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Pandemic Shock and Services in Japan: Exploring the Reasons for Changes in Regional Tourism Demand

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Abstract: *Tourism was one of the sectors most damaged by COVID-19. The number of inbound tourists plummeted, and domestic travellers were forced to refrain from traveling for long periods due to the number of infections. This paper analyses the impact of policies (e.g. the ‘Go To Travel’ campaign) on tourism demand and the number of infected people on changes to business conditions at small and medium-sized lodging facilities by prefecture. We found that tourism policies increased demand for popular tourist destinations, but infections subsequently expanded, lowering business confidence. In addition, when the number of infected people was high at the time of the policy, as is the case in Okinawa and Hokkaido, business confidence did not recover. It was also found that inbound tourists stayed in all parts of Japan before the pandemic, but they were concentrated in large cities with airports during the pandemic.*

Keywords: business sentiment, SMEs, tourism demand, COVID-19

JEL classification: L84, R11, Z31, Z38

1. Introduction

In Japan, there are very few statistical surveys on small and medium-sized enterprises (SMEs), thus making it difficult to understand the business conditions of local supporting industries. Most of the service industries are small local businesses, thus, it is difficult to analyse the services sector. Although analyses of the impact of the novel coronavirus disease (COVID-19) on the macroeconomy and large enterprises have been conducted, there has been little analysis about the impact of COVID-19 on the local economy, the non-manufacturing sector, the services sector, and SMEs. The purpose of this study is to go over SMEs' business conditions during the COVID-19 pandemic and prepare for the next disaster. We use the 'Survey of SME Business Conditions' provided by SME Support Japan, which covers most small and micro businesses in Japan. It has a high response rate and a long history.

We analyse the business confidence of SMEs during the pandemic by calculating the diffusion index (DI) of business conditions using 'Business Conditions (Own Company) Current Period Level.' The business confidence index (BCI)–DI is calculated by subtracting the proportion of the number of companies that responded that business conditions were bad from the proportion of companies that responded that business conditions were good in the quarter under consideration.

We analyse the 28-year trend from the second quarter of 1994 (Q2 1994) to Q4 2022 using the DI for manufacturing, construction, retail, wholesale, and service industries (Figure 1). For 28 years, except for that of the construction industry, the BCI–DI of the other industries has been negative. Only the construction industry's DI of 0.6 in Q4 2013, 1.4 in Q1 2014, and 0.1 in Q3 2019 were positive. In all other periods, more companies responded that business conditions were poor. The business conditions of SMEs were challenging.

The grey shaded periods in Figure 1 indicate the recessionary phase according to the Cabinet Office's Business Standard Date. During the recessionary phase, which included the Asian currency crisis of 1997 and the consumption tax hike, the DI of the manufacturing, wholesale, and retail sectors deteriorated noticeably. Then, during the period including the Lehman shock in 2008, business confidence in five industries declined, and the DI of the construction industry was the lowest.

Then, after the recession in 2012, the DI improved for about 7 years. In particular, the DI for the manufacturing (–10.4 in Q4 2017), construction (1.4 in Q1 2014), wholesale (–19.7 in Q4 2018), and services (–15.5 in Q2 2017) industries were the highest. The retail industry has also risen from the Lehman shock and is continuing to improve, but its DI values are low in

most periods, and the highest business confidence was in Q3 1994 (-26.6), just after the survey began.

According to the Cabinet Office, the economy has been in a recessionary period since Q4 2018. However, apart from the retail industry, business confidence in SMEs has remained high and is expected to reach a new high. The COVID-19 pandemic, which started in January 2020, came just before that. From there, business sentiment deteriorated sharply in all industries in Q2 2020, and apart from the construction industry, in the four other industries, business sentiment reached its lowest level in the entire period. In addition, compared with the bottoms of other business sentiments, the bottom of the pandemic is characterised by a deep deterioration without any timing gap amongst industries.

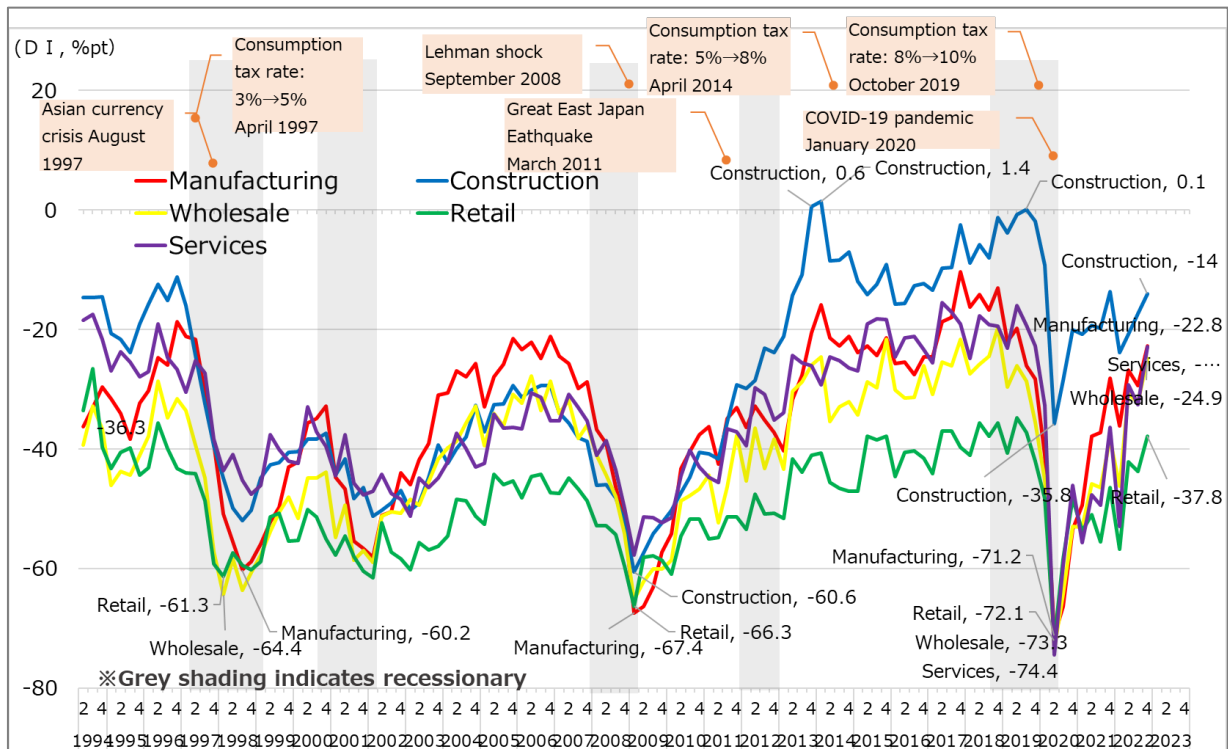
In 2019, before the pandemic, the construction industry had the highest DI, followed by the service, manufacturing, wholesale, and retail industries. All industries had the lowest DI values during the first state of emergency declaration in Q2 2020, with four industries (except the construction industry) lagging behind. The lowest DI value was -74.4 (the 'good' was 2.6%, and the 'bad' was 77%) in the service industry.

This research targets the service industry with the lowest DI value in Q2 2020. In particular, we will analyse by region, targeting the accommodation industry, which COVID-19 has dramatically damaged. The accommodation industry was forced to suspend operations for an extended period due to the pandemic. Moreover, during this period, policies were implemented twice to stimulate tourism demand. In addition, the industry has been dramatically affected by the infection situation.

In this analysis, we observe the relationship between DI, a subjective index, and the number of infected people, guests, and hotel occupancy rate. As a result, by combining the subjective indicator of business confidence in the accommodation industry with the objective indicators of the number of guests and infected people, we could gain a better understanding of the local tourism market during the COVID-19 pandemic.

