

信州大学審査学位論文

Factors affecting meal selection of Japanese
migrants in Malaysia

(マレーシアにおける日本人移住者の食選択行動の
影響要因に関する研究)

2019年9月

総合工学系研究科 生物・食料科学専攻

ナビラ ビンティ モハマド サイディ

Nabila binti Mohd Saidi

Acknowledgement

First of all, I would like to thank Professor Sasaki (and his family) and Senior Assistant Professor Tani for all the sacrifice they have made to help me graduate.

Secondly, I am thankful to Miss Kawakami and Dato' and Datin Ushiyama (Ushiyama couple) for all the help they were giving me.

Thank you to all the people who help make the investigation in Kuala Lumpur possible; Mr. Sumitani, Mr. Ohno, Mrs. Fukuda, Mr. Norhaswira, Mrs. Fazian, Mr. Zainol and the friends/acquaintances of Miss Kawakami and Dato' and Datin Ushiyama.

Thank you to Professor Banno, Professor Ueki, Associate Professor Watanabe, Professor Hagiwara and Professor Kusakari for giving me the last chance to graduate, Assistant Professor Kobayashi for letting me to use the study room and for the input, Mr. Amirul Azman from Malaysia Kitchen Program, Mr. Takematsu from the school office and Professor Inoue. I would like to apologize for everything to everyone.

To all the people who are directly/indirectly involved in this project. Thank you everyone.

Summary

The Malaysian government introduced a project called ‘Malaysia Kitchen for the World’ program (MKP) in 2006. MKP focused on positioning Malaysian food as a new trend in the world market as well as to generate widespread positive coverage for Malaysian food in the social media channels. MKP was also introduced in Japan. Although, Malaysian food still has not been accepted widely by Japanese people. As a result, the number of Malaysian restaurants in Japan is very few, compared with other countries. This study explores the constraint factors that have affected the dissemination of Malaysian food among Japanese people. Since the number of Japanese people who have eaten Malaysian food is very limited in Japan, I examined the meal content of Japanese migrants in Malaysia and inquire how Malaysian meals were chosen in their daily life. These food choices preferred by persons in their daily life have been discussed as an issue on dietary habits.

This study shed light on the migrants and analyzed their dietary habits in the host country. Patterns on dietary change caused by migration can be classified into a number of groups. One of them is intermarriage, pointing out the case of Nyonya cuisine in Malaysia. The second category is the influence of religion, referring to the case of religious conversion in Malaysia. Migration as a permanent resident is in the third category. The examples referred in this study are the Japanese migrants in Brazil and Hawaii. Most of the previous studies on the dietary habits of the migrants focused on the difference between first generation and next generations, because the migrants were mostly permanent residents. This study targets primarily on Japanese migrants who were working and examines their approach to host countries’ food. Kuala Lumpur in Malaysia was selected as a study area. These are described in chapter four.

In chapter three, Malaysia is divided into three regions and each food consumption pattern is clarified with analysis of yearly average of monthly household expenditure data on the urban and rural areas in each region. (1) Expenditure elasticity estimates show that cereals and fish are

necessary goods, and livestock products, vegetables and fruits, and food away from home are luxury goods in both the urban and rural areas. (2) The expenditure and own-price elasticities in the urban and rural areas have almost the same values except for food away from home. (3) The result in Malaysia that had achieved GDP growth at a moderate pace is much different from East Asian countries, such as Japan and China which have experienced a very rapid economic growth.

The content in chapter four is meal selection of Japanese migrants in Malaysia. The study examines the meal content of migrants to Malaysia based on the results obtained in the survey conducted in 2015 and 2018. An empirical analysis to identify the selection factors for Malaysian food is conducted.

(1) A substantial difference is not observed in homemade meal selection between the Japanese in Japan and in Malaysia, however the frequency of eating out is much higher in Malaysia than in Japan, which shows modification of their dietary habit began with eating out. (2) It is evident that Japanese migrants eat Malaysian food more frequently than other meals, including Japanese food; Malaysian food is favored while eating out and Japanese food is mainly chosen as a homemade meal. (3) The relation between two individual attributes (duration of migration and age class) and Malaysian food selection verifies dietary behavior does not change in a simple way: (a) As the duration of migration increases, Malaysian food is adopted, which shows that Malaysian food is gradually accepted by Japanese migrants, although the eating frequency of the meal varies by age class or gender in the short term. (b) Malaysian food is spicy and oily, thus, as age class increased, there is an effect of returning to Japanese food.

(4) As a multiracial country, Malaysian food is not a single cuisine. It includes Malay, Malaysian-Chinese, Malaysian-Indian, and Nyonya cuisine. Prior investigations show that the dietary habits of Malaysian food are formed when migrants have been living abroad for longer periods of time. However, based on my results, I find that these habits comprise Malaysian-Chinese

cuisine, and not Malay or Nyonya cuisine with its unique flavor. The analysis reveals that the longer the length of stay and the older the migrants, there is a tendency of returning to Japanese food.

(5) As for Malay and Nyonya cuisines which are new to the Japanese, people in their twenties show high frequency of eating Malay cuisine. Although, people in their sixties and above have a tendency to avoid it. While Malaysian food has a relatively high ratio in eating out, I found that Malay cuisine also has a tendency to be homemade meal. (6) Both breakfast and lunch variables show positive values, and I can confirm that respondents select Malay cuisine for breakfast and lunch.

People in their sixties have a tendency of returning to dietary habit that they had in Japan. Nevertheless, as most of the migrants were less than sixties and were staying for fixed years, they are more likely going back to Japan with their modified dietary behavior. It is a future study whether the change remains only in choice of eating out or whether it amounts to homemade meal.

Table of Contents

Acknowledgement	...i
Summary	...ii
Table of Contents	...v
List of Tables	...viii
List of Figures	...ix
List of Appendixes	...x
Glossary and acronyms	...xi
CHAPTER 1 Introduction	... 1
1.1. Background of the study	... 1
1.2. Objective of the study	... 2
Appendixes to the chapter 1	... 6
CHAPTER 2 Literature review	...12
2.1. Introduction	...12
2.2. Inter-marriage – Case of Nyonya cuisine in Malaysia	...12
2.3. Influence of religion – Case of religious conversion in Malaysia	...14
2.4. Migrants as permanent residents	...15
2.5. Students studying abroad	...18
2.6. Influence on dietary habits by migration	...19
2.7. Migration for working purpose in Japan	...20

CHAPTER 3 Analysis of food demand in urban and rural areas of Malaysia	
focusing on relatively moderate economic growth	...22
3.1. Introduction	...22
3.2. Characteristics of Malaysian food consumption	...24
3.3. Empirical analysis	...27
3.3.1. Analytical model	...27
3.3.2. Estimation results	...28
3.4. Conclusions	...32
CHAPTER 4 Meal selection of Japanese migrants in Malaysia	...33
4.1. Introduction	...33
4.2. Survey description	...34
4.3. Two stages of analysis	...38
4.4. First Stage – Meal selection of Japanese people based on the 2015 survey	...38
4.4.1. Comparison of meal patterns	...38
4.4.2. Meal content of Japanese migrants in Malaysia	...40
4.4.3. Determinants of Malaysian food selection	...41
4.4.3.1. Frequency of Malaysian food selection by individual attributes	...41
4.4.3.2. Empirical analysis	...43
4.4.3.3. Findings	...45
4.5. Second Stage – Food consumption behavior of Japanese migrants in Malaysia	
based on the 2018 survey	...46
4.5.1. Taste in Malaysian food by the Japanese migrants	...46
4.5.2. Meal content of Japanese migrants in Kuala Lumpur	...48
4.5.3. Empirical analysis	...52

4.5.4. Empirical results	...52
Appendixes to the chapter 4	...57
CHAPTER 5 Conclusions	...63
5.1. Introduction	...63
5.2. Results of the study	...65
5.3. Implication and contribution	...67
5.4. Originality of the study and General Discussion	...69
5.5. Limitation/Future Study	...70
References	...71

List of Tables

Table 1.1 Number of Malaysian restaurant and migrant in foreign countries	... 3
Table 3.1 Annual average growth rate of GDP per capita in Malaysia, Japan, and China	...22
Table 3.2 Food expenditure ratios between urban and rural areas	...23
Table 3.3 Parameter estimates	...29
Table 3.4 Price and expenditure elasticities of urban and rural areas	...31
Table 4.1 Principle survey items	...37
Table 4.2 Weekly meal pattern of Japanese migrants in Malaysia (%)	...39
Table 4.3 One-day meal pattern of Japanese in Japan (%)	...39
Table 4.4 Weekly meal content of Japanese migrants in Malaysia (3 meals \times 7 days = 21 meals)	...41
Table 4.5 Weekly average frequency of Malaysian food selection	...42
Table 4.6 Descriptive statistics	...43
Table 4.7 Estimation results	...44
Table 4.8 Score based on taste in Malaysian food	...47
Table 4.9 Weekly meal content of Japanese migrants in Malaysia	...49
Table 4.10 Frequency of eating Malaysian food according to length of stay of Japanese migrants	...51
Table 4.11 Descriptive statistics	...54
Table 4.12 Estimation results	...55

List of Figures

Figure 1.1 Outline of the thesis	... 5
Figure 3.1 Average monthly expenditure per household and Engel coefficient	...25
Figure 3.2 Food expenditure shares	...27
Figure 4.1 Two stages of analysis	...38
Figure 4.2 Ratio of diet, according to length of stay by Japanese migrants	...50
Figure 5.1 Flow chart of the study	...64
Figure 5.2 The scope of my study	...70

List of Appendixes

Appendix 1.1. Definition of migrants	... 6
Appendix 1.2. The Objective of the program from Malaysia, Thailand and Japan	... 8
Appendix 1.3. What is Malaysian food?	...10
Appendix 4.1. Survey questionnaires	...57
Appendix 4.2. “Q17. What image do you have about Malaysian food?”	...61
Appendix 4.3. “Q20. How to make Malaysian food widely accepted by Japanese people?” (Multiple answers)	...62

Glossary and acronyms

<i>Berhad</i>	Malaysian public limited company (PLM) [Investopedia webpage]
Cuisine	A style of cooking. (Cambridge English dictionary)
Dietary habits	The food choices preferred by persons in their daily life. (Insight Medical Publishing webpage)
Dish	Food prepared in a particular way as part of a meal. (Cambridge English dictionary)
Empirical study	The collection and analysis of primary data based on survey in the field or statistical data. Data is analyzed quantitatively or qualitatively.
Malaysian food	It includes Malay cuisine, Malaysian–Chinese cuisine, Malaysian–Indian cuisine and Nyonya cuisine (Peranakan, a Malay–Chinese fusion cuisine).
Meal	Food that is eaten at breakfast, lunch, or dinner. (Cambridge English dictionary)
Migrant	A person who is moving or has moved across an international border or within a State away from his/her habitual place of residence. This study focuses on the Japanese migrants who are residing abroad for at least three months but may be planning to return to Japan. The word migrant has an image of permanent resident (Oxford dictionaries). In terms of long-term migrant or resident, in practice, many countries have used a different length of period for this purpose. For that reason, migrant word is chosen in this study.
<i>Peranakan</i>	It signifies locally born or the offspring of intermarriage between Malaysian people and a foreigner, especially Chinese people. (Shahrim <i>et. al.</i> , 2016)
MKP	Malaysia Kitchen Program (2006-2015). [MKP Annual Report, 2014]
MATRADE	Malaysia External Trade Development Corporation. (StudyMalaysia webpage)

CHAPTER 1

Introduction

1.1. Background of the study

Public diplomacy is the government effort aimed at communicating with foreign publics. Cultural diplomacy is one of public diplomacy. Cultural diplomacy is the exchange of ideas, values, traditions and other aspects of culture or identity. Culinary diplomacy or gastrodiplomacy is a type of cultural diplomacy. Gastrodiplomacy refers to campaigns of public relations and investment by the government to increase the value and standing of their nation brand through food (Rockower, 2012).

Japanese foods and ingredients are gaining popularity in foreign countries. In fact, in 2013, traditional Japanese cuisine was added to the UNESCO Intangible Cultural Heritage Lists and the Japanese government initiated a strategy to secure the place of Japanese food in the global market. This strategy was founded on three core pillars: “Made from Japan,” “Made by Japan,” and “Made in Japan.” This strategy was designed to increase the culinary use of Japanese ingredients throughout the world, to facilitate the global rollout of Japanese food culture and food industries, and to expand exports of agricultural products (Yamashita, 2014). The “Made from Japan” initiative involves the promotion of Japanese restaurants abroad. According to the Japanese government, such restaurants act as a showroom for Japanese cooking and foods. Further, these overseas restaurants are a major user of Japanese agricultural products.

Other Asian countries have taken a similar approach. For example, the Thai government has implemented a policy aimed at increasing global appreciation for Thai cooking. In fact, the number of Thai restaurants has risen significantly in the world.

The Malaysian government also introduced a project called ‘Malaysia Kitchen for the World’ program (MKP) through Malaysia External Trade Development Corporation (MATRADE) which was

a platform introducing Malaysian food and local commodities worldwide under the Ministry of International Trade and Industry (MITI) in 2006 (Jalis *et.al.*, 2014).

MKP was initially started by Tourism Malaysia in 2006 under the 9th Malaysian Plan (2006 – 2010) by the Economic Planning Unit, in 2009 the 10th Malaysian Plan continued to promote MKP until 2015 through MATRADE which were entrusted with the promotion of MKP.

The program focused on positioning Malaysian food as a distinct, delicious and a new trend as well as to generate widespread positive coverage for Malaysian food and food in the mainstream and social media channels. Because at that time, it was reported that Malaysian food was indistinguishable to an outsider from food from other parts of the South East Asian and sometimes greater Asia region, as well as some of the Malaysian food and beverage were not compliant with international standards.

The primary objective of MKP was to increase Malaysia's exports of food and beverage products in the target market. Secondary objectives were as follows: (1) To increase the patronage of Malaysian restaurants operating overseas; Malaysian restaurants operating overseas serve as Malaysian permanent promotion tool. (2) To increase the number of Malaysian restaurants overseas. (3) To position Malaysia as an attracting travel destination, leveraging on Malaysian food, art, culture and music.

In 2012–2015 period, the MKP initiative was “Bringing Malaysia into Every Home”, focusing on four markets; the USA, UK, Australia and China including Hong Kong, due to greater market opportunity. Through this program, the number of Malaysian restaurants worldwide registered with MKP increased from 376 in 2006, to 647 in 2012 and 866 in 2015 respectively. 2,726 product lines were promoted by the MKP event in four MKP target markets. It was an increase of 47.3% compared to 1,851 product lines in year 2013.

1.2. Objective of the study

MKP was also introduced in Japan by MATRADE Tokyo, and the restaurant *Jom Makan*, which was materialized first in the world under this program was opened in Tokyo in May 2008 to promote Malaysian food. MKP offered financial support to *Jom Makan* through Export-Import Bank of Malaysia Berhad (EXIM Bank Malaysia).

The “Malaysia Food Festival”, organized by MATRADE Tokyo with the cooperation of various Malaysian government agencies based in Tokyo, was held as a MKP event. The event, aimed at promoting and branding Malaysian restaurants currently operating in Japan, was also targeted at creating greater visibility and awareness of Malaysian food among local Japanese, besides further enhancing the exports of Malaysian made food and beverage products to Japan.

