

Exploring the environmental and economic impact of COVID-19 on Japan's tourism industry

January 28 2025



The bamboo grove in Arashiyama, Kyoto. A popular destination for many international tourists. Credit: Kyushu University/Shigemi Kagawa

It goes without saying that the tourism industry in Japan is booming.

Walk around any major city and you'll see people from all around the world enjoying the country's food, culture, and hospitality. Naturally, the revenue generated by the industry has had a positive economic impact throughout Japan.

However, between 2020 and 2022, the tourism industry was hit particularly hard due to the COVID-19 [pandemic](#) and subsequent travel restrictions. While the government implemented policies to support the industry, the full impact of the pandemic on the economy is still being studied.

Now, economists at Kyushu University have published new data on the economic, social, and environmental impacts of the COVID-19 pandemic on Japan's inbound tourism industry.

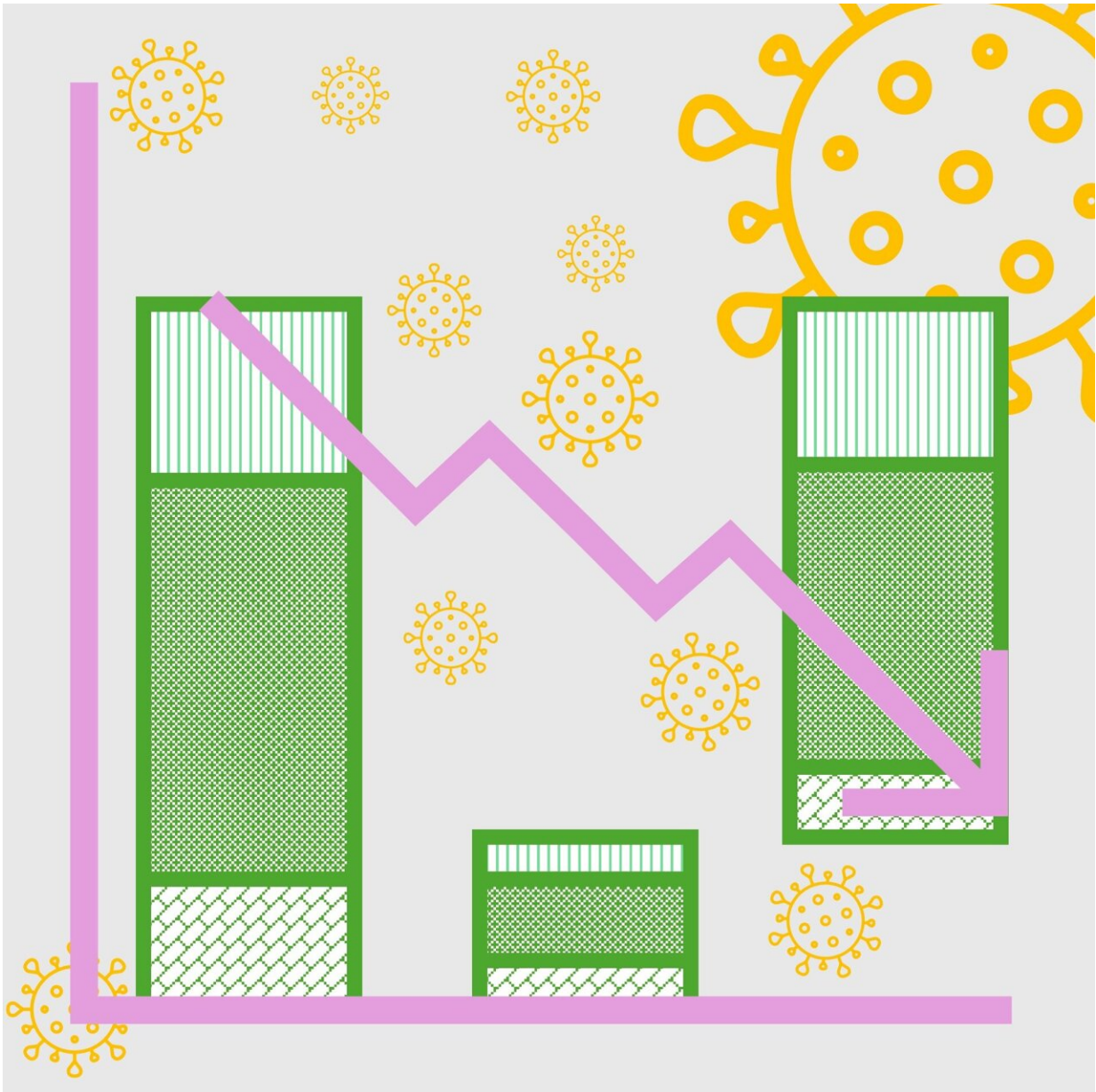
The report, published in the [Journal of Industrial Ecology](#), presents data on the loss of yen, loss of employment opportunities, and reduction in CO₂ emissions from Japan's tourism industry in 2020.