Section 2 describes the data. Section 3 deepens the understanding of the DI by sector and prefecture. Section 4 focuses on the accommodation industry and observes the impact of the number of infected people by region and tourism policies on the DI. In Section 5, we used tourism statistics data to observe how tourism policies have changed the demand for the accommodation industry. Section 6 is a summary and future work.

Figure 1: Trends in BCI–DI in Five Industries from Q2 1994 to Q4 2022



BCI = business confidence index, DI = diffusion index.

Source: Author’s creation based on the Survey of SME Business Conditions by SME Support Japan.

2. About the Data

Table 1 presents surveys about the state of the economy of SMEs. The most utilised and famous one is probably the Bank of Japan’s *Tankan*. It has a long history and has achieved one of the highest collection rates amongst the many official statistical surveys. It covers companies with capital of ¥20 million or more and includes about half of all SMEs, so it provides information on economic trends for both large and small firms. The second survey with a long history and a high response rate is the ‘Survey of SME Business Conditions’ conducted by SME Support Japan, which is employed in this study. Whereas the *Tankan* survey covers relatively large companies, in the survey, approximately 80% of the respondents are small companies with 20 or fewer employees in the manufacturing and construction sectors and five or fewer employees in the wholesale, retail, and service sectors. The survey was launched in Q2 1980 (the latest being the 170th survey for Q4 2022) and covers about 19,000 companies in each survey, with an extremely high response rate of approximately 96%. As a result, a sufficient sample size can be used to analyse each of the five major industries (manufacturing, construction, wholesale, retail, and services) and the two-digit industrial classification below

them. Moreover, regional analysis can also be conducted at the level of 47 prefectures. The survey targets as many as 80% of small-sized firms, has long-term series, and has a sample size that can be used for both industry and regional analyses. These are the strengths of this survey.

Table 1: List of Surveys of Business Confidence of SMEs

Name of Survey	Survey of SME Business Conditions	Short-Term Economic Survey of Enterprises in Japan (Tankan)	Business Outlook Survey	Quarterly Survey on SME Trends	
Implementing Agency	SME Support Japan	Bank of Japan	Ministry of Finance	Japan Finance Corporation	
Number of Target Firms	18,920	9,407	14,735	SMEs	Small and Micro Businesses
				13,027	10,000
Response Rate (Latest result)	96.4%	99.2%	75.6%	48.7%	67.1%
Survey Targets	SMEs across the whole country. Small-scale enterprises* account for about 80%.	Firms with capital of ¥20 million or more. SMEs account for about 50%.	Firms with capital of ¥10 million or more. SMEs account for about 40%.	SMEs with 20 or more employees	SMEs with less than 20 employees
Survey Start Period	Q2 1980	May 1974	April 2004	Q1 1981	Q1 1981

*The number of employees in the manufacturing and construction industries is 20 or less.

Wholesale, retail, and service industries have less than five employees.

SMEs = small and medium-sized enterprises.

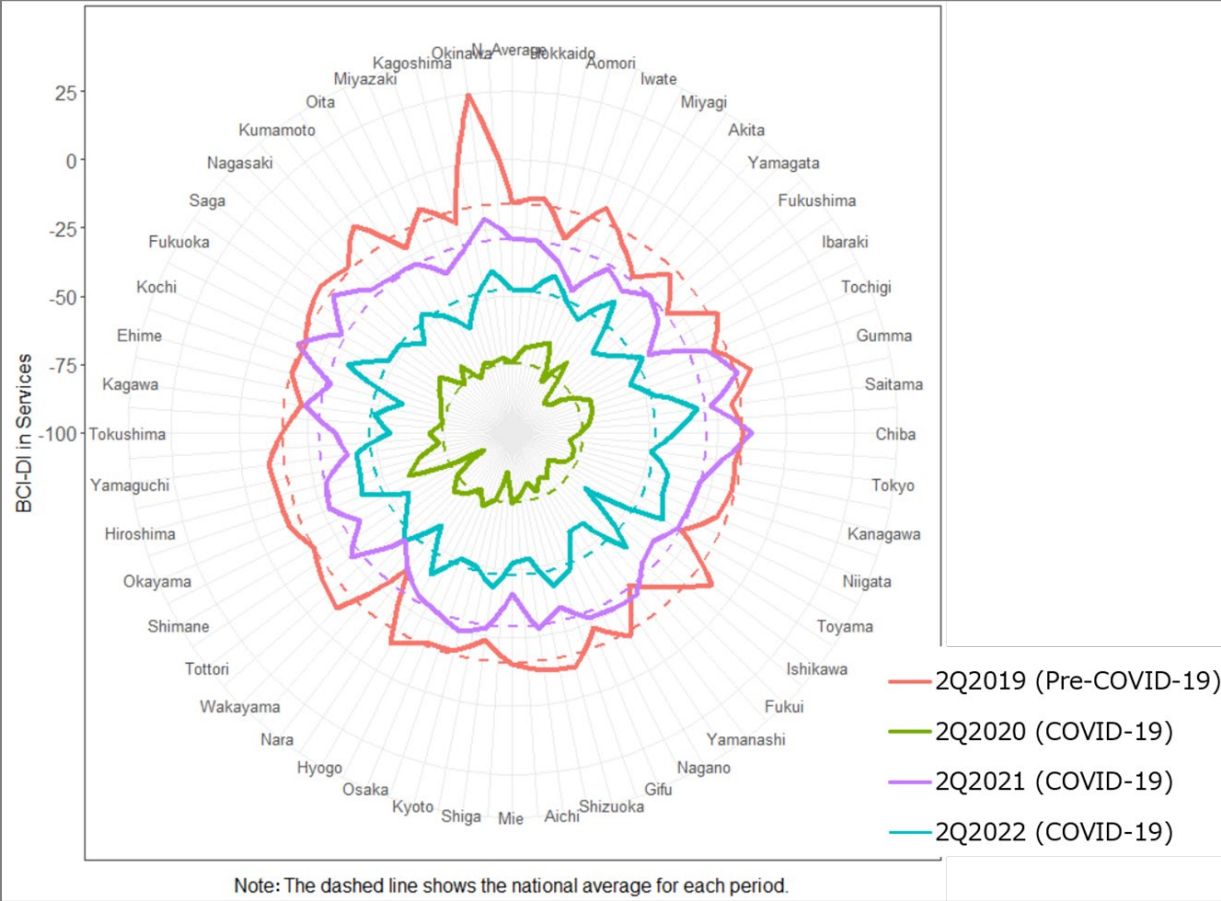
Source: Author.

3. Changes in BCI–DI for Services’ Business Conditions by Region and Sector during the COVID-19 Pandemic

3.1. Trends in Services’ BCI–DI of SMEs by Prefecture

According to Figure 1, Q2 2022 was the lowest DI for the services industry, so we observe the recovery of the DI by comparing the second quarter from 2019 to 2022. In many prefectures, DI are improving year by year as shown in Figure 2. Few prefectures are higher in Q2 2022 than the pre-COVID-19 (red) line. Before COVID-19, the DI in western Japan was high. Compared to other industries, the lines of each year do not intersect. However, Okinawa is still far from the pre-pandemic level, partly because the pre-pandemic level was high because of the inbound tourists boom.