However, the number of Malaysian restaurants in Japan was 12 in 2014, still 15 in 2019; very few compared with other countries as shown in Table 1.1. What is the reason the number of Malaysian restaurants does not increase in Japanese market?

Table 1.1 also shows that there is a strong positive correlation ($r = 0.95$) between the number of restaurants and the size of Malaysian migrants in each country. It suggests the number of Malaysian restaurants depends on the Malaysian community.

Table 1.1 Number of Malaysian restaurants and migrants in foreign countries

Country	Number of Malaysian restaurants in 2014	Number of Malaysian restaurants in 2013	Number of Malaysian migrants
Australia	334	220	140,000
UK	94	64	75,000
USA	73	82	26,000
Japan	12	7	16,768

Source: 2016 Census of Australia, 2017 UK census, 2010 USA Census, and 2018 Statistical survey of registered (Immigration bureau of Japan).

Therefore, it seems inevitable that Malaysian restaurants do not increase in Japan where there is only a small Malaysian community. Even so, when Malaysian food wins much popularity among the Japanese restaurant crowd, Malaysian restaurants have a possibility to increase more. To that end, it is necessary to clarify why Malaysian food is not widely accepted by the Japanese people.

Although, it is probable the reason why Malaysian restaurant does not increase in Japan consists of many factors such as taste, services cape (restaurant's exterior, interior and ambient conditions), marketing and so on. This study explores the constraint factors of the dissemination of Malaysian food from the view point of the influence of Malaysian food on the dietary habits of the Japanese people.

Nevertheless, Japanese people who have eaten Malaysian food are very limited, in other words, it is not possible for them to identify a specific Malaysian meal. I paid attention to the Japanese who migrated to Malaysia, because In Malaysia, Japanese residents have access to both local and Japanese/other countries' food, and therefore, they are able to specify and evaluate Malaysian food. On that account, I investigated the meal content of Japanese migrants in Malaysia and inquired how Malaysian meals were chosen in their daily life.

The objective of this research is to evaluate and to clarify the constraint factors that have affected the dissemination of Malaysian food among Japanese people. The implication of this research is to show a specific strategy for promoting the spread of Malaysian food based on the results of my study. The results from this study can also be used to attract more Japanese tourists to come visit Malaysia. The findings are also important to the Malaysian government as it shows the place of Malay cuisine from the view point of the Japanese preference.

Figure 1.1 presents the outline of this thesis. In chapter 2, I examine the relation between migration and dietary habits by reviewing previous studies. In chapter 3, I analyze food consumption difference between urban area and rural area in Malaysia. The content in Chapter 4 is meal selection

of Japanese migrants in Malaysia based on the results obtained in the survey conducted in Malaysia.

In chapter 5, I try to evolve my findings in the context of dietary habits, because the food choices preferred by persons in their daily life have been discussed as an issue on dietary habits

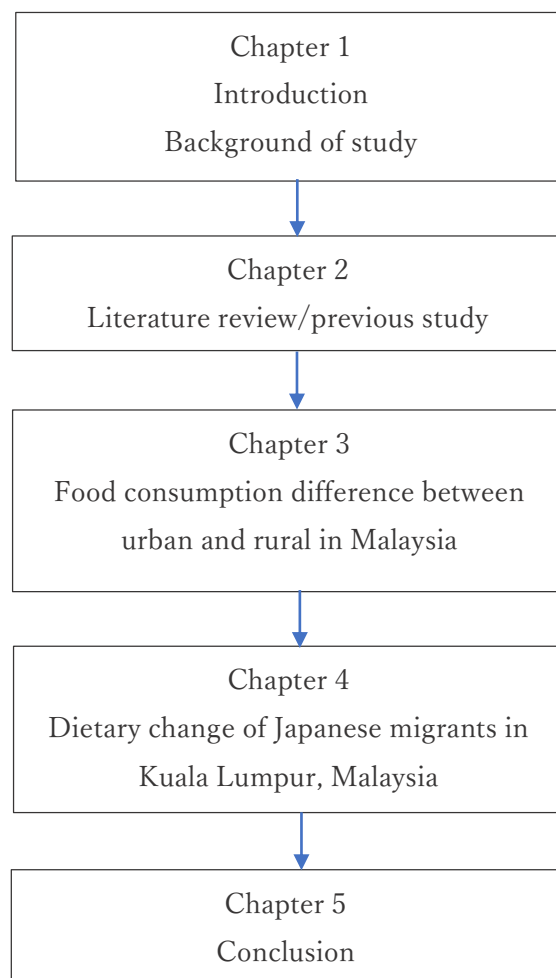


Figure 1.1. Outline of the thesis

Appendixes to Chapter 1

Appendix 1.1. Definition of migrants

Box 1. Dictionary definition	
Migrant	<ol style="list-style-type: none"> 1. A person that travels to a different country or place, often in order to find work (Cambridge Dictionary online) 2. A person who moves from one place to another, especially in order to find work or better living conditions. (Oxford dictionaries)
Immigrant	<ol style="list-style-type: none"> 1. A person who has come to a different country in order to live there permanently. (Cambridge Dictionary online) 2. A person who has come into a foreign country in order to live there (Cambridge Dictionary online-social studies) 3. A person who comes to live permanently in a foreign country. (Oxford dictionaries)

Box 2. Definition of country of usual residence, of long-term international migrant and of short-term international migrant by United Nations (UN)	
Country of usual residence	<p>The country in which a person lives, that is to say, the country in which he or she has a place to live where he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage does not change a person's country of usual residence.</p>

Long-term migrant	A person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence. From the perspective of the country of departure the person will be a long-term emigrant and from that of the country of arrival the person will be a long-term immigrant.
Short-term migrant	A person who moves to a country other than that of his or her usual residence for a period of at least 3 months but less than a year (12 months) except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage. For purposes of international migration statistics, the country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it.

Source: United Nations (1998)

Box 3. Classification of Japanese migrants	
Short-term residents	spending less than three months abroad
Long-term residents	those residing abroad for at least three months, but may be planning to return to Japan. If those who intend to stay for more than 3 months, they are included in the long-term residents even if the length of stay is less than 3 months at the time of the survey.
Permanent residents	granted permanent residency by their host country and have moved abroad for the foreseeable future

Source: Ministry of Foreign Affairs of Japan (2018)

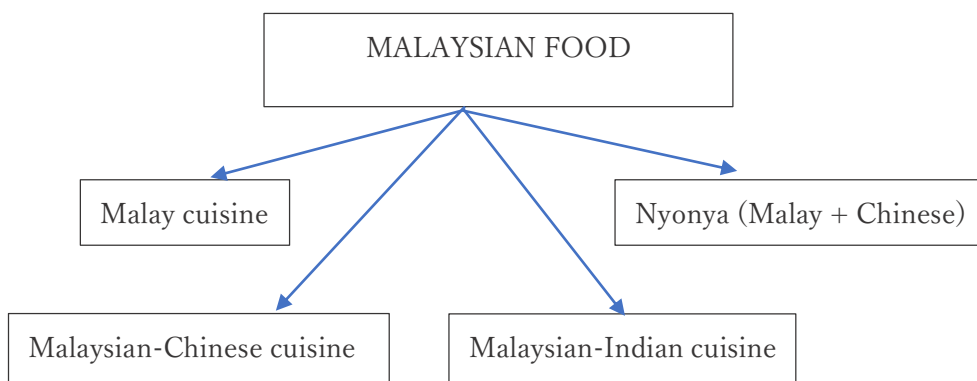
Appendix 1.2. The Objective of the program from Malaysia, Thailand and Japan

Program	Objective
Malaysia Kitchen Program (MKP)	<ol style="list-style-type: none"> 1. Opening new restaurant or to increase Malaysian restaurant network which already existed overseas 2. Promoting food, handicrafts and agriculture product from Malaysia 3. Network of food ingredients supply to the restaurants, distribution centers and retail trade overseas 4. Using Malaysian restaurant overseas as a platform to promote tourism industry and medium small industry companies
Thai Food to the World	<ol style="list-style-type: none"> 1. To be one of the five world food exporters within 2-3 years with the highest creditability in safety, health and sanitation, 2. To promote more export of raw materials and additional ingredients for Thai recipes, 3. To encourage Thai restaurants abroad to be tourist information centers together with the marketing of “One Tambon (District) One Product”, 4. To support the increase of Thai restaurant businesses abroad with the services of the real Thai taste and international standard.
Overseas Promotion of Japanese Food	<ol style="list-style-type: none"> 1. To protect employment and income while the food market in Japan is shrinking, develop demand in countries and regions where the food market expansion is expected in the future for the expansion of export as an initiative to achieve the export target of 1

	<p>trillion yen by fiscal year 31 (2019).</p> <p>2. As an effort to export Japanese agricultural, forestry and marine products and food. Besides, by sending Japanese food and Japanese food culture to the world while promoting interest and demand for Japanese agricultural, forestry and marine products and foods, it is necessary to build a mechanism to spread and promote it to the world correctly/properly.</p>
--	---

Source: Malaysia Kitchen Secretariat (2013), Thai Food to the World (2007), Ministry of Agriculture, Forestry and Fisheries (2019)

Appendix 1.3. What is Malaysian food?



Malaysian food is not a single cuisine; it includes Malay, Malaysian-Chinese, Malaysian-Indian, and Nyonya cuisine. Many Japanese become familiar with the Chinese and Indian cooking while living in Japan. Although Japanese migrants frequently eat Malaysian food, they continue their eating behaviors from back home, as long as those behaviors center on Chinese and Indian cuisine (Yoshino, 2010). Hence, migration alone does not mean that an individual will adopt a different gastronomic culture.

In contrast, Malay and Nyonya cooking styles are new to the Japanese, and only few migrants experience them while in Japan. Base flavors in Malay and Nyonya cuisine include *belacan* (shrimp fermented in a barrel and crushed into a paste) and *sambal* (a rich, pungent seasoning; its main ingredients are chilies, onions, garlic, and sugar). These are used in most Malay and Nyonya dishes and represent flavors that the Japanese would find unfamiliar.

Malay cuisine uses herbs and spices, which lend it its distinct flavor. The herbs include ginger, lemongrass, turmeric, pandan leaves, and kunyit leaves. The spices include cinnamon sticks, clove, cardamom, and star anise. Cooking oil – mostly palm oil – is used in the first step. Coconut milk is commonly used to make soups or gravies. Excessive amounts of cooking oil and coconut milk are

partly why Malay cuisine is oily, fatty, and unhealthy. Moreover, since Malay cuisine also uses chilies and spices, the dishes are very spicy.

Malaysian-Chinese cuisine is not the same with the original Chinese cuisine from China because Malaysian-Chinese cuisine is under the influence of Malaysian ingredients and Malaysian cooking styles. Nonetheless, of course there are some similar meals. The same goes to Malaysian-Indian cuisine which is not the same with the original Indian cuisine from India although there are some similar meals.

CHAPTER 2

Literature review

2.1. Introduction

Food consumption behavior is dependent on the natural, social, and cultural environment. The area where people live has a specific climate and culture traits. In this respect, each area has some influence on people's dietary habits. Therefore, it is considered that the change of place of residence, especially migration to foreign countries, has some impact on their food consumption behavior. Patterns on dietary change caused by a migrant are classified as follows.

2.2. Intermarriage – Case of Nyonya cuisine in Malaysia

Shahrim *et.al.* (2016) wrote the word Peranakan is originated from Indonesia or Malaysia and has multiple meanings. It signifies locally born or the offspring of intermarriage between local people and a foreigner, especially Chinese people. In the paper, they referred to Tan (2001) who defined that Nyonya cuisine or Peranakan cuisine is the creation that arises from cultural borrowing and cultural innovation through contact with local ingredients and non-Chinese principles of food preparation. Hall (2013) defined the cuisine as one that combines Chinese cooking techniques and ingredients with Malaysian and Indonesian spices and flavors. According to Djatinugroho *et. al.* (2014), this cuisine owes its existence to early Chinese migrants who found that the local food did not suit their taste buds. As they were also unable to cook the food of their homeland due to the unavailability of the ingredients, they tried to produce their own food with local materials.

According to Tan (2001), Nyonya food can be divided into three categories. The first is traditional Chinese (Hokkien) food with some alteration, the second is Malay-style dishes, and the third are the innovated foods. Hall (2013) wrote that the inventive Peranakans altered the traditional

Chinese food bought from China due to the limited availability of main ingredients and to suit the local palates. The author remarked that the Peranakans are localized Chinese, a distinct ethnic group with its own unique customs developed from the blending of Malaysian and Chinese cultures.

Shahrim *et.al.* (2016) wrote that the term Peranakan can mean locally born or the offspring of intermarriage between a local and a foreigner, and that The Peranakans were descendants of the male seafarers who sailed from Southern China to the Nusantara (Malay Archipelago). Tan (2001) wrote that Chinese men from southern provinces frequently migrated overseas and their numbers peaked in the middle of the 19th century. As these first-generation Chinese migrants were unaccompanied by their women, who were not legally allowed to leave China, Teh *et.al.* (2014) and Wee (2009) remarked that they intermarried with the Siamese and Burmese women who lived in these ports, and also with the indigenous non-Muslim women of Acehnese, Javanese, Balinese, and Batak descents. Tan (2010) remarked that the intermarriages were motivated by the fact that these women were good housekeepers and saleswomen, keeping the business running when they went on a business trip to China. William (2007) wrote that the menfolk partially adopted Malay customs so that they could blend into the local communities. Shahrim *et.al.* (2016) remarked that the migration of Chinese women only truly began toward the end of the 19th century and the early 20th century.

Tan (2007) made it apparent that the consumption of pork will always draw a solid line between Nyonya and Malay cuisine no matter what the extent of localization is. Similarly, Tan wrote that Nyonya cuisine can be easily distinguished from the cuisine of mainstream Chinese based on the usage of local non-Chinese ingredients in its preparation.

According to Tan (1988), Baba Nyonya and Peranakan Chinese is a term used for the descendants of late 15th and 16th century Chinese migrants to Malaysia and Indonesia. In Malaysia, members of this community in Malacca address themselves as “Baba Nyonya”. Baba is a term for the men and Nyonya for the women. He argues that the characteristic of the Baba Nyonya culture

can be identified through their language, customs, dress and cuisine. In relation to the cuisine, the Peranakan food is a delightful fusion food of Malay and Chinese with little influence of Indonesian, Siamese, Indian, Dutch, Portuguese and English (Tan, 1988). Through the adaptation of Malay and Chinese cuisines, the Peranakan food or cuisine can be differentiated through their type of food, methods of cooking, the ingredients used, and eating decorum (use their fingers as the Malay do).

2.3. Influence of religion – Case of religious conversion in Malaysia

Malaysian population in 2019 is estimated to be around 32.45 million with 51.53% male and 48.47% female. There are 28.74 million citizens and 3.29 million non-citizens. Malaysia is a multi-racial nation. As to Malaysian population of citizens by ethnic group, 19.78 million (68.8%) are Bumiputera (native, Malay included), 6.67 million (23.2%) are Chinese, 2.00 million (7.0%) are Indians while others 0.29 million (1.0%) (World Population Review, 2017).

