective (Parnell et al. [31]). Dolan et al. [22] provided evidence of an aggregate willingness-to-pay (WTP) for hosting the Olympics below the actual costs of hosting the games, although the Olympics increase the subjective well-being of residents in the hosting cities. Human history shows that devastating pandemics play a critical role in the revival of human society. The bubonic plague (Black Death) was the deadliest pandemic that ravaged Europe and led to the economic recession in the Middle Ages. The Black Death was the reason the Middle Ages came to an end. The Black Death caused social evolution, giving rise to the Renaissance. In the 21st century, detaching from the philosophy of the Olympic Games, the modern Olympics has been immoderately commercialized and politicized. We regard the COVID-19 shock as a catalyst that will lead the Olympic Games to return to its original philosophy. If so, the Olympics would be sustainable despite the COVID-19 pandemic.

6. Conclusions

The COVID-19 pandemic had an unprecedented impact on various sporting events. Above all, postponement of the 2020 Tokyo Olympics was unexpected. The Olympic Games are mega-events, which are expected to promote economic growth and increase the presence of countries in the globalized world. In 2020, the number of tourists and visitors to Japan was expected to increase, especially Tokyo and the surrounding prefectures. Workers engaged in the OMOTENASHI industry lost the expected increase in income and the opportunities to extend hospitality to tourists enjoying the Olympics. Naturally, these workers were expected to be disappointed.

We conducted three internet-surveys in 13 March (before the announcement of postponement), 27 March (after the announcement postponement) and 10 April (after the state of emergency was declared). In these surveys, we pursued identical individuals to investigate how the postponement of the 2020 Tokyo Olympics influenced the happiness level of workers in the OMOTENASHI industries. The major findings were: OMOTENASHI workers' happiness levels declined abnormally after the announcement of the postponement decision. Two weeks later, under the state of emergency, their happiness returned to the level before the announcement of postponement. Meanwhile, OMOTENASHI workers did not predict a decrease in their income immediately after the postponement. From these findings, we argue that postponement of the 2020 Tokyo Olympics lowered the happiness level because of the loss of hospitality rather than loss of income. However, most of the workers recovered from the loss of the Tokyo Olympics within two weeks, although the economic recession worsened.

Author Contributions: E.Y. made substantial contribution to conception, analysis, interpretation of data, and writing of the article. Y.T. is the project leader responsible for the surveys and obtained the research fund. He also revised the first draft of the paper. All authors have read and agreed to the published version of the manuscript. This research was funded by [Japan Society for the Promotion of Science] grant number [18KK0048].

Funding: This research was funded by Japan Society for the Promotion of Science: 18KK0048.

Acknowledgments: This study was supported by Fostering Joint International Research B (Grant No.18KK0048) from the Japan Society for the Promotion of Science.

Conflicts of Interest: The authors declare that there is no conflict of interest.

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