Figure 2: Radar Chart of the Level of BCI–DI in Services: National and 47 Prefectures



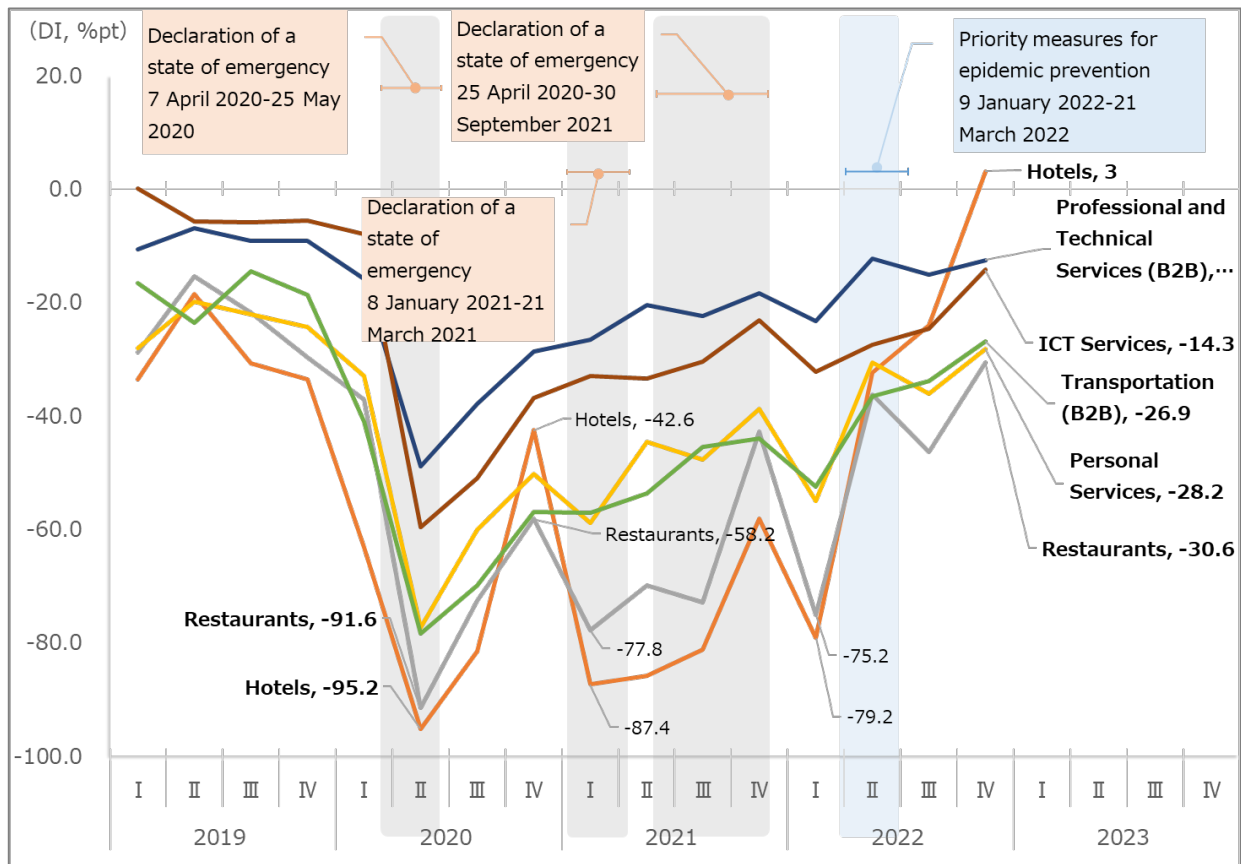
BCI = business confidence index, DI = diffusion index.

Source: Author’s creation based on the Survey of SME Business Conditions by SME Support Japan.

3.2. Trends in BCI–DI of SMEs: Details of the Services Industry

According to Figure 1, as a result of service industry aggregation, there were improvements from -74.4 in Q2 2020 to -22.9 in 2.5 years. Meanwhile, there are sectors that are moving differently in the services industry, so let us take a deep dive into the services industry in Figure 3. The DI in Q2 2020 for personal services (lifestyle-related) -77.4 , business services (transportation and warehousing) -78.4 , restaurants (food and beverage) -91.6 , and hotels (accommodation) -95.2 were less than that of the overall services sector (Figure 3). Nearly all companies in the restaurant and hotel sectors chose ‘Bad.’ Later, in Q4 2020, the DI of the restaurant and hotels sectors improved to -58.2 and -42.6 , respectively, but fell again during the second and third emergency declarations, and in the most recent survey (Q2 2021), the restaurant and hotels sectors continued to experience severe business conditions, with the DI of -70.0 and -85.9 , respectively. In Q4 2020, many prefectures were participating in the Go to Travel campaign, which started on 22 July 2020. In Q1 2022, the hotel DI fell again to -79.2 , and from Q2 2020 to Q1 2022, the lowest amongst the services industries. However, it improved sharply after that, and in Q4 2022, the hotel DI was 3, the highest amongst the services industries. Therefore, in this analysis, we analyse the changes in the hotel sectors by region, which revealed a clear improvement in the 9 months from Q2 2022 to Q4 2022.

Figure 3: Trends in BCI–DI of SMEs: Details of the Service Industry



BCI = business confidence index, B2B = business to business, DI = diffusion index, ICT = information and communications technology, SMEs = small and medium-sized enterprises.

Source: Author’s creation based on the Survey of SME Business Conditions by SME Support Japan.

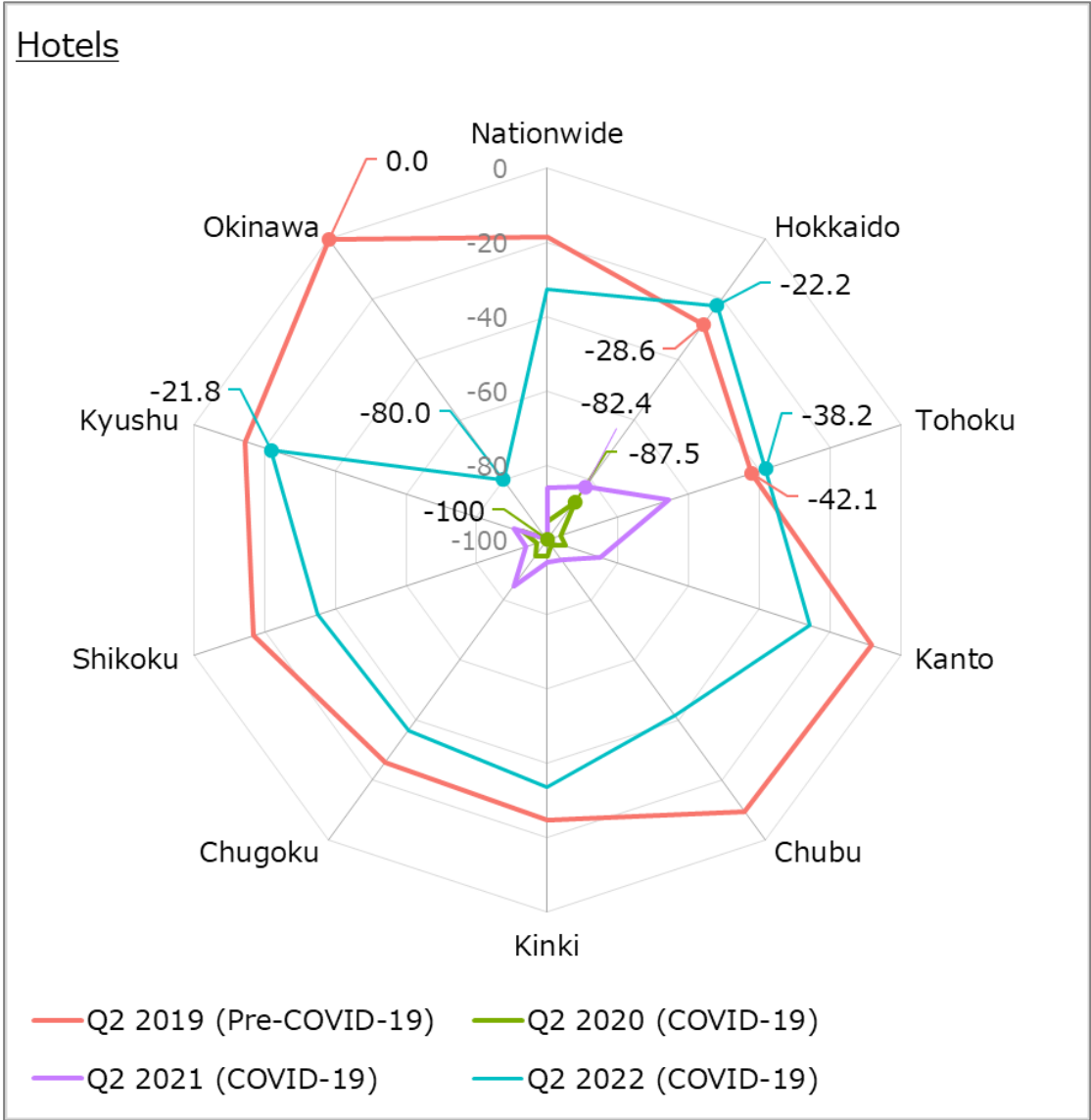
3.3. Changes in the Hotel Industry’s DI by Regions

The radar chart in Figures 4 depicts the DI of the hotel industries for the entire nation and nine regions, respectively. We compare Q2 2020, during which the DI of each services sector bottomed out (Figure 3), Q2 2019, which are the DI before the pandemic, Q2 2021, and Q2 2022, which is the most recent period. By comparing the same quarter (Q2), seasonality can be taken into account.