Islam is the most declared religion in Malaysia with the proportion of 61.3%. Other religions are Buddhism (19.8%), Christianity (9.2%) and Hinduism (6.3%). The rest are other religion (0.4%), no religion (0.7%), unknown (1.0%), and other traditional Chinese religion (1.3%) (Department of Statistics Malaysia, Official Portal, 2010). In 2010, Kettani (2010) wrote about Muslim Population in Asia and pointed out that the Muslim population in Malaysia increased from 5,164,205 or 50.04% in 1970, to 6,918,307 or 52.93% in 1980, to 10,257,341 or 58.62% in 1991, to 14,049,379 or 60.36% in 2000.

Most Malays in Malaysia are Muslims. However, there are also Muslims from different ethnic groups such as Chinese Muslims and Indian Muslims. As to Muslim dietary style, Muslim is prohibited from drinking alcohol and eating pork. Before consuming any meat, they have to make sure it is halal. In Arabic, halal means permissible or allowed. To make meat halal or permissible, an animal or poultry has to be slaughtered in a ritual way. Halal is relating to meat prepared as

prescribed by Muslim law. Although, fish and seafood are not the problem. For that reason, contrary to non-Muslim Chinese and Indians, Chinese Muslims and Indian Muslims do not eat pork nor drink alcohol.

This makes Chinese Muslims dietary style different from non-Muslim Chinese in Malaysia. Their menu does not consist of pork and any pork recipe is replaced with halal chicken or other meats. The same goes to any recipe that uses alcohol or wine as the ingredients which are replaced with non-alcoholic liquid. Since Chinese Muslim food can also be eaten by the Malays in Malaysia, there are famous Chinese Muslims restaurants that are crowded with Malays, Chinese Muslims and even Indian Muslims who want to enjoy the halal version of Chinese food.

While it is typical for an Indian Hindu to not eat beef because the cow is worshipped and sacred to them, Indian Muslims do eat beef, especially beef curry. Similar to Chinese Muslims, their menu consists of halal chicken and other meats and is pork free. Alcohol as an ingredient is not used. Indian Muslims restaurants all over Malaysia are famous for their curry and are always crowded with Malays who need to find a halal version of Indian food. Typically, Indian Muslims restaurants operate for 24 hours.

2.4. Migrants as permanent residents

There are some studies on the dietary habits of Japanese migrants who were permanent residents in Brazil and Hawaii. Okimasu *et al.* (1981a, 1981b) wrote two parts on the dietary habits of Japanese Brazilians. Part one was from the side of food intake. Part two was from the side of the structural analysis of food consumption pattern. According to the author, in order to verify the basic food consumption pattern of Japanese, the food intake of Japanese migrants in Brazil were examined relating to age difference, years after migration and rice or bread intake.

In part one, the author compared the result with the Japanese in Japan. The author pointed out

that there was a difference in food intake between the younger and older generation. This showed the younger generation adapted to Brazilian food while the older generation were persistent to Japanese food. On the subject of food intake proportional to the years after migration, many different changes were observed. Some Japanese food intake increased after a period of decrease. There was a brief period of increased intake of some Brazilian food just after migration with following decrease, while others showed smooth increase in consumption. As to the food intake on the subject of rice, it was found that those who ate more rice took more of both Japanese and Brazilian food and that the amount of intake of rice had no correlation with the intake of bread and noodles and had no correlation with the age or the years after migration. The amount of bread intake also showed no correlation with those of rice or noodles but the group that took more bread showed the Brazilian dietary pattern and the group that took less bread showed the Japanese dietary pattern. The author pointed out that the dietary life of Japanese migrants forms the double structure by continuing the Japanese style and at the same time adapting to the Brazilian style. Rice is found to have connections with different foods and to play a role as a basic food of their dietary life. For that reason, the dietary life based on rice is considered to be exactly the basic food consumption pattern of Japanese.

In part two, the author analyzed the food intake of Japanese migrants in Brazil through the multivariate analysis method and compared it with the Japanese in Japan (in Kanagawa Prefecture). For the factor analysis on the correlation matrix, in the first factor, Japanese pickles, fish and shellfish, rice, noodles, meat, Miso and soy sauce showed comparatively larger factor load. In the second factor, fat and oil, meat, sugar, eggs, fruits, potatoes and Japanese pickles showed larger factor load. The first factor showed the Japanese dietary life. The second factor showed the Brazilian dietary life. This suggested the double structure in the Japanese migrants' dietary life. It is concluded that the dietary life based on rice and soy sauce is considered to be exactly the basic food consumption pattern of the Japanese.

Matsuyama (1976) wrote a short report of dietary picture of six Japanese women migrants in Hawaii. Six women who had finished an elementary school in a village in Miyagi prefecture, Japan, and migrated into Hawaii, living in Honolulu, were interviewed in August 1975. Half of them were widowed mothers and were aged from 55 to 78. Questions were the frequency of use and the preparation method of the 46 food items which were often consumed in the native village of participants. Twenty-one items were eaten at least once a week by many participants. Sweet potato, burdock, daikon, green onion, Japanese leek and tuna, were prepared in a similar way to their native place. One of the participants, aged 67, was requested to keep a dietary record for 3 days of herself and her eleven descents. The record showed that some food habits from her native village were kept in her descents.

In a much more recent paper than Matsuyama's, Takata *et al.* (2004) compared the dietary habits of Japanese women in Gifu, Japan with the Japanese women and Caucasian women in Hawaii. Food intake was assessed with validated food-frequency questionnaires and urine samples were collected. Subjects were 164 Caucasian women and 146 Japanese women in Hawaii and 206 women in Japan. Dietary habits differed by ethnicity and location. Compared to the Caucasian diet, the diet in Japan was low in fat and high in carbohydrates and protein, but the Japanese women in Hawaii reported medium intakes. Japanese women in Gifu ate food that was high in fish, soy, eggs and vegetables, and low in fruits, dairy products and meat. Contrary to that, the Caucasian women consumed the most dairy products and fruits and the Japanese women in Hawaii reported the highest grain and meat intakes. In conclusion, the diet of Japanese women in Hawaii appeared to be a combination of foods eaten in Japan and the food habits of Caucasian women in Hawaii.

Satia *et al.* (2001) examined adoption of Western eating patterns among Chinese migrants (dietary acculturation) by comparing Chinese-Americans and Chinese-Canadians. The author noted that most participants reported some Western dietary practices, such as drinking milk, eating cheese,

eating at Western fast-food restaurants, and eating between meals. Lv *et al.* (2004) studied the dietary pattern changes of Chinese Americans in Pennsylvania and found that after migration, Chinese Americans increase their consumption of grains, vegetables, fruits, meat/meat alternatives, dairy products, fats/sweets, beverages, and Western foods, while reducing their consumption of traditional Chinese foods. Sukalakamala *et al.* (2006) investigated food acculturation of Thai migrants in the United States, finding a decrease in the number of meals consumed per day and a preference for American snacks to Thai ones. Consumption decreased for 29 Thai foods and increased for 33 American foods. The author concluded that acculturation was positively related to consumption and preference for some American foods and negatively related to consumption and preference for some Thai foods.

Some studies discussed the medical content and health perspective. Kim *et al.* (2007) compared the dietary pattern and diet quality of Korean Americans with high blood pressure with native Koreans. Franzen *et al.* (2009) investigated the body mass index (BMI) of the adult Hmong (a race of people born in Thailand or Laos) in Minnesota, United States. Pierce *et al.* (2007) studied Japanese Americans, suggesting that dietary changes associated with acculturation to a Western diet may increase the risk of type 2 diabetes in Japanese Americans.

2.5. Students studying abroad

There are several surveys on the students who study abroad for several years. Brittin *et al.* (2011) discussed food acculturation of some Arab students in US universities. The author noted that for students living in the US, the number of meals consumed per day decreased and food eaten out changed from Arabic to American. Pan *et al.* (1999) identified changes in dietary patterns among Asian students (China, Taiwan, Hong Kong, Japan, and Korea) before and after migration to the United States. All students were required to have been residing in the United States for at least three

months. Subjects were eating out less often; however, they were selecting more American-style fast foods when they did. Papadaki *et al.* (2002) surveyed the eating habits of Greek students before and after moving from Greece to Glasgow, Scotland. The main barriers to maintaining usual/traditional eating habits were the price of food, lack of familiar tastes, availability of convenience food and the limited variety of food available in Glasgow. This finding highlights the difficulties migrants face in keeping traditional, healthier eating habits when migrating to a foreign country.

2.6. Influence on dietary habits by migration

Most of the previous studies on the change of the dietary habits of the migrant were focused on the difference between first generation and next generations. The globalization increased the migration of people for work who transferred overseas and stay there for fixed period of time. Nevertheless, only few studies examine the dietary habits of them.

One exception is Yamauchi's survey on Japanese living in New York City for less than three years (Yamauchi, 1986). Yamauchi investigated how people chose food ingredients in New York City, where Japanese foods are easy to obtain. Yamauchi noted that individuals predominantly purchased ingredients which they had some prior experience with and were easier to obtain than in Japan, or were inexpensive. These findings indicate that eating behaviors formed in Japan are not easily altered, even after migration. In other words, despite being in contact with unfamiliar cuisine and ingredients in host countries, the Japanese are reluctant to adopt them. Yamauchi's survey is noteworthy. However, it was a limited research in both that it was targeted on the people who stay less than three years there and on the food ingredients they purchased.

This study targets primarily on Japanese migrants who were working and examines their approach to Malaysian food, and explores whether migration changes the eating behaviors of the Japanese.

2.7. Migration for working purpose in Japan

In Japan, in the late 1950s, elevated economic growth began and Japanese economy had maintained a high growth till 1970s, which prompted dynamic population movement from rural areas to urban areas. According to Japan's "Report on the internal migration in Japan derived from the basic resident register," the number of internal migrants was 2.35 million people in 1954. After that, it increased drastically to 4.24 million in 1970.

The population movement had a considerable influence on Japanese eating habits. Japanese people traditionally lived mainly on rice, vegetables, and fish. After the Meiji era, people started to eat bread, beef and/or pork and dairy products under the influence of the western dietary culture. These eating styles, even though partially, spread in the urban area, while the traditional eating behavior was observed everywhere in the rural area till the beginning of the high economic growth.

Under these situations, Institute of Population Problems (presently, National Institute of Population and Social Security Research) studied the influence that domestic migration had on the eating habits through the period of high economic growth in Japan, and found a close relationship between dietary attitudes, particularly in selection of staple food, and domestic migratory experience. With staple food analysis, Uchino indicated that people who had experience of migration had more bread with less rice than the people who had no migratory experience. Uchino concluded that the degree of urbanization of each area, experience of urban dietary, and age were very important factors affecting dietary behavior. (Uchino, 1977).

These studies are very important for agricultural policy making because eating behaviors shape food consumption pattern which affects both domestic agricultural production and agricultural trade (Wen *et.al.*, 2002). It is also considered that if migration experience influences individual's food choice or dietary style, after their return to Japan, it would have some sort of influence on the food market.

The migration within the country began to decline from 1970s to 2.40 million in 2014. In contrast, the number of oversea travelers increased dramatically and reached 1790 million in 2017. According to the Japanese Ministry of Foreign Affairs' 2014 "Annual Report of Statistics on Japanese Nationals Overseas," the population movement abroad include both long-term and short-term.

Migrants are classified as short-term residents (spending less than three months abroad) [1], long-term residents (those residing abroad for at least three months, but may be planning to return to Japan) [2], or permanent residents (granted permanent residency by their host country and have moved abroad for the foreseeable future) [3].

The number of long-term Japanese residents reached 1.34 million in 2018. Such international migration is believed to have influenced eating habits through the migrants' contact with new host cultures, and the influence will continue even after the long-term residents return to Japan.

CHAPTER 3

Analysis of food demand in urban and rural areas of Malaysia focusing on relatively moderate economic growth

3.1. Introduction

The objective of this chapter is to analyze food consumption pattern in the urban and rural areas of Malaysia. While Japan and China have experienced very rapid economic growth, ASEAN countries such as Singapore, Brunei, and Malaysia have achieved their GDP growth at a moderate pace. Rapid economic growth in a country does not always lead to efficient development, because of the severe growth gaps among its various regions.

The brief relation can be observed in the following tables. First, Table 3.1 shows the annual average growth rate of GDP per capita in China, Japan, and Malaysia during their economic growth period.

Table 3.1 Annual average growth rate of GDP per capita in Malaysia, Japan, and China

Annual average growth rate of GDP per capita	Nominal	Real
Malaysia (1981-2013)	5.69	3.38
Period of economic growth		
Japan (1960-1973)	17.58	7.42
Period of high economic growth		
China (1979-2013)	11.32	8.78
Period of reform and opening		

Source: World Bank (2015).

Table 3.2 Food expenditure ratios between urban and rural areas

	Cereals	Fish	Livestock products	Vegetables & Fruits	FAFH
Malaysia (1993/94)	0.91	1.03	1.26	1.20	2.61
Japan (1965)	1.05	1.17	1.42	1.39	1.96

Source: Malaysia Department of Statistics (1995), Office of the Prime Minister of Japan (1966).

- 1) Each coefficient represents the ratio of food expenditure in the urban area divided by that of the rural area.
- 2) FAFH stands for food away from home.
- 3) These observed years in the table are selected by the reason for their availability.

The nominal and real rates of Malaysia are both lower than those of Japan and China. This finding suggests that economic growth in Malaysia is relatively moderate.

Second, Table 3.2 presents the food expenditure ratios of five items between the urban and rural areas of Malaysia and Japan. Except for food away from home (FAFH), the other ratios for Malaysia are smaller than those for Japan. It can be considered that moderate growth results in smaller expenditure gaps between the urban and rural areas.

In the previous studies, Tani *et.al.* (2013) analyzed the relation between household attribute and formation process of eating habits in the period of high economic growth in Japan. Kusakari *et.al.* (2015) made an analysis of food consumption after the period of reform and opening in China. The severe gaps between the urban and rural areas have been observed as a harmful influence in the rapid

economic growth. Ishida *et al.* (2003) and Tey *et al.* (2008) analyzed Malaysia's household food consumption; however, these studies did not clarify the difference between the country's urban and rural areas because they did not focus on the inter-regional growth gaps in the growth process.

In the analysis by Saidi *et al.* (2015), to understand whether the growth gaps between Malaysia's urban and rural areas resulted from its economic growth, the Linear Approximate Almost Ideal Demand System (LA/AIDS) proposed by Deaton and Muellbauer (1980) is applied by using data from these areas. To analyze how relatively moderate economic growth affects food consumption in the two types of areas, the Household Expenditure Survey (HES) data and Consumer Price Index data from the Department of Statistics are used. The HES defines urban areas as those that have a population of 10,000 and above, and classifies the remaining areas as rural areas.

3.2. Characteristics of Malaysian food consumption

Malaysia is a multi-ethnic nation, consisting of the Malay Peninsula and a part of the Borneo Island. The island area ruled by the Malaysian government is divided into two regions: Sarawak and Sabah. In 2010, the population of each region was 22,989,000, 2,557,000, and 3,362,000, respectively. Each region has a different racial and ethnic composition¹.

¹ Malaysia is a multi-ethnic nation. Citizens are from different races, such as Malay, Malaysian-Chinese, and Malaysian-Indian; however, they actually share Malaysian food among themselves. In general, they enjoy Malaysian food from Malay to Malaysian-Chinese cooking, Malaysian-Indian cooking, and Nyonya (Malay and Malaysian-Chinese hybrid) cooking. As shown in Figure 2, except for FAFH, food expenditure shares of four food items (cereals, fish, livestock products, and vegetable and fruits) tend to be almost the same in both urban and rural areas.

