Radioactively Contaminated? Seafood Preferences among Japanese after the Fukushima Nuclear Disaster

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Problem Identification

The Great East Japan Earthquake of March 11, 2011 and the level 7 meltdowns at the Fukushima Dai-ichi Nuclear Power Plants caused by tsunami altered food choices in Japan.

Seafood consumption has significantly been affected not only in Japan but in many North Pacific Rim nations including the U.S.

Japanese government has promoted a campaign “Tabete Ouen Shiyou!” which means “Let’s Eat (products from disaster-affected regions such as the Tohoku region) and Help (their recovery efforts)”!

County-of-origin labeling for most fresh food products is mandatory in Japan. Japanese consumers prefer domestic foods and have continued to select Japanese domestic vegetables even after the 3.11 Earthquake and the Fukushima nuclear disaster, firmly trusting their government food policies (Peterson and Yamaura 2014).

Annual Japanese seafood consumption (both raw, e.g., sushi or sashimi, and cooked) is 57 kilograms per person (the 6th largest in the world and more than double the consumption in the US) in 2009 (MAFF 2015).

Origin labeling for seafood is mandatory and indicates countries of origin for imports and fishing zones or landing harbors for domestic products. Some seafood such as mackerel is available not only at most landing harbors in Japan but also imported. Mackerel is the 9th popular seafood in Japan and is consumed 1.3 kilograms per person yearly (MAFF 2015).

Japanese are highly concerned about country-of-origin, eco-labeling and food safety. However, few studies have examined consumer seafood preferences in Japan after the Fukushima disaster.

Objectives

The study investigates whether Japanese consumers prefer mackerel from various landing harbors in Japan after the 3.11 Earthquake. Specifically, we examine whether they exhibit aversion toward harbors in the Tohoku region, and whether Japanese consumers consider imported products over domestic products in the aftermath of the Fukushima nuclear disaster.

Consumer Survey & Design

The choice scenarios were developed using mackerel fillets that varied by price (68, 98, and 128 yen per fillet), origin (four domestic landing harbors and two foreign countries), and production processes (farmed or no label).

Domestic landing harbors included:

- Tohoku-Sanriku (where the Fukushima power plant is located),
- Ibaraki (b/w Tokyo and Fukushima),
- Shizuoka (the center of the main island in Japan), and
- Nagasaki (the island southwest of the main island).

Foreign origins were Norway and South Korea.

A total of 1,208 responses were collected online in February 2014 from a stratified, random nationwide sample.

Results

OLS results

WTP based on RPL model

Conclusions

Self-reported changes in amount consumed of seafood are minimal, but consumers’ perceived level of safety has been compromised, particularly from food originating from the Tohoku region. At the same time, respondents were willing to pay the highest premium for seafood brought ashore at Tohoku. Taken together, many consumers sympathize with the people of Tohoku region and support the government campaign. But, likely, the sentiment is not translating into changes in additional amounts consumed.

Japanese WTP for imported mackerel vary by country of origin, based on their collective perceptions of product quality from the given country. There is little evidence that Japanese consumers are substituting imported foods (with less risk of radioactive contamination) with domestic foods.