The DI is the lowest in Q2 2020 (light green) and is in the centre. Although the DI for Q4 2020 improved over that of Q2 2021, it was not as high as the DI for Q2 2019, which is before the pandemic. Okinawa’s DI for Q2 2019 was 0.0, which is the highest amongst the DI values listed in this study. However, a year later, 2 years later, its DI was –100. Its DI worsened the most in Q2 2020 and Q2 2021. In other words, over the course of 2 years, all companies said business conditions were bad. Three years later, in Q2 2022, it was –80. In Q2 2022, the DI of

nine regions improved, but the improvement was not too high than that of the pre-COVID-19. The exceptions are Hokkaido and Tohoku, where Q2 2022 are higher than pre-COVID-19 values. Before the COVID-19 pandemic (red), the DI for the Tohoku region was -42.1 , which is the lowest amongst the nine regions, but it was -38.2 in Q2 2022. The DI for the Hokkaido region in Q2 2019 was -28.6 , and it was -22.2 in Q2 2022. Regarding the second quarters, it can be said that the accommodation industry DI has recovered, except for the Okinawa region.

**Figure 4: Radar Chart of the Level of BCI–DI in the Hotel Industry:
National and Nine Regions**



BCI = business confidence index, DI = diffusion index.

Source: Author’s creation based on the Survey of SME Business Conditions by SME support Japan.

4. Impact of Two Policies on Diffusion Index in the Hotel (Accommodation) Industry

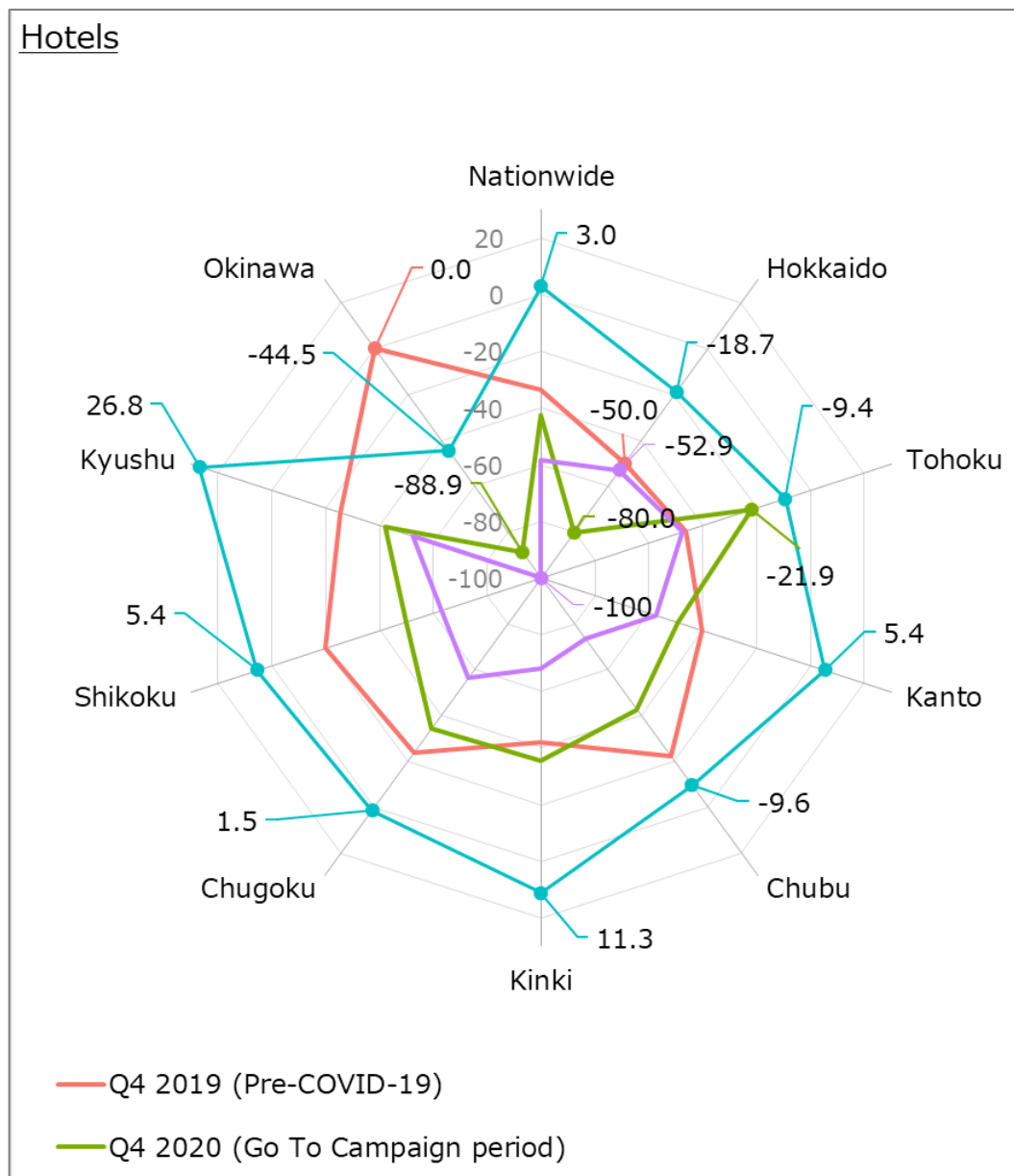
4.1. Changes in the Hotel Industry's DI by Regions Comparing the Fourth Quarters from 2019 to 2022

In the previous section, we compared the DI for the lodging industry in the second quarter of each year and found that Hokkaido and Tohoku improved beyond pre-pandemic levels, and six regions, excluding Okinawa, were approaching pre-pandemic levels. In Japan, several policies have been implemented to stimulate domestic tourism demand during the pandemic. One is the Go to Travel campaign in Q4 2020, and the other is the subsidy programme for domestic travel support in Q4 2022. In this section, we observe the effects of the two policies by comparing the fourth quarter of each year.

The radar chart in Figure 5 depicts the DI of the hotel industry for the entire nation and nine regions, respectively. The improvement in the hotel DI during the Go to Travel campaign (Q4 2020) was due to increased tourism demand in areas other than Okinawa and Hokkaido. In particular, the Tohoku region had the lowest DI value before COVID-19, but it was the highest in 2020 and higher than before COVID-19. In 2021, the DI value improved only in Hokkaido. In other regions, the DI value fell; in Okinawa, it was -100 , indicating that all accommodation companies responded that business conditions were 'bad'. On the other hand, the period of the subsidy programme for domestic travel support in Q4 2022, all regions significantly exceeded the DI values in 2020 and 2021, especially in western Japan (Kinki, Chugoku, Shikoku, Kyushu) where the value was positive. However, although Okinawa has improved, the value is even lower at -44.5 , and the situation is still severe. Although Hokkaido is also a tourist destination, there was no significant improvement in the DI value due to the subsidy programme of domestic travel.