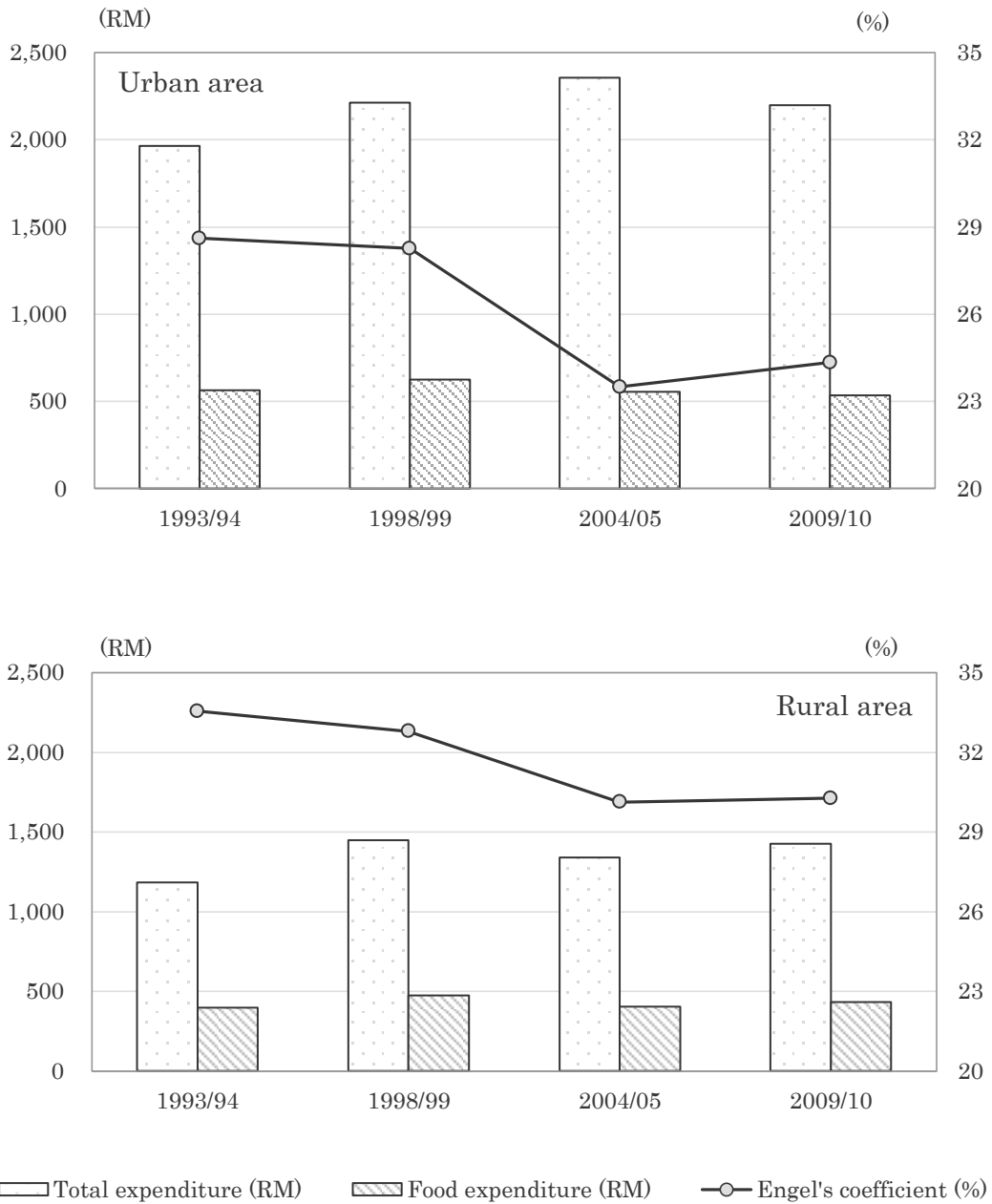


Figure 3.1. Average monthly expenditure per household and Engel coefficient

Source: Malaysia Department of Statistics (1995, 2000, 2006, 2011).

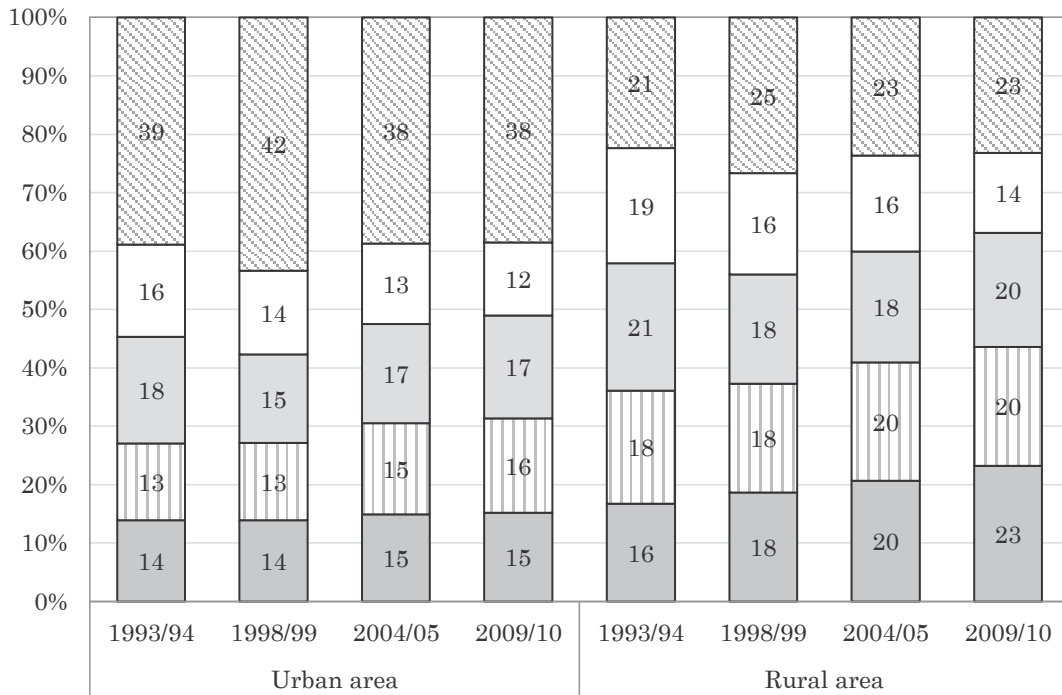
1) Oils, fats, luxury grocery items (confectionery, beverages, and alcoholic beverages) and seasonings are excluded.

2) Data are in constant year 2005 RM.

Figure 3.1. depicts the monthly total and food expenditures per household and Engel coefficient in the urban and rural areas of Malaysia. Yearly average of monthly household expenditure data on the urban and rural areas in each of the three regions are extracted from the HES in 1993/1994, 1998/1999, 2004/2005, and 2009/2010. The HES is a sample survey carried out almost every five years by the Department of Statistics from 1990. Each survey in Figure 3.1. illustrates that the difference in total expenditure between the two areas is larger than the difference in food expenditure; therefore, Engel coefficient in the rural area is larger than that in the urban area.

Figure 3.2. shows the expenditure shares of five food items in the two areas. Food is divided into the following five items: 1) cereals: rice, bread, and other cereals; 2) fish; 3) livestock products: meat, milk, cheese, and eggs; 4) vegetables and fruits; and 5) food away from home (FAFH). Oils, fats and condiments, confectionery, alcohol, and beverages are excluded.

The typical difference between the two areas is the amount of FAFH. This large difference might have resulted from their supply constraints; namely, there is fewer place/restaurant to eat outside in the rural area than the urban area.



Cereals
 Fish
 Livestock product
 Vegetables & Fruits
 Food away from home

Figure 3.2. Food expenditure shares

Source: Malaysia Department of Statistics (1995, 2000, 2006, 2011).

3.3. Empirical analysis

3.3.1. Analytical model

In this study, LA/AIDS is defined as follows:

$$w_i = \alpha_i + \sum_j^5 \gamma_{ij} \cdot \ln p_j + \beta_i \cdot \ln \left(\frac{X}{P^L} \right) + \varepsilon_i, \quad (1)$$

where w_i , p_j , and X are the household expenditure share of item i , the price of item j , and the total household expenditure, respectively. P^L denotes the Laspeyres-type Price Index, and ε represents the error term. The five food items that are analyzed are cereals, fish, livestock product,

vegetables and fruits, and FAFH ($i, j = 1, \dots, 5$). The parameters to be estimated are α , β , and γ . P^L is derived from the following formula:

$$\ln P^L = \sum_i \bar{w}_i \cdot \ln p_i \quad (2)$$

where \bar{w}_i is the average expenditure share of item i . To identify the food consumption of the urban and rural areas, equation (1) is modified as follows:

$$w_i = \sum_k^2 Dum_k \cdot \alpha_{ik} + \sum_j^5 \gamma_{ij} \cdot \ln p_j + \sum_k^2 Dum_k \cdot \beta_{ik} \cdot \ln(X/P^L) + \varepsilon_i \quad (3)$$

where Dum_k indicates a dummy variable for distinction between the urban and rural areas ($k = 1$: urban area, 2 : rural area).

The following theoretical restrictions are imposed on the parameters:

$$\sum_i \alpha_{ik} = 1, \sum_i \beta_{ik} = 0, \sum_i \gamma_{ij} = 0, \text{ (Adding-up)}, \quad (4)$$

$$\sum_j \gamma_{ij} = 0, \text{ (Homogeneity)}, \quad (5)$$

and

$$\gamma_{ij} = \gamma_{ji}, \text{ (Symmetry)}. \quad (6)$$

When q_i denotes the quantity of item i purchased per household, the price and expenditure elasticities of item i , that is, E_{ij} and E_{iX} are given by the following:

$$\begin{aligned} E_{ij}^k &\equiv \partial \ln q_i / \partial \ln p_j \\ &= -\delta_{ij} + \gamma_{ij} / w_i - \beta_i \cdot w_j / w_i, \end{aligned} \quad (7)$$

$$E_{iX}^k \equiv \partial \ln q_i / \partial \ln X = 1 + \beta_{ik} / w_{ik} \quad (8)$$

where δ_{ij} is the Kronecker's delta (if $i = j$, then $\delta_{ij} = 1$; otherwise, $\delta_{ij} = 0$).

3.3.2. Estimation results

The parameters of equation (3) are estimated simultaneously with the theoretical restrictions imposed in equations (4), (5), and (6) by using the Seemingly Unrelated Regression method. Table 3.3 shows the result of the estimation. Each R-squared is also provided. In the result, 23 out of 35

parameter estimates are statistically significant at the 10% level. The parameter α_{ik} , which means the average expenditure share of item i in area k , is statistically significant at the 1% level. Because of the estimated sign condition of parameter β_{ik} , cereals and fish are necessities in the two areas; other items, livestock products, vegetables & fruits, and FAFH, are luxuries.

Table 3.3. Parameter estimates

Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic			
α_{11}	0.191***	15.084	β_{31}	0.063	1.482	γ_{24}	-0.083***	-5.875
α_{12}	0.220***	16.914	β_{32}	0.076**	1.980	γ_{25}	0.047	0.992
α_{21}	0.159***	33.502	β_{41}	0.010	0.732	γ_{33}	-0.302	-1.081
α_{22}	0.173***	34.982	β_{42}	0.022*	1.859	γ_{34}	-0.108	-1.389
α_{31}	0.190***	20.365	β_{51}	0.134*	1.680	γ_{35}	0.282	1.499
α_{32}	0.219***	22.288	β_{52}	0.140**	1.980	γ_{44}	0.114***	3.494
α_{41}	0.144***	50.302	γ_{11}	-0.075	-0.590	γ_{45}	0.144***	2.904
α_{42}	0.170***	56.121	γ_{11}	-0.075	-0.590	γ_{55}	-0.475**	-1.980
α_{51}	0.316***	17.564	γ_{12}	0.018	0.535			
α_{52}	0.218***	11.830	γ_{13}	0.123	0.849	R-squared		
β_{11}	-0.119**	-2.123	γ_{14}	-0.067*	-1.801	$i = 1$ 0.664		
β_{12}	-0.166***	-3.323	γ_{15}	0.001	0.010	$i = 2$ 0.812		
β_{21}	-0.088***	-4.069	γ_{22}	0.012	0.794	$i = 4$ 0.859		
β_{22}	-0.071***	-3.777	γ_{23}	0.005	0.117	$i = 5$ 0.740		

1) *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

Table 3.4 exhibits the price and expenditure elasticities. The price and expenditure elasticities of five items described in formulas (7) and (8) are evaluated at the corresponding sample average of expenditure shares \bar{w}_i . Table 3.4 indicates the following characteristics of the household food consumption in Malaysia.

First, expenditure elasticity estimates show that cereals and fish are necessary goods ($E_{iX}^k < 1.0$), and livestock products, vegetables and fruits, and FAFH are luxury goods ($E_{iX}^k > 1.0$) in both the urban and rural areas. In the urban area, except for cereals, whose t-statistics show the estimates to be statistically significant, the expenditure elasticity of each of the four remaining items is slightly smaller than that in the rural area because of relatively larger food expenditure in the urban area.

Second, own-price elasticity estimates have negative values with a statistical significance at the 10% level. Only the elasticity of vegetable and fruits in the urban area is insignificant at the same significance level. The values of own-price elasticities in the two areas are also almost the same.

Third, the cross-price elasticity of FAFH is an expenditure share as shown in Figure 3.2. Contrary to FAFH, in Malaysia, since vegetables are usually used in stir-fried dishes with seafood, chicken, or meat, the cross-price elasticity of vegetables and fruits is a gross complement to all other items.

Table 3.4. Price and expenditure elasticities of urban and rural areas

		Cereals	Fish	Livestock products	Vegetables & Fruits	Food away from home
[Urban area]						
Expenditure elasticities		0.373 (1.381)	0.450*** (3.593)	1.334*** (5.650)	1.067*** (11.522)	1.424*** (5.302)
Price elasticities						
Price	Cereals	-1.275* (-1.879)	0.221 (0.998)	0.580 (0.766)	-0.479* (-1.843)	-0.076 (-0.157)
	Fish	0.196 (1.133)	-0.835*** (-9.108)	-0.026 (-0.116)	-0.586*** (-6.123)	0.082 (0.566)
	Livestock products	0.762 (1.000)	0.137 (0.493)	-2.650* (-1.784)	-0.761 (-1.409)	0.814 (1.354)
	Vegetables & Fruits	-0.262 (-1.238)	-0.442*** (-4.545)	-0.615 (-1.469)	-0.217 (-0.947)	0.394** (2.407)
	Food away from home	0.206 (0.265)	0.469 (1.590)	1.377 (1.394)	0.975*** (2.845)	-2.638*** (-3.492)
[Rural area]						
Expenditure elasticities		0.244 (0.942)	0.587*** (4.992)	1.346*** (8.175)	1.128*** (16.749)	1.643*** (5.637)
Price elasticities						
Price	Cereals	-1.175** (-2.024)	0.197 (0.958)	0.484 (0.739)	-0.424* (-1.933)	-0.135 (-0.195)
	Fish	0.214 (1.388)	-0.858*** (-9.941)	-0.037 (-0.182)	-0.511*** (-6.105)	0.105 (0.489)
	Livestock products	0.722 (1.073)	0.120 (0.466)	-2.456* (-1.921)	-0.664 (-1.446)	1.152 (1.293)
	Vegetables & Fruits	-0.177 (-1.003)	-0.409*** (-4.882)	-0.552 (-1.551)	-0.348* (-1.754)	0.549** (2.147)
	Food away from home	0.172 (0.255)	0.363 (1.322)	1.214 (1.426)	0.819*** (2.820)	-3.314*** (-2.966)

1) Figures in parentheses are t-values. *, **, and *** denote significance levels at 10%, 5%, and 1%,

3.4. Conclusions

The objective of this study was to analyze how relatively moderate economic growth affects household food consumption in the urban and rural areas of Malaysia. To examine the growth gaps between the urban and rural areas in the moderate growth scenario, LA/AIDS was applied to estimate the demand elasticities of five items by using per household food consumption pooled data for the period 1993/1994–2009/2010.

