AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

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

Koichi Yamaura
Department of International Environmental and Agricultural Science
Tokyo University of Agriculture and Technology
kyamaura@cc.tuat.ac.jp

Hikaru Hanawa Peterson
Department of Applied Economics
University of Minnesota
hhp@umn.edu

Selected Poster prepared for presentation at the 2016 Agricultural & Applied Economics Association Annual Meeting, Boston, MA, July 31 – Aug. 2.

Copyright 2016 by Koichi Yamaura and Hikaru Hanawa Peterson. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.

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

Koichi Yamaura*[1] and Hikaru Hanawa Peterson[2]

[1]Assistant Professor, Dept. of International Environmental & Agricultural Science, Tokyo University of Agriculture & Technology. kyamaura@cc.tuat.ac.jp

[2] Professor, Dept. of Applied Economics, University of Minnesota. hhp@umn.edu

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*) equaling 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 sales and recorded deficits in 2013. 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: Yamaura 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 *Koshihikari* variety grown in Japan) and beef bowl shop (*MATSUYA*, *SUKIYA* and *YOSHINOYA*).

Option A	Option B	Option C	Option D
Domestic Beef	North American Beef	Australian Beef	None of Them
Domestic KOSHIHIKARI Rice	Domestic Rice	Domestic Rice	
Chinese Onions	Chinese Onions	Domestic Onions	
410 yen	350 yen	380 yen	

- A total of 1,027 responses were collected in February 2015.
- Latent class model is used for beef bowl preferences of Japanese consumers. Demographics (*FEMALE, AGE, BPLUS, HOUSE INCOME, PARTTIME,* and *UNEMPLOYMENT*) and food consumption behavior (*NUMBER OF A-F-H MEAL*) were specified to determine the class probabilities.

Results

- Latent Class model & WTP results

Table 3. Latent Class model results for Beef Bowl

	Meal focused	Ingredients focused	Class Probability Model	Meal focused	Ingredients focused
PRICE	-0.0198 ***	-0.0119 **	*FEMALE*	-1.2522 ***	--
	(0.0010)	(0.0052)		(0.2092)	
NORTH AMERICAN BEEF	-0.3990 ***	-0.9250 ***	*AGE*	-0.0336 ***	--
	(0.0229)	(0.1827)		(0.0075)	
AUSTRALIAN BEEF	-0.4317 ***	-0.1531	*BPLUS*	-0.3393 *	--
	(0.0316)	(0.1628)		(0.1859)	
PREMIUM RICE	0.0751 ***	0.0229	*HOUSE INCOME*	0.0007	--
	(0.0253)	(0.0964)		(0.0007)	
CHINESE ONIONS	-0.9509 ***	-1.9173 ***	*NUMBER OF OUTSIDE MEAL*	-0.0889 *	--
	(0.0206)	(0.1412)		(0.0532)	
YOSHINOYA	9.8268 ***	1.2419	*PARTTIME*	0.0209	--
	(0.3926)	(1.9920)		(0.2399)	
MATSUYA	9.2631 ***	1.3822	*UNEMPLOYMENT*	0.0859	--
	(0.3919)	(2.0479)		(0.3026)	
SUKIYA	9.1394 ***	0.7903	*CONSTANT*	3.9295 ***	--
	(0.3868)	(2.0418)		(0.4584)	
Log likelihood	-7572.4				
Number of respondents	1027				
Number of observations (8 ch	8216				
Percent share	0.821	0.2			
AIC	15192.8				

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 (¥/ serving)

	Meal focused	Ingredients focused
Country of Origin/ Brand		
NORTH AMERICAN BEEF	-20.2	-77.9
AUSTRALIAN BEEF	-21.8	-12.9
CHINESE ONIONS	-48.1	-161.5
PREMIUM RICE	3.8	1.9
Beef Bowl Chain		
MATSUYA	468.8	116.4
SUKIYA	462.5	66.6
YOSHINOYA	497.3	104.6

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.