"I began this project when I was an [undergraduate student](#) in 2021, right in the middle of the pandemic. 2020 saw the loss of around 33 million tourists coming into Japan. My research interest was the tourism industry, so I started researching the impact of the pandemic and travel restrictions on the sector," explains first author Yusuke Oga, Ph.D. candidate and JSPS Research Fellow at Kyushu University's Graduate School of Economics.

"I have also been researching how to make the tourism industry more sustainable. So, in this study, I also wanted to examine how the pandemic affected the industry's environmental impact."

The team decided to focus on the year 2020, when the first [travel restrictions](#) were implemented. They first constructed a "counterfactual

scenario," simulating the industry's 2020 economic output if there had been no pandemic. This was then compared to the actual 2020 data.



New data from Kyushu University shows the economic, social, and environmental impact of the COVID-19 pandemic on Japan's inbound tourism industry in the year 2020. That year saw the loss of 33 million inbound tourists, resulting in 3.44 trillion yen of value-added losses, and a decline in employment

for 868,976 people, and a reduction of 11.6 megatons of CO₂. Credit: Kyushu University/Shigemi Kagawa

Their analysis implemented an input-output analysis framework—a method that integrates the direct and indirect effects of the economy—into three factors: economic, social, and environmental. In addition, each factor was evaluated on three [economic effects](#): direct, indirect, and income.

Direct effects include industries directly affected by tourism, such as hotels, services, or the gift industry. Indirect effects refer to industries outside of the tourism industry that still play a major role, such as the energy industry or food producers and suppliers. Finally, income effects cover direct spending of the Japanese people from the money that comes into the tourism industry.

"Our analysis showed that the economic impact of the pandemic on the tourism industry was a loss of 3.44 trillion Japanese yen, or about 22 billion US dollars. The most affected industries were the food and beverage services like restaurants, hotels, and wholesalers," continues Oga.

"On the societal side, it resulted in an employment decline for 868,976 people. The highest employment losses were also seen in restaurants and hotels."

Their environmental analysis revealed a significant reduction in CO₂ emissions. The data showed that restrictions on inbound tourism resulted in a reduction of 11.6 megatons (Mt) of CO₂ emissions. 11.6 Mt is equivalent to the annual emissions of approximately 4 million households. In 2020, the average annual CO₂ emission of a Japanese

household was [2.88 tons](#).

Professor Shigemi Kagawa, who led the study, explains that this new data can provide policymakers with a clearer view of the economics of the [tourism industry](#) and help them better prepare and focus the government's support network should a crisis similar to COVID-19 occur in the future. Moreover, the environmental data shows that Japan should make efforts to promote sustainable tourism.

"Tourism in Japan will likely continue to grow, so we must consider its environmental impact. Finding the right policies and incentives will be difficult, but I think it is possible," concludes Oga.

"Our next step will be to analyze prefectural level data and see what differences there are locally. Additionally, this methodology can be applied to tourism data from other countries. I would be interested to see what the data looks like on a global scale."

More information: Yusuke Oga et al, Triple bottom line analysis of the decline in foreign tourist demand in Japan due to the COVID-19 pandemic: Counterfactual structural decomposition approach, *Journal of Industrial Ecology* (2025). [DOI: 10.1111/jiec.13615](https://doi.org/10.1111/jiec.13615)

Provided by Kyushu University

Citation: Exploring the environmental and economic impact of COVID-19 on Japan's tourism industry (2025, January 28) retrieved 28 February 2025 from <https://phys.org/news/2025-01-exploring-environmental-economic-impact-covid.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.