Based on the results of the estimation, it was clarified that the expenditure and own-price elasticities in the urban and rural areas have almost the same values except for FAFH. The difference in the elasticities of FAFH might have resulted from the supply constraints due to fewer place/restaurant to eat outside in the rural area than the urban area. It is very impressive that the expenditure and own-price elasticities in the two areas have almost the same values. The result is much different from East Asian countries, such as Japan and China, which have experienced severe inter-regional growth gaps in the course of their rapid economic growth.

CHAPTER 4

Meal selection of Japanese migrants in Malaysia

4.1. Introduction

According to Japan's "Report on the internal migration in Japan derived from the basic resident register," 2.35 million people moved within the country in 1954, after which the number of internal migrants gradually increased to 4.24 million in 1970. After 1970, this figure diminished to 3.36 million in 1980, 3.17 million in 1990, 2.81 million in 2000, and 2.33 million in 2010; the figure of 2.40 million in 2014 only represents a 57% increase compared to 1970.

In contrast, overseas migration began to rise. According to the "Annual Report of Statistics on Japanese Nationals Overseas," released by the Japanese Ministry of Foreign Affairs in 2014, movement abroad was both long-term and short-term. Migrants are classified as short-term residents (spending less than three months abroad) [1], long-term residents (those residing abroad for at least three months, but may be planning to return to Japan) [2], or permanent residents (granted permanent residency by their host country and have moved abroad for the foreseeable future) [3]. Of these, the number of Japanese in categories [2] and [3] reached 811,000 in 2000 and broke the 1 million mark for the first time in 2005, at 1.013 million. In 2014, there were 850,000 long-term residents and 440,000 permanent ones, totaling 1.29 million individuals. Those involved in the private sector accounted for more than two-thirds of all long-term residents. Such international migration is believed to have some degree of influence on individual eating habits, as migrants encounter new host cultures.

The number of long-term Japanese residents in Malaysia was only 9,705 in 2010 (18th in international rankings), but later surged to 22,056 (1,420 permanent and 20,636 long-term residents) in 2014. The breakdown of long-term residents includes 8,699 involved in private enterprise and their 6,572 family members, totaling 15,271 individuals, accounting for 70% of the total group (2013). The

highest concentration of Japanese living in Malaysia is in Kuala Lumpur, which has 4,677 Japanese residents (2011). There were 1,347 Japanese-affiliated companies in 2014, the fourth-highest number in Southeast Asia after Indonesia, the Philippines, and Vietnam.

This study examines the meal content of migrants to Malaysia based on the outcomes of 2015 and 2018 survey, and I conduct an empirical analysis to identify the selection factors for Malaysian food.

4.2. Survey description

Kuala Lumpur in Malaysia was selected as a study area. Malaysia is located in Southeast Asia. In 2017, total population of Malaysia is estimated at 32 million. The national religion of Malaysia is Islam.

Malaysia is a multi-ethnic country, with Malay, Chinese, Indian populations and others, resulting in a diversity of food ingredients. The population of Malays, Chinese, and Indians comprise 67%, 25%, and 7%, respectively. As a multiethnic country, Malaysia offers a variety of cuisines, including Malay, Malaysian–Chinese, Malaysian–Indian, and Nyonya (also known as Peranakan—a fusion cuisine combining elements of Malay and Chinese cuisine).

Malaysian food resulted from the assimilation and transformation of broad racial mix and migrants who came to Malaysia in the past. This assimilation has created a unique and flavorful cuisine. It is believed that satay is originated from kebabs which came from the Arabs. The Indians were brought to Malaysia adding more spices to the Malaysian food, from bread, rice pilau, curry, to unique vegetarian dishes. The Indians had brought their bread, and curry while the Indonesians brought Chinese soy sauce, bean sprouts, and tempeh. There are many regional differences in Malaysian food (Nahar *et.al.*, 2018).

Metropolises, such as Kuala Lumpur, also enjoy a greater number of restaurants serving Asian

food, such as Japanese food and Thai food, as well as Western food, and are often called “food heavens (Poulain *et.al.*, 2014).” Supermarkets of Japanese origin are also established in metropolises, such as the capital city Kuala Lumpur, so Japanese ingredients are readily available.

Residents’ attitudes about their diets are among the factors that define eating behaviors in Malaysia. Such circumstances have come to be widespread in many countries, although perhaps to varying degrees. Malaysia features a broad selection of available cuisines and ingredients, and is not an environment where Japanese residents only have access to local cuisine and local ingredients. The conditions in Malaysia may therefore enable it to be an important case study for looking at how diet is affected by migrants’ life experiences.

I conducted research through interviews with the respondents as well as surveys in June 2015 and February 2018 in Malaysia. A survey targeted on Japanese migrants in Kuala Lumpur (and nearby areas, including Shah Alam and Selangor), and administered a questionnaire on their daily dietary records. Approximately one-half of all Japanese in Malaysia live in Kuala Lumpur, with most of them working, and Japanese ingredients are readily available in the city. Therefore, I chose Kuala Lumpur for this survey.

The survey to Japanese migrants in 2015 was conducted by mail, with help from a veteran Japanese couple with numerous contacts in Kuala Lumpur. Then, the questionnaire was randomly administered to the Japanese in Kuala Lumpur (and nearby areas).

The respondents were requested to provide details on their meal content (eating out or home cooked, and type of meal) for breakfast, lunch, and dinner for one week, from Monday to Sunday, in a table. They had to pick letters from A to J, representing different meal types. Letters A to D signified Malaysian food (Malay, Malaysian-Chinese, Malaysian-Indian, and Nyonya [Malay-Chinese hybrid] cooking, respectively), letter E signified Japanese food, and the rest, other foods, including Thai, Italian, and Korean.

The survey questionnaire was in Japanese. In the survey, participants were asked to fill in responses in a questionnaire, and return it by post or email in 2015. In 2018, I went to Kuala Lumpur and distributed the questionnaire paper to the Japanese migrants. Table 4.1 shows principle survey items. As shown in Table 4.1, the principle survey items included gender [1], age [2], occupation [3], length of stay in Malaysia [4], place of original residence in Japan [5], prior experience with eating Malaysian food in Japan [6], and sources of information on Malaysian food and ingredients [7].

In addition, I asked: (1) “What dishes did you eat over the past week?” and (2) “To what degree do you like Malay, Malaysian-Chinese, Malaysian-Indian, or Nyonya cuisine, and why?” To answer the former question, I asked the recipients to write down the content of the main meals and whether they had eaten in or out for each day of the week and each meal. This survey was restricted to breakfast, lunch, and dinner, although in Malaysia, it is common for people to eat between meals. For the latter question, I scored taste in Malaysian food based on a five-point assessment structure, where 1=*like it*, 2=*moderately like it*, 3=*indifferent*, 4=*moderately dislike it*, and 5=*dislike it*. The reasons were freely described. I will examine these items in detail later.

I obtained responses to the questionnaire from 170 individuals, of which 150 filled in the content of their meals over the past week. When the respondent was the spouse of another respondent in the sample, the response was excluded. With 150 valid responses, the objects of this study were 3,150 meals (3 meals/day x 7 days/week x 150 responses). However, I excluded skipped meals from the analysis (amount/number of data: 107). Therefore, the total data size was 3,043.

In the first stage survey, I distributed 100 questionnaire papers. From 100, 75 questionnaire papers were received. In the second stage survey, I distributed 130 questionnaire papers. From 130, 95 questionnaire papers were received from the respondents. I didn’t distribute the questionnaire to the child if the child is from the same family of respondent because each family member tends to have the same meal pattern.

Table 4.1 Principle survey items

	Item	Number of respondents	(%)
[1] Gender	Male	77	(51.3)
	Female	73	(48.7)
[2] Age	~29	18	(12.0)
	30~39	30	(20.0)
	40~49	51	(34.0)
	50~59	14	(9.3)
	60~	37	(24.7)
[3] Occupation	Individual proprietor	10	(6.7)
	Office worker	65	(43.3)
	Student	12	(8.0)
	Housewife	56	(37.3)
	Other	7	(4.7)
[4] Length of stay in Malaysia	≤ 1 year	39	(26.0)
	2~6 years	70	(46.7)
	7~11 years	17	(11.3)
	12~16 years	6	(4.0)
	≥ 17 years	18	(12.0)
[5] Place of original residence in Japan	Hokkaido	2	(1.3)
	Tohoku	7	(4.7)
	Kanto	64	(42.7)
	Chubu	18	(12.0)
	Kinki	36	(24.0)
	Chugoku/Shikoku	6	(4.0)
	Kyushu	17	(11.3)
[6] Prior experience with eating Malaysian food in Japan	Yes	12	(8.0)
	No	136	(90.7)
	Non-response	2	(1.3)
[7] Sources of obtaining information on Malaysian food and ingredients (Multiple answers)	Family	36	(9.6)
	Japanese friends	103	(27.5)
	Malaysian friends	69	(18.4)
	Internet	74	(19.8)
	TV	6	(1.6)
	Newspapers and magazines	77	(20.6)
	Other	9	(2.4)

1) Created by the author based on the survey conducted in 2018.

4.3. Two stages of analysis

Chapter 4 examines the meal content of migrants in Kuala Lumpur, Malaysia based on the survey conducted in 2015 and 2018. There are two stages of empirical analysis to identify the selection factors for Malaysian food. The first stage is “Malaysian food or Japanese food?”. The second stage is “Malay cuisine or Malaysian-Chinese cuisine?”. The first stage is based on Saidi *et. al.* (2016), and the second stage is based on Saidi *et. al.* (2019).

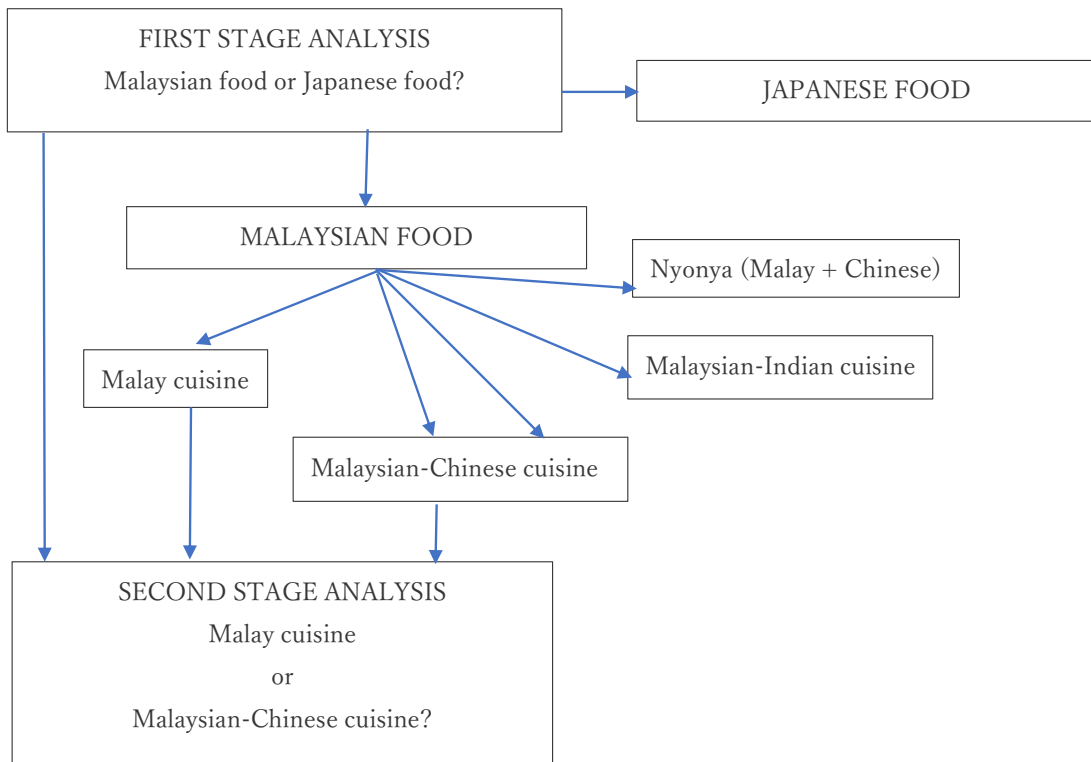


Figure 4.1 Two stages of analysis

4.4. First Stage – Meal selection of Japanese people based on the 2015 survey

4.4.1. Comparison of meal patterns

Table 4.2 shows the meal pattern percentages for Japanese migrants in Malaysia (Kuala Lumpur) over a week, while Table 4.3 shows the one-day meal pattern for the Japanese in Japan. A

Table 4.2 Weekly meal pattern of Japanese migrants in Malaysia (%)

	Breakfast	Lunch	Dinner	Total
Homemade meal	83.1	56.1	75.8	71.7
Eating out	4.7	40.8	23.6	23.0
Skipping a meal	12.2	3.1	0.5	5.3
Total	100.0	100.0	100.0	100.0

1) Created by the authors based on the survey conducted in 2015. The number of valid responses is 55
(3 meals x 7 days = 21 meals).

Table 4.3 One-day meal pattern of Japanese in Japan (%)

	Breakfast	Lunch	Dinner	Total
Homemade meal	87.4	67.5	95.2	83.4
Eating out	1.0	28.9	3.9	11.3
Skipping a meal	11.6	3.6	0.8	5.3
Total	100.0	100.0	100.0	100.0

1) As per the National Health and Nutrition Survey (2014) of the Ministry of Health, Labour and Welfare. Ready-made meals are included in the category of homemade meals. The number of voluntary respondents is 8,047. This survey was a one day survey and the surveyed days exclude Sunday and national holidays.

direct comparison of Table 4.2 and Table 4.3 indicates that the frequency in homemade meal, eating out, and skipping a meal is different for the Japanese who have experienced the Japanese food culture in Japan, by staying in Malaysia. This result can objectively show that, when the place of residence changes, the selection of dietary style changes accordingly. Based on these tables, it is evident that the percentage of homemade meals is lower in Malaysia (71.7% as opposed to 83.4% in Japan), and the percentage of eating out is twice as high in Malaysia compared with Japan. Additionally, there is no significant difference in the percentage for skipping a meal. The percentage of eating out for lunch are high in both Malaysia and Japan, while the percentage of eating out for dinner is higher in Malaysia than in Japan.

They made different choices with regard to homemade meal and eating out due to three reasons; first, they do not mind making Japanese food at home, as it is easy to get Japanese ingredients and seasonings. Second, Malaysian food is not costly, compared with Japanese food in the restaurants in Kuala Lumpur, and third, Malaysian food includes Chinese and Indian cuisine, which Japanese migrants have eaten in Japan.