We found that the DI in 2022 improved significantly in eight regions over pre-COVID-19. Following sections, we explore (i) why the DI values for the period of Go to Travel campaign are high in Tohoku and low for tourist destinations Hokkaido and Okinawa, and (ii) why the DI values for Hokkaido and Okinawa are low during the period of subsidy programme of domestic travel.

**Figure 5: Radar Chart of the Level of DI in the Hotel Industry:
National and Nine Regions**



DI = diffusion index.

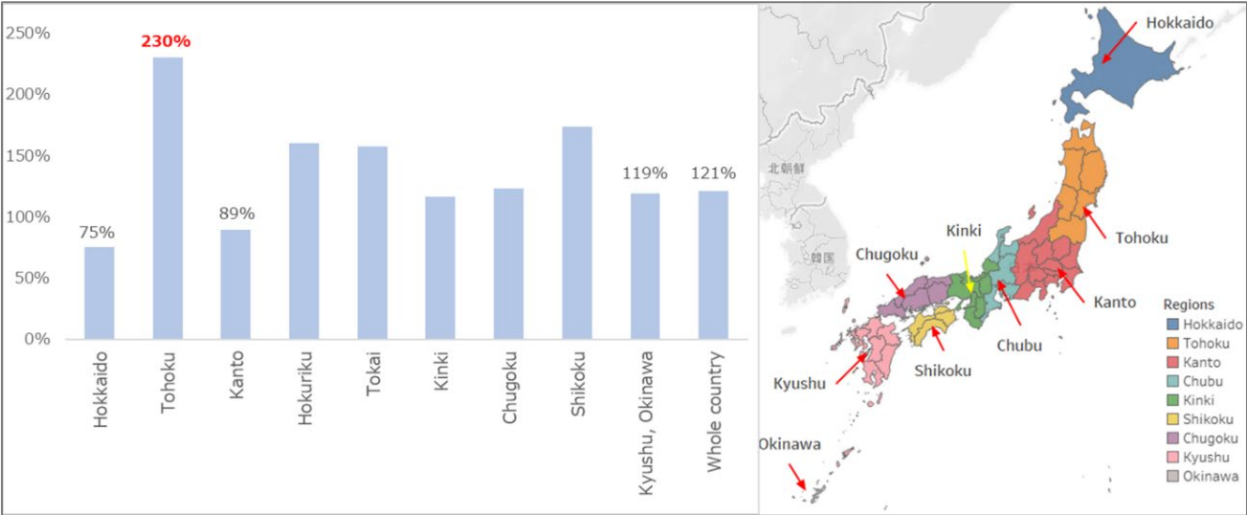
Source: Author's creation based on the Survey of SME Business Conditions by SME support Japan.

4.2. Why the DI Values for the Period of the Go to Travel Campaign are High in Tohoku and Low for Hokkaido and Okinawa

From here, we analyse the increase in demand for the Go to Travel campaign with objective indicators. In Figure 6, according to the V-RESAS 'Number of Guests,' the number of guests in the third week of November, which includes the survey dates for Q4 2020, increased

121% nationwide, 75% in Hokkaido, 231% in Tohoku, and 121% in Kyushu and Okinawa compared with the same week the previous year, despite the COVID-19 pandemic. Although the Go to Travel campaign saw an increase in demand nationwide, the increase in demand in Tohoku was by far the highest.

Figure 6: Compared to the Same Week of 2019, the Number of Guests in the Third Week of Nov 2020



Source: Author’s creation based on data from V-RESAS by the Cabinet Office, Government of Japan.

Next, we examine the relative frequency of the cumulative number of infected people in Hokkaido and Okinawa because the DI did not recover during the ‘Go to Travel’ campaign although the two regions are popular tourist places. Figure 7(a) depicts Hokkaido and Okinawa, with Tokyo and Osaka added for comparison; Figure 7(b) depicts the results for the six prefectures in the Tohoku region, where the DI for the hotel sector improved significantly; Q4 2020 is shaded grey, and the survey date of 15 November is highlighted with a blue line. The cumulative relative frequency does not allow us to compare the size of the number of infected people in each region, but it allows us to see the timing and speed of when the number of infected people increased during the period. Okinawa saw a sharp increase in the number of infected people from August onwards, quickly exceeding 50% of the total figure around the date of the survey. In Hokkaido, after exceeding 25% in October, the graph rises, indicating a rapid increase in a short period. As depicted in Figure 7(a), the six prefectures in Tohoku took a longer period to exceed 25% of the total and were distributed downwards. In Aomori, the total number of infected people remained almost unchanged until mid-October, and in Iwate and

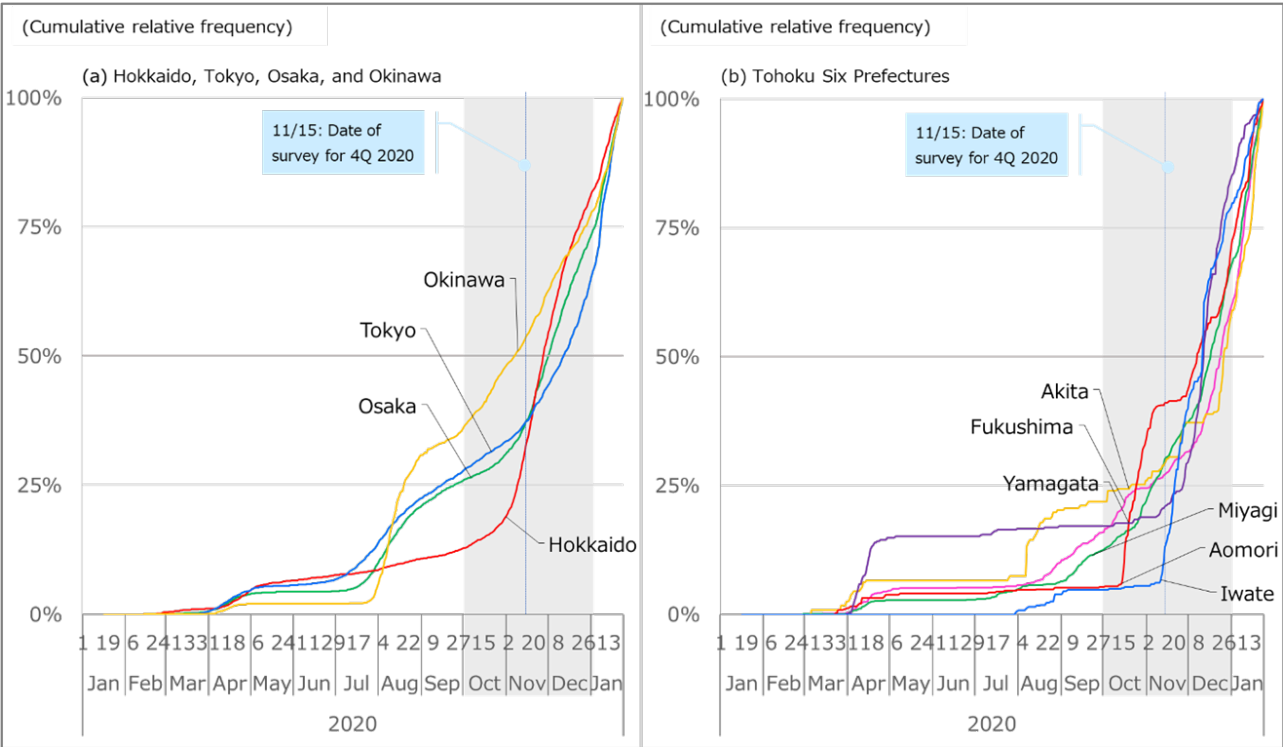
Yamagata, it remained unchanged until around the date of the survey.

Figure 6 depicts that the main reason why the DI of the hotel industry in the Tohoku region in Q4 2020 is higher than normal is that the region was the travel destination of many tourists (compared with the same week of the previous year, the number of overnight stays increased by 231%) due to the small number of infected people.

