How Much Do Japanese Really Care about Food Origin? A Case of Beef Bowl Shop

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Problem Identification

- Gyudon, or beef bowl, is one of Japanese popular fast foods consisting of a bowl of rice topped with beef and onion simmered in a mildly sweet sauce flavored with soy sauce and other seasoning.
- Beef bowl shops are ubiquitous food service outlets; the number of beef bowl shops in Japan that form the three largest chains (Matsuya, Sukiya and Yoshinoya) is 4,214, which exceeds the sum of the top three fast food burger shops (McDonalds, Mos Burger and Lotteria) equalling 4,141 in December 2015.
- The three major beef bowl chains have been engaged in an intense price competition since 2000. Priced at 400 yen per serving in 2000, bowls at all three chains were 280 yen in 2011. As a result, all three beef bowl companies had reduced their serving in 2000, bowls at all three chains were 280 yen in 2011. The prices were back at 380 and 390 yen for Sukiya and Yoshinoya, respectively, in 2014.
- In 2004, Japan banned on imports of U.S. beef after a single case of mad cow disease. Consequently, major beef bowl chains were forced to forego offering beef bowls because most shops were using U.S. beef for their products. Yoshinoya and Matsuya switched their main products to pork bowl, while Sukiya continued to serve it using Australian beef. Since September 2006, Japan has fully resumed importing U.S. beef. In 2015, Yoshinoya used U.S. beef for its beef bowls, while Matsuya and Sukiya used Australian beef for their beef bowls.
- Food choices in Japan were dramatically changed by the Fukushima nuclear disaster. Therefore, the residents not only in Tohoku region where Fukushima is in but in the entire Japan faced radioactive contamination of domestic food products.
- Japanese government has been promoting a campaign of “Tabete Ouen Shiyou!” which means “Let’s Eat (products in disaster-affected regions) and Help (disaster-affected regions)” to aid recovery and reconstruction of disaster-affected regions through nationwide food consumption in Japan (MAFF 2015). Perhaps in part due to the campaign, Japanese consumers have placed firm trust on their government handling of food issues and food risk regulations after the nuclear disaster, and have continued to demonstrate their preferences for domestically sourced foods (Peterson and Yamaura 2014: Yamada and Peterson 2015), as documented in earlier studies of Japanese consumer food preferences (e.g., Peterson et al. 2013).

Objectives

- Examines the preferences of Japanese consumers toward food origins including beef, after the 3.11 Earthquake and the Fukushima nuclear disaster and resumption of U.S. beef trade. Specifically, using the case of beef bowl, the study investigates how much importance Japanese consumers place on countries of origin of beef, relative to other attributes such as price, beef bowl chain, countries of origin of onion, and rice variety.
- The case of beef bowl that involve multiple ingredients provides a more realistic context to examine consumer preferences for food attributes, relative to study settings where origin of a single product is valued relative to other attributes.

Consumer Survey & Design

- An online survey was designed and administered to a national sample of consumers in Japan.
- Survey respondents were randomly selected to mirror the demographic characteristics of the Japanese population.
- The choice scenarios were developed using beef bowls that varied by price (350, 380, and 410 yen per serving), country of origin of beef (domestic, North America and Australia) and of onion (domestic and China), rice variety (generic variety grown in Japan and Koshikari variety grown in Japan) and beef bowl shop (MATSUYA, SUKIYA and YOSHINoya).

Results

- Latent Class model & WTP results

Table 3. Latent Class model results for Beef Bowl

<table>
<thead>
<tr>
<th>Price</th>
<th>Australian Beef</th>
<th>Premium Rice</th>
<th>Chinese Onions</th>
<th>Female</th>
<th>Parttime</th>
<th>Constant</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>0.0521</td>
<td>0.1412</td>
<td>0.2959</td>
<td>0.1624</td>
<td>0.0964</td>
<td>0.0007</td>
</tr>
<tr>
<td>380</td>
<td>0.0751</td>
<td>0.1412</td>
<td>0.2959</td>
<td>0.1624</td>
<td>0.0964</td>
<td>0.0007</td>
</tr>
<tr>
<td>410</td>
<td>0.0981</td>
<td>0.1412</td>
<td>0.2959</td>
<td>0.1624</td>
<td>0.0964</td>
<td>0.0007</td>
</tr>
</tbody>
</table>

Note: ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively. Standard errors are in parentheses.

Table 4. Willingness to pay estimates from the latent class model results (Y / serving)

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Beef Bowl Shop</th>
<th>Meals focused</th>
<th>Ingredients focused</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORTH AMERICAN BEEF</td>
<td>21.8</td>
<td>-1.2522</td>
<td>-0.3393 *</td>
</tr>
<tr>
<td>AUSTRALIAN BEEF</td>
<td>16.1</td>
<td>-0.0336 ***</td>
<td>-0.3393 *</td>
</tr>
<tr>
<td>PREMIUM RICE</td>
<td>3.8</td>
<td>3.5075 ***</td>
<td>3.0189 ***</td>
</tr>
</tbody>
</table>

Discussion

- Latent Class 1: *Meal focused* individuals, who prefer beef bowls are more likely male, relatively younger, less educated and eat more meals away from home. This group constitutes over 80% of total and cares less about country-of-origins of ingredients.
- Latent Class 2: *Ingredients focused* individuals pay more attention to country-of-origins. Especially, WTP for North American beef and Chinese onion are 78 and 162 yen less, respectively, than for domestic products.
- WTPs for beef bowl chains are 477 yen for Yoshinoya, who uses US beef, and 447 and 441 yen for Matsuya and Sukiya, respectively, who use Australian beef. The food service industry is likely a favorable entry point for foreign beef suppliers easier than the other food sectors in Japan.
- Both classes showed low average WTP for Chinese onion. Fast-food chains should use domestic onion for beef bowl and promote their use as a share-gaining strategy in place of the current intense price competition.