4.4.2 Meal content of Japanese migrants in Malaysia

Table 4.4 shows the weekly meal content of Japanese migrants in Malaysia (three meals a day for seven days, i.e., 21 meals). For breakfast, lunch, and dinner, the frequency of Japanese food selection is high for homemade meals (home cooking/eating at home). Conversely, the frequency of Malaysian food selection is high for eating out, particularly for lunch, and I observe a tendency of eating Malaysian food.

Table 4.4 Weekly meal content of Japanese migrants in Malaysia (3 meals × 7 days = 21 meals)

	Breakfast	Lunch	Dinner	Total	(%)
Homemade meal					
Malaysian food	22	66	36	124	(10.7)
Japanese food	161	110	224	495	(42.9)
Other food	137	40	32	209	(18.1)
Eating out					
Malaysian food	5	89	38	132	(11.4)
Japanese food	0	25	29	54	(4.7)
Other food	13	43	24	80	(6.9)
Skipping a meal					
	47	12	2	61	(5.3)

1) Created by the authors based on the survey conducted in 2015.

4.4.3. Determinants of Malaysian food selection

4.4.3.1. Frequency of Malaysian food selection by individual attributes

Table 4.5 shows the cross-tabulation of a week's average frequency of Malaysian food selection (by migration year and age class). For migrants below one year, the frequency of Malaysian food selection is the highest for people aged 20–39; it is the lowest for people aged 40–59. For migrants who have lived in Malaysia for 1–5 years, the frequency of Malaysian food selection is comparatively large, and for those who migrated more than five years previously, the frequency is small.

Table 4.5 Weekly average frequency of Malaysian food selection

		Migration years		
		Below 1	1–5	Over 5
Age	20–39	8.50	4.80	3.00
		(6.46)	(6.01)	(2.83)
		8	10	2
	40–59	1.50	6.22	3.63
		(2.12)	(3.31)	(2.42)
		2	9	16
	60+	-	2.50	2.00
		-	(0.71)	(2.10)
		0	2	6

1) Created by the authors based on the survey conducted in 2015. For each age class, the upper row is the mean, the values between parentheses are standard deviations, and the last row represents number of respondents applicable.

In order to identify the factors affecting the selection of Malaysian food, further analysis is required. However, for an empirical analysis between the two individual attributes (migration year and age class) and Malaysian food selection, two hypotheses are considered:

- (1) As age class increases, there is a tendency to return to Japanese food.
- (2) As the duration of the migration years increases, adjustment to local Malaysian food is observed.

4.4.3.2 Empirical analysis

In this study, with reference to the contents of meals, in case a meal was skipped, the data are excluded from analysis (Amount/number of data: 61). In addition, to focus on the selection between Malaysian and Japanese food, the data on other food are excluded for easy comprehension of the analysis (Amount/number of data: 289). Therefore, total sample size is 805.

Subsequently, by using dependent variable 1 in the case of Malaysian food selection, and variable 0 for Japanese food selection, a probit model is employed.

Regarding the explanatory variables, other than migration year and age class, four dummy variables, that is, gender (female is 1, male is 0), eating out (eating out is 1, homemade meal is 0), breakfast, and lunch, were added. Each variable's descriptive measure is shown in Table 4.6.

Table 4.6 Descriptive statistics

	Mean	Std. dev.	Min.	Max.
Malaysian food dummy variable	0.318	0.466	0	1
Age	43.661	12.303	20	67
Migration years	8.935	11.500	0	43
Gender	0.600	0.490	0	1
Eating-out dummy variable	0.231	0.422	0	1
Breakfast dummy variable	0.234	0.423	0	1
Lunch dummy variable	0.360	0.480	0	1

Table 4.7 Estimation results

	Estimate (Std. error)		Marginal Effect
Constant	0.779 (0.232)	**	—
Age	-0.042 (0.006)	**	-0.010
Migration years	0.012 (0.007)	*	0.003
Gender	-0.419 (0.122)	**	-0.100
Eating-out dummy variable	1.150 (0.125)	**	0.275
Breakfast dummy variable	-0.079 (0.161)		-0.019
Lunch dummy variable	0.852 (0.122)	**	0.204
Sample size		805	
Log likelihood		-343.291	
Pseudo R squared		0.380	

1) * Significant at the 10% level. ** Significant at the 1% level.

Estimation results from the probit model are shown in Table 4.7. By using the estimated value for marginal effect, each explanatory variable investigates the type of influence it has on a Japanese migrant's meal selection.

Malaysian food contains many spices and is rather oily; therefore, as the age class increases, there is an evident selection of Japanese food over Malaysian food. Although the percentage is small, when the duration of migration increases, individuals form a habit of eating Malaysian food. As Malaysian food contains a high calorie count compared with Japanese food, it is expected to be seldom selected by females.

Table 4.7 also shows that although a person does not select making a homemade meal of Malaysian food, the probability of Malaysian food selection rises when eating out (based on convenience) because cooking and eating Japanese food at home is easy (in Kuala Lumpur), and Japanese migrants do not cook Malaysian food at home.

In addition, this statement is made by combining the gender dummy variable results. Because the percentage of females as housewives is high, the chance of opting for a homemade meal is much higher for them than for their husbands who work. This is another reason that a female seldom selects Malaysian food.

4.4.3.3 Findings

This study empirically clarifies a characteristic of the dietary style of Japanese migrants living in Malaysia from the viewpoint of meal choice.

For all meals, including breakfast, lunch, and dinner, the frequency of Japanese food is high in homemade meals (home cooking/eating at home). By contrast, the frequency of Malaysian food selection is high while eating out, particularly for lunch.

With reference to the above findings, although a substantial difference was not observed in

homemade meal selection between the Japanese in Japan and in Malaysia, the frequency of eating out is much higher in Malaysia than in Japan. After analyzing the meal contents while eating out, it is evident that Japanese migrants eat Malaysian food more frequently than other cuisines, including Japanese food; Malaysian food is favored while eating out and Japanese food is mainly chosen as a homemade meal, which is considered a characteristic of the dietary style of Japanese migrants.

The findings also present that the selection of Japanese food is observed when the age class increases. For people aged 20-39, the frequency of selecting Malaysian food is the highest, and it is the lowest for people aged 40-59. In order to understand these relations, a probit model is estimated. Empirically, the relation between two individual attributes (i.e., duration of migration and age class) and Malaysian food selection verified the following characteristics of Japanese migrants.

(1) Malaysian food is spicy and oily, thus, as age class increased, there was an effect of returning to Japanese food.

(2) Selection of Japanese food over Malaysian food occurs. However, as the duration of migration increases, Malaysian food is adopted, which shows that Malaysian food is gradually accepted by the Japanese migrants, although the eating frequency of the meal varies by age class or gender in the short term.

4.5. Second Stage – Food consumption behavior of Japanese migrants in Malaysia based on the 2018 survey

4.5.1. Taste in Malaysian food by the Japanese migrants

Table 4.8 shows the score based on taste in Malaysian food, which based on a five-point assessment structure, where 1=*like it*, 2=*moderately like it*, 3=*indifferent*, 4=*moderately dislike it*, and 5=*dislike it*. Malay cuisine scored 2.606, while Malaysian-Chinese, Malaysian-Indian, and Nyonya food scored 1.677, 2.606, and 2.843, respectively. I conducted one-way analysis of variance

Table 4.8 Score based on taste in Malaysian food

	Malay cuisine	Malaysian-Chin ese cuisine	Malaysian-India n cuisine	Nyonya cuisine
Overall score	2.606	1.677	2.606	2.843
Tukey-Kramer multiple comparison procedures				
cuisine	mean difference		test statistic	P-value
Malay vs. Malaysian-Chinese	0.929 *		7.560	0.000
Malay vs. Malaysian-Indian	0.000		0.000	1.000
Malay vs. Nyonya	0.236		1.920	0.220
Malaysian-Chinese vs. Malaysian-Indian	0.929 *		7.560	0.000
Malaysian-Chinese vs. Nyonya	1.165 *		9.480	0.000
Malaysian-Indian vs. Nyonya	0.236		1.920	0.220

1) This score is a five-point assessment structure where 1=*like it*, 2=*moderately like it*, 3=*indifferent*, 4=*moderately dislike it*, and 5=*dislike it*.

2) * Significant at the 1% level.

3) Samples with no answer are excluded. Total sample is 127.

(ANOVA) to investigate if Japanese migrants had different tastes for different types of Malaysian food. Consequently, the F -value was 35.28 ($p < 0.01$), statistically confirming different tastes among cuisines. Therefore, which types of cuisine have different tastes? To ascertain this, I performed multiple comparison test using the Tukey-Kramer method.

Table 4.8 also shows these results. The test, through the average values, statistically confirmed that Malaysian-Chinese cuisine was the most preferred within the range of Malaysian food. On the other hand, I were unable to confirm differences in preferences among other dishes (Malay, Malaysian-Indian, and Nyonya cuisine). As Chinese cuisine is relatively easier to find even in Japan, it is a familiar dish for Japanese migrants, and therefore, I consider this a relevant factor.

I requested Japanese migrants to write free-form answers to express their opinions on improving Malay cuisine. Their answers were highly suggestive, indicating that migrants commonly believed that quality, service, and cleanliness were lacking (i.e., monotonous colors and flavors, excessive fats and oil, and poor cleanliness of restaurants and sellers). Even individuals who ate Malay cuisine said they refrained from eating oily and fatty food as the length of their stay increased.

4.5.2. Meal Content of Japanese migrants in Kuala Lumpur

Table 4.9 presents the weekly food consumption of Kuala Lumpur residents, as shown by the frequency of meals (number of times a meal was eaten over a period of 21 meals in one week). Japanese migrants eat Malaysian food 24.7% of the time and Japanese food 50.3% of the time. The third type consisted of other foods (24.9%). Over one week, Japanese migrants ate at home 70.3% of the time, and ate out 29.7% of the time. On average, they ate out 2.4 times a week.

Table 4.9 Weekly meal content of Japanese migrants in Malaysia

	Malaysian Food				Subtotal	Japanese food	Other food	Total
	Malay cuisine	Malaysian -Chinese cuisine	Malaysian -Indian cuisine	Nyonya cuisine				
Eating in	111	75	20	3	209	1,361	568	2,138
	(3.6)	(2.5)	(0.7)	(0.1)	(6.9)	(44.7)	(18.7)	(70.3)
Eating out	214	256	59	15	544	171	190	905
	(7.0)	(8.4)	(1.9)	(0.5)	(17.9)	(5.6)	(6.2)	(29.7)
Total	325	331	79	18	753	1,532	758	3,043
	(10.7)	(10.9)	(2.6)	(0.6)	(24.7)	(50.3)	(24.9)	(100.0)

1) The figures show the total frequency of each dish eaten in a week in the respective groups. The total number of meals per week amounted to 21 times per capita. I excluded skipped meals. Bracketed numbers indicate the ratio of each dish eaten in a week compared to the total number of meals.

2) “Other food” refers to Asian (such as Thai or Korean) and Western food (such as Italian and fast food).

A previous study revealed that Japanese migrants tend to continue using ingredients and dishes with which they have prior experience, and are cautious about incorporating unfamiliar foods into their diets (Yamauchi, 1986). In other words, the Japanese are conservative in terms of their diet. However, my survey shows that migrants do not reject Malaysian food, but rather proactively integrate it into their diets. The survey results present a more detailed investigation of how they do so and the diet of residents in Kuala Lumpur.

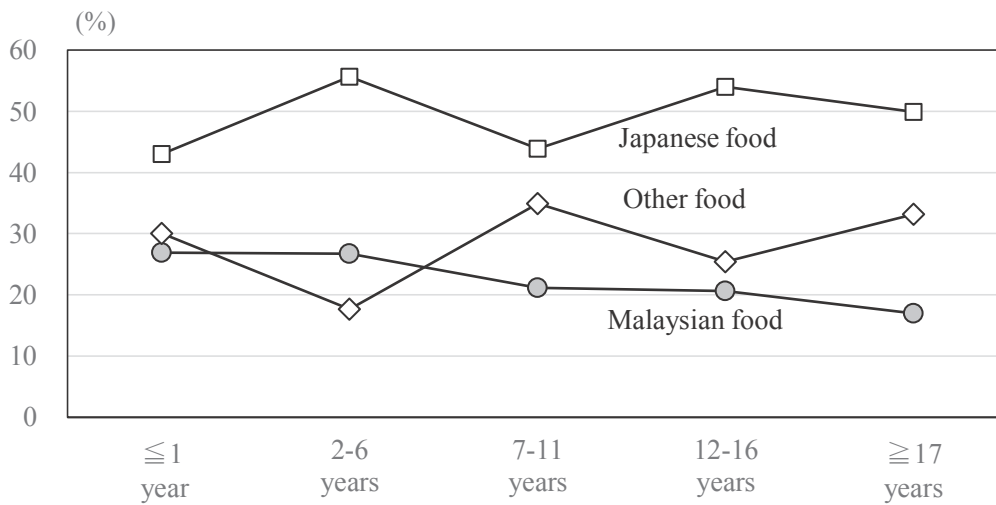


Figure 4.2 Ratio of diet, according to length of stay by Japanese migrants

- 1) The figures show the ratio of each food eaten in a week in the respective groups.
- 2) “Other food” refers to Asian (such as Thai or Korean) and Western food (such as Italian and fast food).
- 3) “ ≤ 1 year” means that the length of stay in Malaysia is more than 3 months and less than 2 years, while “2-6 years” means that it is more than 2 and less than 7 years. “7-11 years” means that it is greater than 7 and less than 12 years. “12-16 years” means that it is more than 12 and less than 17 years. “ ≥ 17 years” means that it is more than 17 years.

Figure 4.2 displays the ratio in which Japanese migrants consumed each food, according to their length of stay. Across all food, Japanese food ranks the highest. Except for “2~6 years,” Malaysian food ranks the lowest. In other words, the ratio of Malaysian food is relatively low. The ratio for Malaysian food shows a value of around 20%, which is not small as an absolute value. Moreover, in the cross-section, the longer a migrant’s length of stay, the more Malaysian food tends to decrease in terms of the meal selection ratio.

Table 4.10 Frequency of eating Malaysian food according to length of stay of Japanese migrants

	Length of stay in Malaysia					Total
	≤ 1 year	2-6 years	7-11 years	12-16 years	≥ 17 years	
Malay cuisine	129 (60.3)	158 (41.4)	20 (29.4)	4 (15.4)	14 (22.2)	325 (43.2)
Malaysian-Chinese cuisine	69 (32.2)	165 (43.2)	36 (52.9)	16 (61.5)	45 (71.4)	331 (44.0)
Malaysian-Indian cuisine	15 (7.0)	49 (12.8)	9 (13.2)	4 (15.4)	2 (3.2)	79 (10.5)
Nyonya cuisine	1 (0.5)	10 (2.6)	3 (4.4)	2 (7.7)	2 (3.2)	18 (2.4)
Total	214 (100.0)	382 (100.0)	68 (100.0)	26 (100.0)	63 (100.0)	753 (100.0)

1) The figures show the total frequency of Malaysian food eaten in a week based on each group's

For further research, I divided Malaysian food into four types. Table 4.10 depicts the frequency with which migrants eat Malay, Malaysian-Chinese, Malaysian-Indian, and Nyonya cuisine, according to their length of stay. Malay cuisine accounted for 43.2% of the ratio of all Malaysian food. Notably, the respondents ate Malay cuisine, with which Japanese migrants are unfamiliar, more frequently than Malaysian-Indian food, with which they are familiar. Examining each year of

migration, those who had left Japan for less than a year ate Malay cuisine the most frequently, with this percentage tending to gradually decline from year two onward. In contrast, the consumption of Malaysian-Chinese food exhibited an inverse trend. Migrants were less likely to eat it in year one, but their consumption gradually rose from year two onward, to the extent that Malaysian-Chinese cuisine was the most popular choice for respondents who had eaten Malaysian food for 17 years or more.