During the COVID-19 pandemic, both Hokkaido and Okinawa saw an increase in the number of overnight stays in the third week of November 2020 compared to the same week of the previous year. However, the reason why the DI for the level of business confidence did not recover at the time of the campaign is that around October 2020, business confidence within each region was negatively affected because the number of infected people was already high, and the infection was spreading.

Thus, by combining the subjective indicator of business confidence in the lodging industry with the objective indicators of the number of guests and infected people, we can gain a better understanding of the local tourism market during the COVID-19 pandemic.

Figure 7: Cumulative Relative Frequency of Cases for Selected Prefectures in 2020



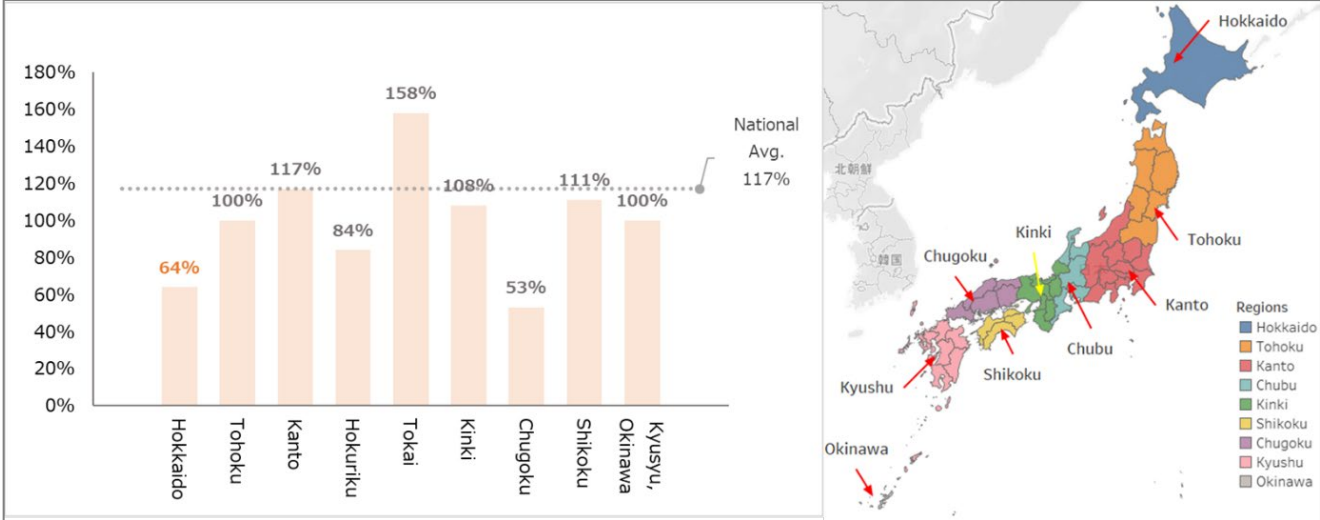
Source: Author’s creation based on data from the Ministry of Health, Labour and Welfare.

4.3. Why the DI values for Hokkaido and Okinawa Were Low During the Period of Subsidy Programme of Domestic Travel?

In Figure 8, according to the V-RESAS, the number of guests in the third week of November, which includes the survey dates for Q4 2022, increased 117% nationwide, 64% in Hokkaido, and 100% in Kyushu and Okinawa compared with the same week of 2019, despite the COVID-19 pandemic. Nationwide, it can be seen that demand did not increase more than the Go to Travel campaign. Amongst them, the Kyushu region, including Hokkaido and Okinawa was lower than the national value. Despite the ski season, the number of overnight guests in Hokkaido has not increased much.

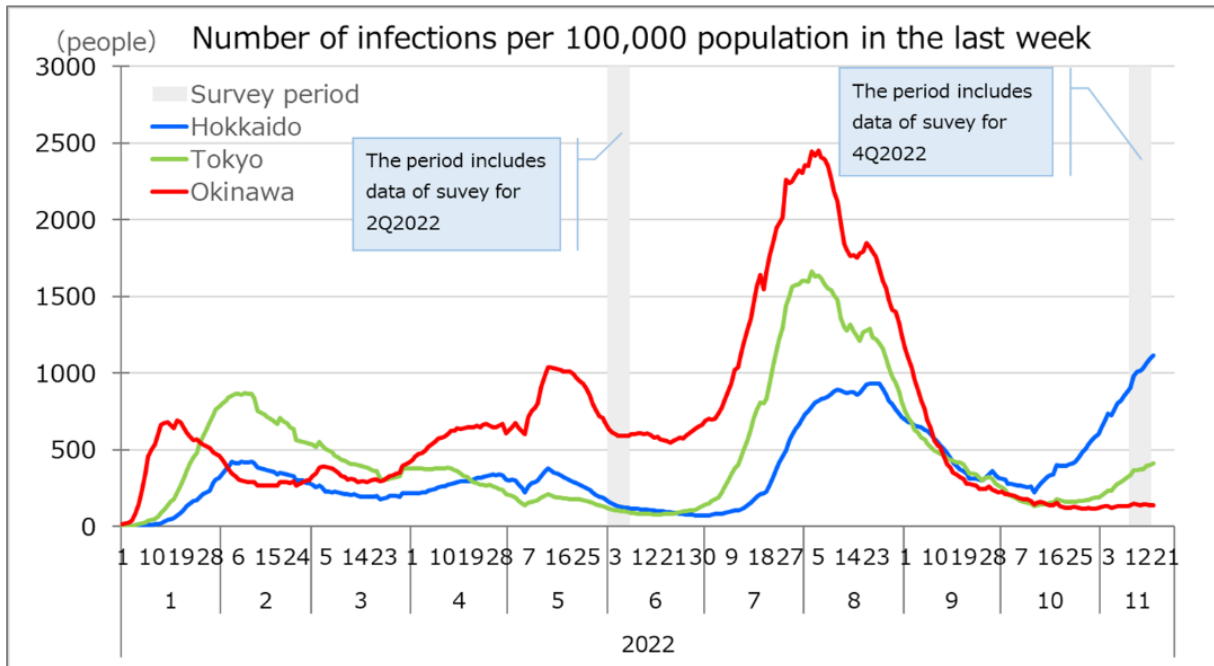
Figure 9 shows number of infections per 100,000 population in the last week in Tokyo, Hokkaido, and Okinawa. During the survey period of Q4 2022, it can be seen that the number of infected people in Hokkaido had risen sharply. Although the number of infected people in Okinawa was decreasing, the number of infected people increased much more than in Tokyo due to the seventh wave of infections in August, and medical institutions have continued to be overwhelmed. For these reasons, tourists refrained from visiting these two areas, which is the reason for the decline in demand and the lack of improvement in the DI value.

Figure 8: Compared to the Same Week of 2019, Number of Guests in Third Week of November 2022



Source: Authors’ creation based on data from V-RESAS by the Cabinet Office, Government of Japan.

Figure 9: Number of Infections per 100,000 Population in the Last Week



Source: Author's creation based on data from the Ministry of Health, Labour and Welfare.