4.5.3. Empirical analysis

Based on the findings of prior research, in 2018, I conducted the second survey in Malaysia. The empirical subject was the same with the first survey which was the degree of adaptation to Malaysian food by Japanese migrants in Kuala Lumpur. The first study demonstrated that the “number of migration years” is a positive factor in selecting Malaysian food over Japanese food (Saidi *et.al.*, 2016). However, considering that Malaysian food is classified into four categories (Malay, Malaysian-Chinese, Malaysian-Indian and Nyonya cuisine), it is difficult to handle it as one cuisine. For example, I expect that spicy and oily Malay dishes will not be popular among Japanese migrants, while Chinese dishes are easy to find, even in Japan. As shown in Table 4.10, Malay cuisine accounted for 43.2%, and Malaysian-Chinese cuisine accounted for 44.0% of Malaysian food. I omitted Malaysian-Indian cuisine and Nyonya cuisine to prevent complications, and my empirical analysis focuses on Malay and Malaysian-Chinese cuisine. Thus, I defined a dummy variable (Malay cuisine = 1, Malaysian-Chinese cuisine = 0), and undertook a probit analysis of Japanese migrants using this variable as the dependent variable.

4.5.4. Empirical results

To focus on Malay and Malaysian-Chinese cuisine, the sample size used for analysis was 656. I

employed a probit model using the dependent variable 1 for Malay cuisine selection, and 0 for Malaysian-Chinese cuisine. Therefore, a positive sign of the estimate will identify it as a factor to select Malay cuisine and not Malaysian-Chinese, and a negative sign will indicate the opposite relationship.

Regarding the explanatory variables, other than year of migration and age, I added four dummy variables: gender (female=1, male=0), eating out (eating out=1, homemade meal=0), breakfast, and lunch. Table 4.11 shows each variable's descriptive measure.

I chose the explanatory variables for the following reasons. First, I consider the number of migration years as a factor affecting meal selection among Japanese migrants. Therefore, migrants with extensive experience of eating local dishes easily adapt to the host country's cuisine. However, Malay cuisine has many ingredients and seasonings that are unfamiliar to the Japanese, and I expect a negative reaction. Second, previous studies note that respondents' attributes (age, gender, and so on) are important as selection factors (Axelson, 1986 and Dittus *et.al.*, 1995). The elderly and women are considered more health-conscious than the young and men. Thus, I expect that the estimates of age and gender are negative values. Third, it is likely that "when" and "where" to eat will affect the contents of the dishes. As dietary habit in Malaysia, breakfast and lunch are often cheap offerings at stalls, consisting of primarily Malay cuisine such as *nasi lemak* and *nasi goreng*. Such an environment affects the eating behavior of Japanese migrants.

However, as shown in Table 4.8, as eating out is an entertainment for the Japanese migrants, I consider a positive taste for Malaysian-Chinese cuisine to affect eating behavior. To clarify these points, I add dummy variables for "eating out," "breakfast," and "lunch."

Table 4.11 Descriptive statistics

	Mean	Std. dev.	Min.	Max.
Malay cuisine = 1				
Migration years	3.631	6.189	0	45
Age	40.025	15.595	9	76
Gender	0.305	0.461	0	1
Eating-out dummy variable	0.658	0.475	0	1
Breakfast dummy variable	0.163	0.370	0	1
Lunch dummy variable	0.695	0.461	0	1
Malaysian-Chinese cuisine = 0				
Migration years	6.909	9.210	0	45
Age	45.870	13.849	9	76
Gender	0.372	0.484	0	1
Eating-out dummy variable	0.773	0.419	0	1
Breakfast dummy variable	0.045	0.208	0	1
Lunch dummy variable	0.622	0.486	0	1

1) Created by the author based on the survey conducted in 2018.

Table 4.12 Estimation results

	Estimate (Std. error)		Marginal Effect
Constant	0.192 (0.192)		—
Migration years	-0.010 (0.004)	**	-0.003
Age	-0.028 (0.008)	**	-0.010
Gender (female = 1, male = 0)	0.000 (0.114)		0.000
Eating out dummy variable (eating out = 1, eating in = 0)	-0.255 (0.118)	*	-0.091
Breakfast dummy variable (Breakfast = 1, others = 0)	1.202 (0.208)	**	0.428
Lunch dummy variable (Lunch = 1, others = 0)	0.631 (0.127)	**	0.225

1) * Significant at the 5% level. ** Significant at the 1% level.

Table 4.12 presents the estimation results from the probit model. By harnessing the estimated value of the marginal effect, I investigate the type of influence of each explanatory variable on the meal selection of a Japanese migrant.

The analysis revealed that longer the length of stay and older the migrants, the more they chose Malaysian-Chinese cuisine rather than Malay cuisine. Prior investigations show that the dietary habits of Malaysian food are formed when migrants have been living abroad for longer periods of time. However, based on my results, I find that these habits comprise Malaysian identity, for example, Malaysian-Chinese cuisine, and not Malay, with its unique flavor.

Another distinctive feature is that gender does not make a difference in selection behavior of Malay cuisine. Although, the belief was that women hate Malay cuisine because of its high calorie content, my empirical analysis does not confirm this tendency. Furthermore, although Table 4.9 shows that Malaysian food has a relatively high ratio of eating out, I found that Malay cuisine tended to be homemade, unlike Malaysian-Chinese cuisine. Finally, both breakfast and lunch variables show positive values, and I can confirm that respondents select Malay cuisine for breakfast and lunch. In particular, the marginal effect shows a large value for breakfast, which means it is easier to eat Malay cuisine for breakfast.

Appendixes to Chapter 4

Appendix 4.1. Survey questionnaires

お住まいの場所をお答えください。1. Kuala Lumpur 2. Shah Alam 3. Selangor 4. Other ()		
日付：()年()月()日		
Q1 性別： 1. 男 2. 女	Q2 年齢：()歳	Q3 出身：()都道府県
Q4 日本にいた時、あなたはマレーシア料理についてどんなイメージを持っていましたか？ <u>当てはまるものすべてに○をしてください。</u>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. 味が濃い。</div> <div style="width: 45%;">2. 香りが良い。</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. 食欲をそそる。</div> <div style="width: 45%;">4. 辛い料理が多い。</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">5. その他 ()</div> <div style="width: 45%;">6. イメージがなかった。</div> </div>		
Q5 日本にいた時、どの国の料理の専門レストランで食べたことがありますか？ <u>当てはまるものすべてに○をしてください。</u>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. 中国</div> <div style="width: 45%;">2. インド</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. タイ</div> <div style="width: 45%;">4. イタリアン</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">5. インドネシア</div> <div style="width: 45%;">6. マレーシア</div> </div>		
Q6 日本にいた時、マレーシアのどんな料理を知っていましたか？ <u>当てはまるものすべてに○をしてください。</u>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. ナシレマ (<i>Nasi lemak</i>)</div> <div style="width: 45%;">2. サテ (<i>Sate</i>)</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. ナシゴレン (<i>Nasi goreng</i>)</div> <div style="width: 45%;">4. マレーシアカレー</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">5. その他 ()</div> <div style="width: 45%;">6. 知っている料理はなかった。</div> </div>		
Q7 初めてマレーシアに来たのはいつですか？ ()年		
Q8 いつからマレーシアに滞在していますか？ ()年から		
Q9 マレーシアに来た目的は何ですか？		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. 仕事</div> <div style="width: 45%;">2. ロングステイプログラム</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. 旅行</div> <div style="width: 45%;">4. その他 ()</div> </div>		
Q10 あなたの職業を教えてください。		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. 農林漁業</div> <div style="width: 45%;">2. 商工サービス業</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. 会社員・公務員</div> <div style="width: 45%;">4. 学生</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">5. 無職(専業主婦を含む)</div> <div style="width: 45%;">6. その他 ()</div> </div>		
Q11 今、料理を作ってくれるメイドさんを雇っていますか？ 1. はい 2. いいえ		
Q12 あなたはマレーシア人の友達がありますか？ 1. はい 2. いいえ		
Q13 マレーシア料理のレストランや店の情報は誰から得ていますか？ <u>当てはまるものすべてに○をしてください。</u>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">1. 家族</div> <div style="width: 45%;">2. 日本人の友達</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">3. マレーシア人の友達</div> <div style="width: 45%;">4. インターネット</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">5. テレビ</div> <div style="width: 45%;">6. 新聞や雑誌</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">7. その他 ()</div> </div>		
Q14 マレーシアの生活や文化などで、よいと思う点、よくないと思う点を () 内に書いてください。 よい点：() よくない点：()		

Q15 マレーシア料理は四つあります。マレー料理、中国料理、インド料理とニョニヤ料理です。では、あなたは先週どんな料理を食べましたか？月曜日から日曜日まで、下記の料理の記号（A～J）を選んで、（ ）内に記入してください。そして外食したなら1. を○してください。食事は一日三回とします。

	月曜日	火曜日	水曜日	木曜日	金曜日	土曜日	日曜日
朝ご飯	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食
昼ご飯	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食
晩ご飯	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食	() 1. 外食

- A.** マレー料理： Nasi lemak (ナシレマ), Nasi dagang, Nasi kerabu, Nasi minyak, Nasi goreng (ナシゴレン),
Nasi berlauk ; Rendang, Ayam percik, Ayam goreng kunyit, Ikan bakar, Asam pedas, Sambal sotong , Sate (サテ), Keropok lekor, Roti jala など
- B.** 中国料理： Bak Kut The (肉骨茶), Dim Sum, Szechuan, Chinese fried rice, Char Kway Teow, (ヌードル) Hokkien Mee, Wantan Mee, Pan Mee,
Chicken Rice(チキンライス), Roasted Duck, popiah, Roti bakar Kaya, Pau など
- C.** インド料理： Roti Canai, Naan (ナン), Chapati, Thosai, Murtabak, curry (カレー類),
Tandoori chicken, Butter chicken(バターチキン), Nasi Beriani, Nasi Kandar など
- D.** ニョニヤ料理： Mee goreng (ミーゴレン), (ラクサ) Asam Laksa, Laksa lemak, Laksa Johor,
Ayam pongteh, Nasi Kunyit, Otak-otak など
- E.** 日本料理
- F.** タイ料理： トムヤムクン、グリーンカレー、Som Tam, Pad Thai など
- G.** イタリアン料理： スパゲティ、ピザ、リゾットなど
- H.** 韓国料理： ビビンバ、ブルコギ、キムチなど
- I.** ファストフード： マクドナルド、ケンタッキー、A&W など
- J.** その他の料理

この質問に対して答えにくいと思う方は次のページに別の質問があります。
(Q15に答えにくかったら、次の質問に答えてください。)

Q '15 先週一週間で、下の料理を何回食べましたか？

- | | |
|----------------|-----------------|
| 1. マレー料理 () 回 | 2. 中国料理 () 回 |
| 3. インド料理 () 回 | 4. ニョニャ料理 () 回 |
| 5. 日本料理 () 回 | 6. その他の料理 () 回 |

Q '15-1 先週一週間で、何回外食しましたか？ () 回

Q16 今、マレーシア料理が好きですか？それぞれ1つえらんで○をしてください。

すごく	好きだが	まあ	あまり	嫌い	食べた
好き	あまり	まあ	好き		こと
	食べない	好き	ではない		がない

- | | | | | | | | | | | | | |
|------------|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|
| 1. マレー料理 | ..... | 1 | ..... | 2 | ..... | 3 | ..... | 4 | ..... | 5 | ..... | 6 |
| 2. 中国料理 | ..... | 1 | ..... | 2 | ..... | 3 | ..... | 4 | ..... | 5 | ..... | 6 |
| 3. インド料理 | ..... | 1 | ..... | 2 | ..... | 3 | ..... | 4 | ..... | 5 | ..... | 6 |
| 4. ニョニャ料理 | ..... | 1 | ..... | 2 | ..... | 3 | ..... | 4 | ..... | 5 | ..... | 6 |
| 5. その他 () | | | | | | | | | | | | |

Q16-1 次の質問は上のすごく好きとまあまあ好きに○をした人に伺います。

理由は何ですか？当てはまるものすべてに○をしてください。

- | | |
|-----------------|--------------|
| 1. 香辛料が入っているから。 | 2. 味が濃いから。 |
| 3. 香りが良いから。 | 4. 食欲をそそるから。 |
| 5. 辛いから。 | 6. その他 () |

Q16-2 次の質問は上の好きだがあまり食べないに○をした人に伺います。理由を書いてください。

()

Q16-3 次の質問は上のあまり好きではないと嫌いに○をした人に伺います。当てはまるものに○をしてください。

- | |
|------------------------|
| 1. 最初によく食べたけど今は全然食べない。 |
| 2. 最初から好きではない。 |
| 3. その他 () |

Q17 今、マレーシア料理についてどういうイメージを持っていますか？それぞれ1つえらんで○をしてください。

- | | | | | |
|------------------|--------|--------|--------|--------|
| | そう | 少し | あまり | まったく |
| | 思う | 思う | 思わない | 思わない |
| 1. 味が濃い…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 2. 香りが良い…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 3. 食欲をそそる…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 4. 辛い…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 5. 様々な料理がある…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 6. 油が多い…………… | 1…………… | 2…………… | 3…………… | 4…………… |
| 7. その他 () | | | | |

Q18 マレーシア料理の中で、マレーシア料理のイメージをよく表すものは何だと思えますか？その料理の名前を () 内に一つ書いてください。

例：サテ ()

Q19 マレーシア料理の中で、一番好きな料理は何ですか？その料理の名前を() 内に書いてください。またそれが入るグループを○してください。

好きな料理がなかったら、1. を○してください。

一番好きな料理の名前:() 1. 好きな料理はない。

1. マレー料理 2. 中国料理 3. インド料理 4. ニョニャ料理
5. その他 ()

Q20 マレーシア料理が日本人に広く受け入れられるためにはどうしたらよいと思えますか？当てはまるものすべてに○をして、思うことを() 内に書いてください。

1. 日本人に合うテイストな料理を出す。
2. 日本人に合うなじみのある食材を使う。
3. ヘルシーな料理にする。
4. 清潔なレストランにする。
5. マレーシアエスニックな雰囲気のレストランにする。
6. そのままでよい。
7. その他 ()

どうもありがとうございました。記入もれはありませんか。もう一度御確認ください。

ご協力に感謝いたします。

Appendix 4.2. “Q17. What image do you have about Malaysian food?”