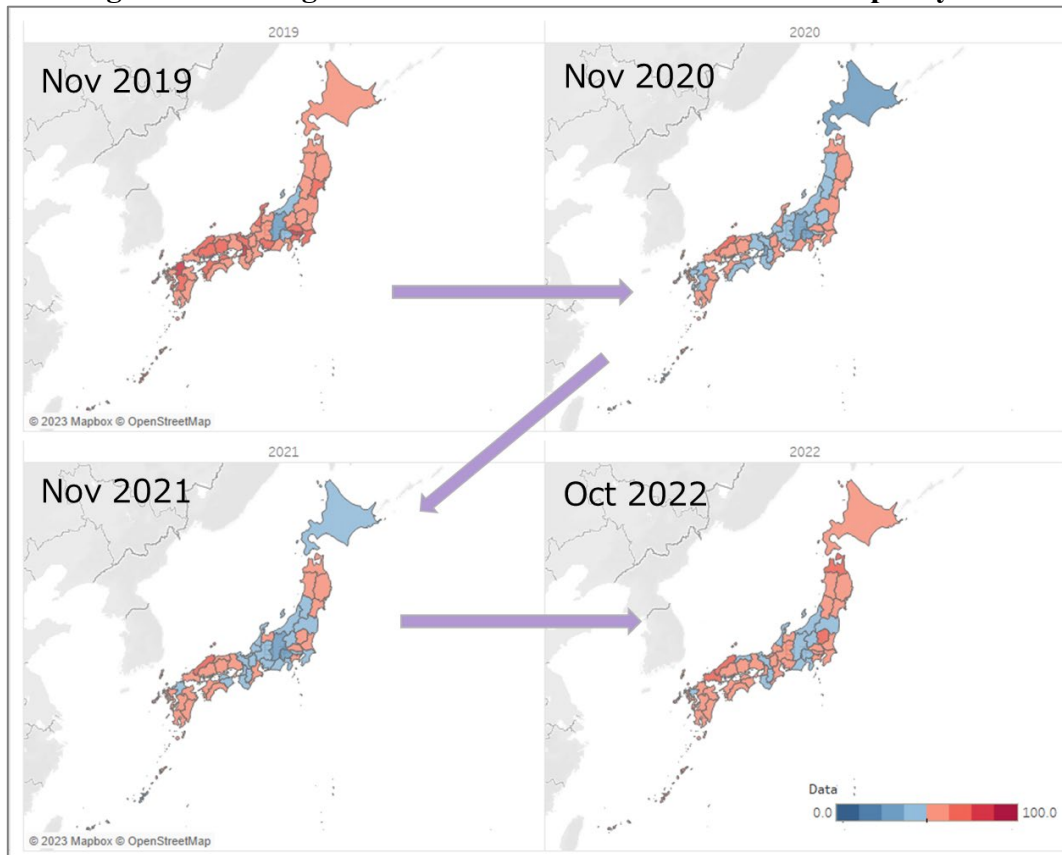
5. Changes in Tourism Demand during COVID-19 and Changes in Individual Sentiment of post-COVID-19 Travel

5.1. Changes in Tourism Demand during COVID-19

In the previous section, we confirmed that the two tourism support policies in Q4 2020 and Q4 2022 had a positive impact on business confidence in the accommodation industry and confirmed that the increase in the number of infected people had a negative effect on business confidence. In this section, we analyse changes in tourism demand using the results of the Overnight Travel Statistics Survey conducted by Japan Tourism Agency.

Figure 10 shows changes in the occupancy rate of accommodation facilities by prefecture. We used the results from November of the fourth quarter when the two policies were implemented (the latest data for 2022 is October). The figures for November 2019, before COVID-19, include overnight stays by foreign tourists. Compared to January 2021, when travel support policies were not implemented, it can be seen that the occupancy rates of more prefectures had improved in 2022. Considering that Q4 2020 was the lowest level and there were close to zero inbound tourists, it can be seen that the policy promoted travel by the Japanese.

Figure 10: Changes in Demand for Accommodation: Occupancy Rate

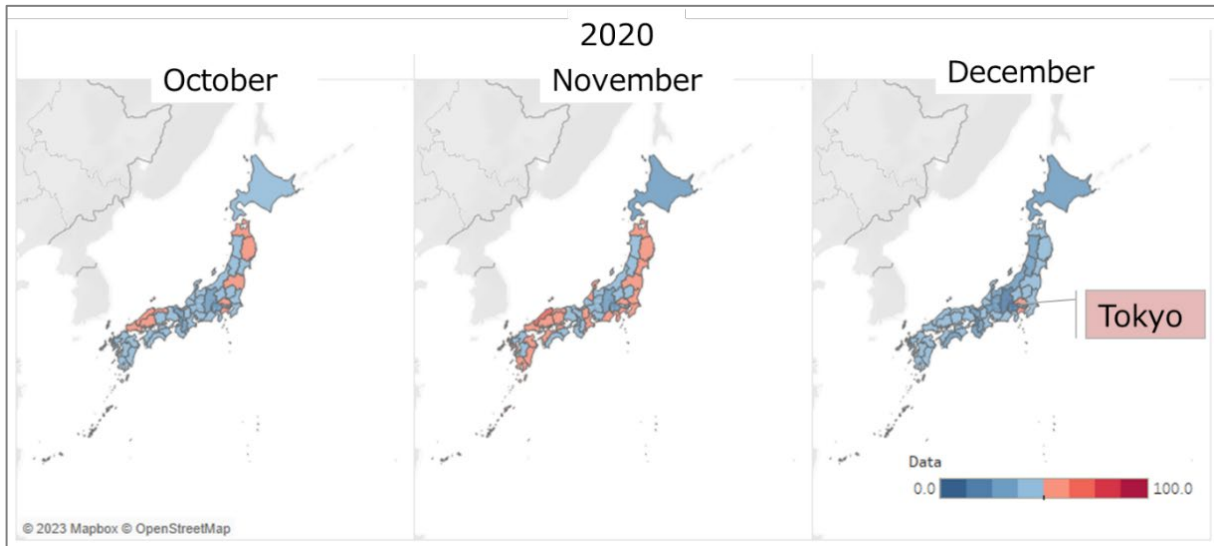


Source: Author's creation based on data from the Overnight Travel Statistics Survey conducted by Japan Tourism Agency.

We mapped the occupancy rate by prefecture from October to December 2020 in Figure 11 to see the impact of the Go To Travel campaign policy. This survey was conducted on 1 October, and since only a limited number of areas were subject to travel support policy in October, the occupancy rate was low in many regions. In November, when Tokyo was the target, the occupancy rate of many prefectures increased, as described in Figure 10. However, as the number of infections increased in various places in December, the travel policy ended, and the operating rate in each region fell again. From the above, it was found that travel policies and the increase in the number of infected people in Q4 2020 had a significant impact on the occupancy rate.

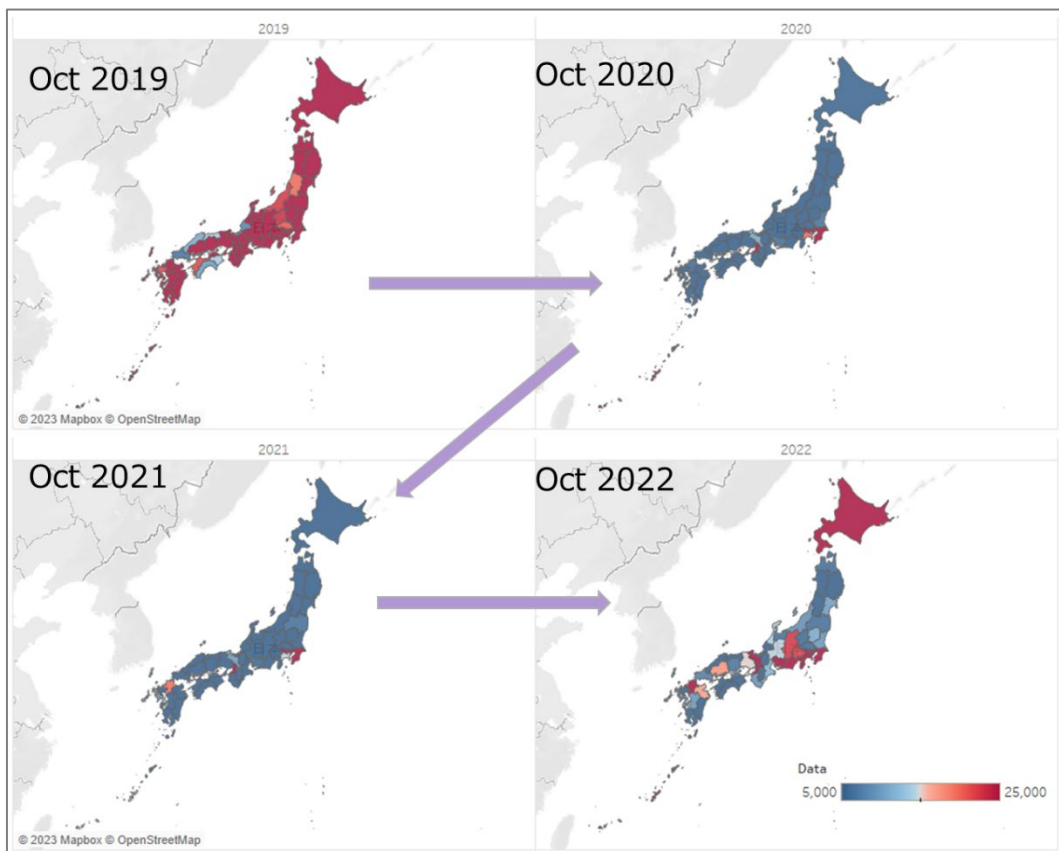
Finally, in Figure 12, we observe changes in the number of inbound tourists during the COVID-19 pandemic. In 2019 before COVID-19, many inbound travellers stayed in each prefecture. However, in 2020 and 2021, foreign visitors to Japan were observed only in a limited number of large cities such as Tokyo, Kanagawa, and Osaka. In 2022, although demand gradually recovered, only popular tourist destinations benefited from inbound demand.

Figure 11: Effect of the ‘Go To Travel’ Campaign and Number of Infections on Occupancy Rate, 2020



Source: Author’s creation based on data from the Overnight Travel Statistics Survey conducted by Japan Tourism Agency.

Figure 12: Changes in Number of Inbound Tourists from 2019 to 2022

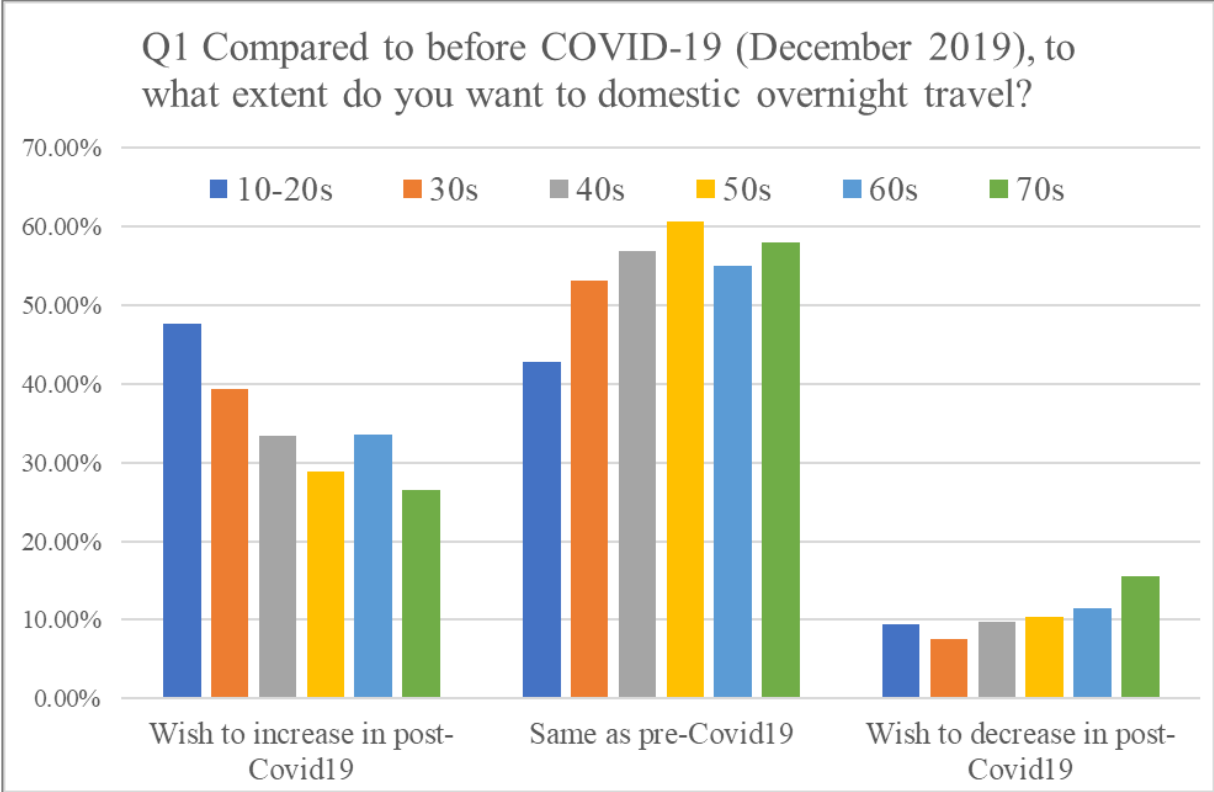


Source: Author’s creation based on data from the Overnight Travel Statistics Survey conducted by Japan Tourism Agency.

5.2. Changes in Individual Sentiment of Post-COVID-19 Travel

Using the results of ‘Changes in Attitudes and Behaviours in Daily Life under the Influence of Novel Coronavirus Infection’, conducted by the Cabinet Office, Figure 13 shows how much people wanted to travel domestically post-COVID-19 compared to December 2019. About 10,000 people responded to the survey. In December 2019, the number of foreign tourists visiting Japan peaked due to the inbound boom, and domestic travel by Japanese people also increased. Compared to this point, more than half of those in their 30s and above answered that they would like to travel in the same way as before COVID-19. About 40% of those in their 20s and under answered that they would travel at the level they had before COVID-19. Nearly 50% of those in their 20s and younger answered they would like to increase their travel opportunities, which was the highest amongst all generations. About 10% of all age groups answered that they would like to refrain from traveling after the new coronavirus infection. As of April 2023, inbound demand is returning, and from the results in Figure 13, we can expect post-COVID-19 tourism demand to improve significantly.

Figure 13: Changes in Individual Sentiment of Post-COVID-19 Travel



Source: Author’s creation based on data from Changes in Attitudes and Behaviours in Daily Life under the Influence of Novel Coronavirus Infection conducted by the Cabinet Office, Government of Japan.

6. Summary and Further Research

In this study, we analyse the DI of five industries for the past 28 years using the Survey of Business Conditions of SMEs and find that there have been challenging times that have affected SMEs as much as or more than the COVID-19 pandemic. This research targets the services industry with the lowest DI value in Q2 2020. In particular, we analysed by region, targeting the accommodation industry, which was dramatically damaged by COVID-19. The accommodation industry was forced to suspend operations for an extended period due to the pandemic. Moreover, during this period, policies were implemented twice to stimulate lodging demand. In addition, it is an industry that has been dramatically affected by the infection situation.

In this analysis, we observed the relationship between DI, a subjective index, and the number of infected people, guests, and hotel occupancy rate. We found that the DI in 2022 improved significantly in eight regions over pre-COVID-19. We explored (i) why the DI values for the period of the Go to Travel campaign are high in Tohoku and low for tourist destinations Hokkaido and Okinawa, and (ii) why the DI values for Hokkaido and Okinawa are low due to the period of subsidy programmes of domestic travel.

We also adopted the accommodation occupation ratio by prefecture to see the impact of two tourism related policies. It was found that travel policies had a positive impact on the occupancy rates and the increase in the number of infected people in Q4 2020 had a significantly negative impact on occupancy rates. As a result, by combining the subjective indicator of business confidence in the accommodation industry with the objective indicators of the number of guests and infected people, we could gain a better understanding of the local tourism market during the COVID-19 pandemic.

According to the results of the tourism statistics survey, inbound demand was almost zero until 2021, and even those few tourists were limited to stays in big cities. In 2022, although slightly improved, stays are still limited to cities with airports. As of April 2023, inbound demand in Japan is increasing due to lifting travel restrictions in many countries except China. Similarly, as shown in Figure 12, many Japanese across generations answered that they would like to go on trips at or above the level before COVID-19, so it can be expected that the tourism industry will improve significantly in the future.

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