	Number of respondents				mean score	Std. dev.
	1. Strongly agree	2. Agree	3. Disagree	4. Strongly disagree		
1. Strong flavor	85 (56.7)	49 (32.7)	14 (9.3)	2 (1.3)	1.55	0.72
2. Pleasant aroma	44 (29.3)	44 (29.3)	54 (36.0)	8 (5.3)	2.17	0.91
3. Appetizing	39 (26.0)	50 (33.3)	54 (36.0)	7 (4.7)	2.19	0.88
4. Spicy	81 (54.0)	54 (36.0)	15 (10.0)	0 (0.0)	1.56	0.67
5. Various dishes	75 (50.0)	34 (22.7)	37 (24.7)	4 (2.7)	1.80	0.90
6. Oily	111 (74.0)	32 (21.3)	7 (4.7)	0 (0.0)	1.31	0.55

Free description Comments about image can be categorized into the negative images (lack of vegetables, high calorie, stomachache/being sleepy after eating etc.), image about the taste (sweetness and spiciness) and image about the culture of Malaysian food (eating by hand).

- 1) Bracketed numbers indicate the percentage.
- 2) There is no important/significant relation with other items

Appendix 4.3. “Q20. How to make Malaysian food widely accepted by Japanese people?”

(Multiple answers)

	Number of respondents	(%)
1. Serve dishes that suits the Japanese people	57	(19.7)
2. Use ingredients that are familiar to the Japanese	19	(6.6)
3. Make the meal healthier	68	(23.5)
4. Make it a clean restaurant	90	(31.1)
5. Make it a Malaysian ethnic atmosphere restaurant	37	(12.8)
6. Maintain the current state	18	(6.2)

Free description

For suggestions, there are comments about the lack of knowledge of Malaysian food (a menu list that is easy to understand with pictures and explanation is preferable), the factor of presentation/appearance of Malaysian food, the spiciness level and the strong aroma, the factor of restaurant cleanliness, especially the toilet and suggestion to make a clear symbol of Malaysian food because it will be easier to understand when there's an image of Malaysian food.

1) There is no important/significant relation with other items

CHAPTER 5

Conclusions

5.1. Introduction

Migration to foreign countries and migration from rural areas to urban areas have increased. Overall, evidence from migrant studies consistently indicates that change toward a “Westernized” lifestyle increases risks of several major chronic diseases. As a result, how they adapt to new eating habits is one of the research issues in the field of nutrition and epidemiology. Recently, that adaptation process to new eating habits have become an important issue not only in the health aspect but also in the cultural and economic aspects. For example, "Gastronomic meal of the French" and "Washoku" (Washoku culture) were inscribed to UNESCO's Intangible Cultural Heritage List. In the progress of globalization, it is important to inherit and spread food cultures, and it is expected to expand agricultural exports in economic and policy perspective.

Against this background, Asian countries (Malaysia, Japan, Thailand, etc.) promoted efforts to appeal their food culture overseas. However, MKP that I focused on did not achieve enough results in Japan. One of the reasons is that Japanese people have little knowledge of Malaysian food because they have less chance to eat Malaysian food. As mentioned in Chapter 1, the lack of Malaysian restaurants is due to the small size of the Malaysian community in Japan. So, if the access to Malaysian food is easier, will Malaysian food be accepted by the Japanese people?

In my research, I investigated the meal selection of Japanese migrants in Malaysia, and which factors affected the incorporation of Malaysian food culture were analyzed quantitatively. In advance, I analyzed the food demand in Malaysia, which is my survey area. Figure 5.1 shows the flow chart of the study.

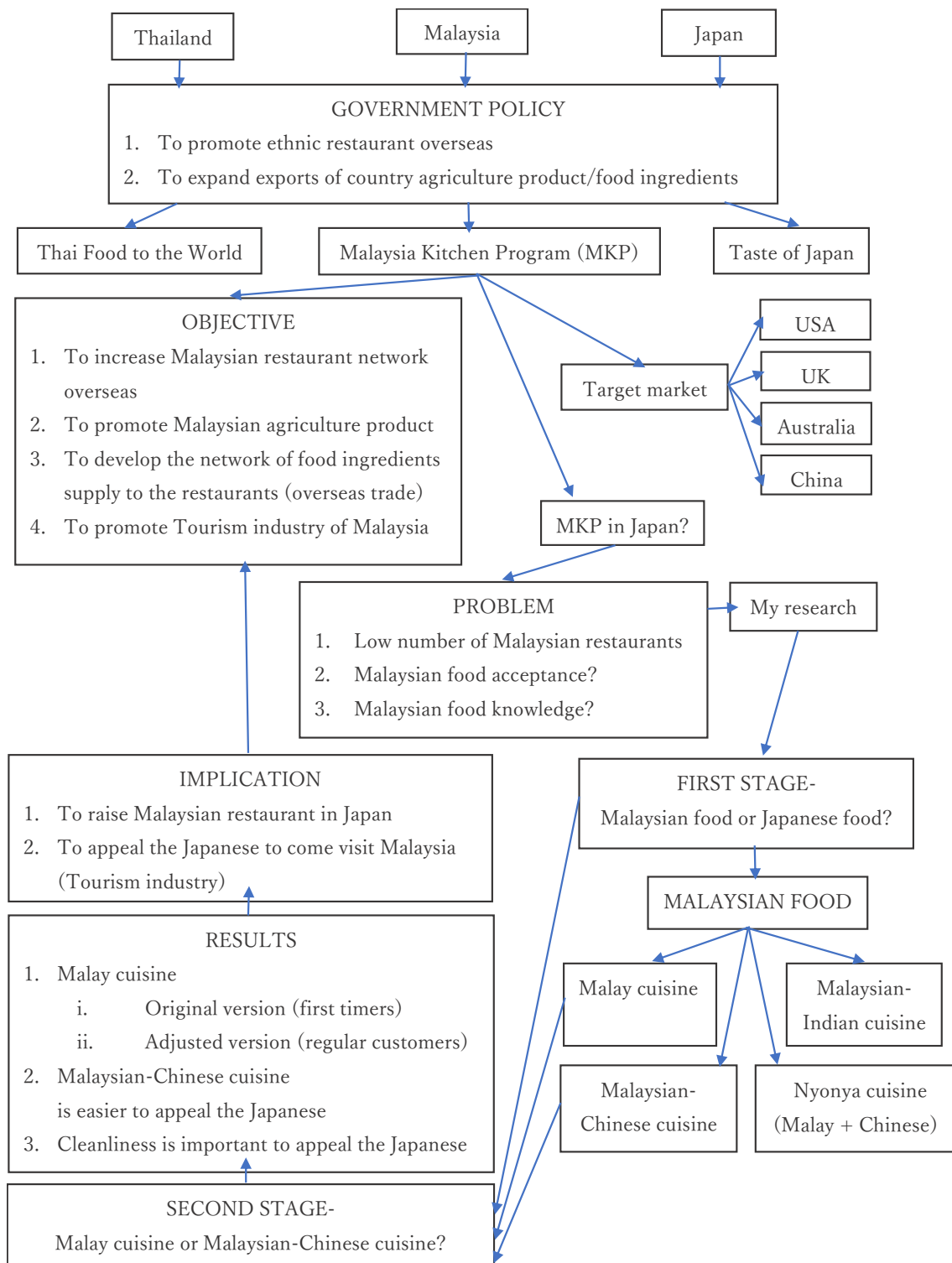


Figure 5.1. Flow chart of the study

5.2. Results of the study

The analysis of food demand in urban and rural areas of Malaysia focusing on relatively moderate economic growth, from the previous study, in rapid economic growth countries such as Japan and China, food consumption difference between the urban and rural area is big. The finding of this study shows that in Malaysia, a moderate economic growth country, food consumption difference between urban and rural area is small.

This study empirically clarifies a characteristic of the dietary style of Japanese migrants living in Malaysia from the viewpoint of meal choice. For all meals, including breakfast, lunch, and dinner, the frequency of Japanese food is high in homemade meals (home cooking/eating at home). By contrast, the frequency of Malaysian food selection is high while eating out, particularly for lunch.

With reference to the above findings, although a substantial difference was not observed in homemade meal selection between the Japanese in Japan and in Malaysia, the frequency of eating out is much higher in Malaysia than in Japan. After analyzing the meal contents while eating out, it is evident that Japanese migrants eat Malaysian food more frequently than other meals, including Japanese food; Malaysian food is favored while eating out and Japanese food is mainly chosen as a homemade meal, which is considered a characteristic of the dietary style of Japanese migrants.

The findings also present that selection of Japanese food is observed when the age class increases. For people aged 20–39, the frequency of selecting Malaysian food is the highest, and it is the lowest for people aged 40–59. In order to understand these relations, a probit model is estimated. Empirically, the relation between two individual attributes (i.e., length of stay and age class) and Malaysian food selection verified the following characteristics of Japanese migrants. (1) Malaysian food is spicy and oily, thus, as age class increased, there was an effect of returning to Japanese food. (2) Selection of Japanese food over Malaysian occurs. However, as the length of stay increases, Malaysian food is adopted, which shows that Malaysian food is gradually accepted by Japanese

migrants, although the eating frequency of the meal varies by age class or gender in the short term.

When Malaysian food was divided into Malay, Malaysian-Chinese and Malaysian-Indian cuisine, the frequency of each meal was analyzed by age, length of stay and gender. People in their twenties, thirties and forties (especially people in their twenties) showed high frequency of eating Malay cuisine, which Japanese people are not familiar with. Nonetheless, people in their sixties and above had a tendency to avoid it at any length of stay in Malaysia.

Japanese migrants select Malay cuisine for breakfast and lunch. In particular, the marginal effect shows a large value for breakfast, which means it is easier to eat Malay cuisine for breakfast. Malay cuisine tended to be homemade, unlike Malaysian-Chinese cooking.

People in their sixties have a tendency of returning to dietary habit that they had in Japan. Nevertheless, as most of the migrants were less than sixties and were staying for fixed years, they are more likely going back to Japan with their modified dietary behavior.

The constraint factors of Malaysian food spread based on the results from Table 4.7 and Table 4.12 are as follows. First, Malay cuisine as the constraint factor. Marginal effect shows negative values for age and migration year. This means it is hard for the Japanese migrants to become a repeat customer of Malay cuisine. As age increases, the Japanese do not eat Malay cuisine. Second, Malaysian-Chinese cuisine as the constraint factor. In the beginning, the Japanese did not select Malaysian-Chinese cuisine as Malaysian food. Third, age as the constraint factor. As the Japanese become over 60 year old, they eat less Malaysian food. Fourth, gender as the constraint factor. Marginal effect shows negative value for gender. This means female Japanese migrants did not select Malaysian food.

5.3. Implication and contribution

These are the findings that can be used to increase the number of Malaysian restaurant in Japan. Firstly, the original version of Malay cuisine can appeal the first timers. Secondly, to keep the regular customer, Malay cuisine needs to be adjusted. Malay cuisine is oily, fatty, spicy and unhealthy. For that reason, another version of Malay cuisine but in Japanese style has to be made. Third, it is found that Malaysian-Chinese cuisine is easier to appeal to the Japanese because of familiarity. Malaysian-Chinese cuisine also has a healthier image compared to other cuisines as the cooking method includes steaming and less frying and the usage of Chinese traditional medical herbs as the ingredients.

The specific strategy to promote Malaysian food in Japan is as follows. Malaysia Kitchen Program (MKP) focused on Malay cuisine such as *sate*, *nasi lemak* and *rendang* and to be promoted in Japan. However, the result of this study (Table 4.10) shows that the Japanese migrants only eat Malay cuisine within one year after migration. From year two onwards, the Japanese migrants started to eat Malaysian-Chinese cuisine. For the better spread of Malaysian food in Japan, MKP program should focus on promoting Malaysian-Chinese cuisine instead of Malay cuisine. One of the steps is MKP should promote that Malaysian-Chinese cuisine and Chinese cuisine in Japan are different. According to Table 4.7, as the result shows that the female selected Japanese food over Malaysian food, it is also important to promote Malaysian food to the female customers in Japan.

The results of this study can be used as a reference data to appeal to the Japanese who visit Malaysia. Attention needs to be paid to the cleanliness to attract the Japanese customers. Hawkers and local restaurants offer delicious Malaysian food at a cheap price but they have to pay attention to the cleanliness to attract the Japanese customers in Malaysia. The changes might improve or have an impact on the tourism industry of Malaysia. For working department, the result shows an image of dietary habit change of the Japanese in Kuala Lumpur. This can be used as a reference data for the

future Japanese workers/professional foreign workers in Kuala Lumpur.

The information from this study can be used by nutrition professionals in nutrition education for a Japanese population overseas. Nutrition professionals and health professionals in Malaysia can use this information to improve the dietary life of the Malaysian for better living. For example, some respondents have a habit of skipping meal, which is unhealthy.

Chefs and cooks of the local Malaysian restaurants can use the knowledge from this research to attract more foreign and Asian customers especially the Japanese. For example, it is confirmed that the Japanese respondents selected Malay cuisine for breakfast and lunch. Furthermore, the Malaysian government can use the findings of this study as an eye-opener to pay more attention to Malay cuisine. As Malay cuisine is less favored than Malaysian-Chinese cuisine by the Japanese in Kuala Lumpur, the Malaysian government needs to make sure whether the Malay cuisine heritage is well preserved and appreciated for its uniqueness. In food globalization, the data of food consumption behavior would serve as a useful reference.

The contributions of the study are as follows. In Chapter 3, in rapid economic growth countries such as Japan and China, food consumption difference between the urban and rural area is big. The finding shows that in Malaysia, a moderate economic growth country, food consumption difference between the urban and rural area is small.

In Chapter 4, contrary to other papers that mostly targeted on the dietary change of the permanent residents/migrants or the difference in dietary change between the first generation and the second generation of permanent migrants/residents, this research targeted on the Japanese workers in Kuala Lumpur, Malaysia who are long-term migrants staying for at least 3 months, but may be planning to return to Japan.

5.4. Originality of the study and general discussions

The theme of this research, “Dietary Change,” is the subject of research in each of the following academic fields: (1) natural sciences, (2) social sciences, and (3) humanities. In the field of (1) natural sciences (nutrition and epidemiology etc.), the elucidations of the causes of obesity and diseases is the main purpose of research. The subjects of research are long-term migrants, and many studies use quantitative data such as nutrient intake (Bammann *et. al.*, 2019). In the fields of (2) social sciences (sociology and economics etc.), there are many studies focusing on the impact of eating experience on local food demand and local industries. Most of these analysis subjects are short-term migrants due to travel and tourism (Sengel *et. al.*, 2015). In the field of (3) humanities (cultural anthropology etc.), the dietary habits are taken as a factor defining cultures and identities, and the previous researches are conducted from a very long-term perspective (Mintz *et. al.*, 2002). Regarding research items, (1) natural sciences are important for food commodities/items, but (2) social sciences and (3) humanities are important for meal contents/selection.

The originality of my research is that it focuses on "meal selection" to consider adaptation to food culture while referring to the methods of natural science. Another attractive point of this study is that it is not a temporary response of travel or tourism but routine dietary behavior targeting long-term migrants.

General discussion of the study is as follows. "Dietary acculturation" refers to the process that occurs when members of a migrating group adopt the eating patterns/food choices of their new environment. Jessie (2003) wrote that similar to other forms of acculturation, dietary acculturation is multidimensional, dynamic, and complex and does not appear to be a simple process in which a person moves linearly from one end of the acculturation continuum (traditional) to the other (acculturated). This opinion is supported by many previous researches, and the findings of my research can also be understood as one of "dietary acculturation". Berry (1997) wrote that

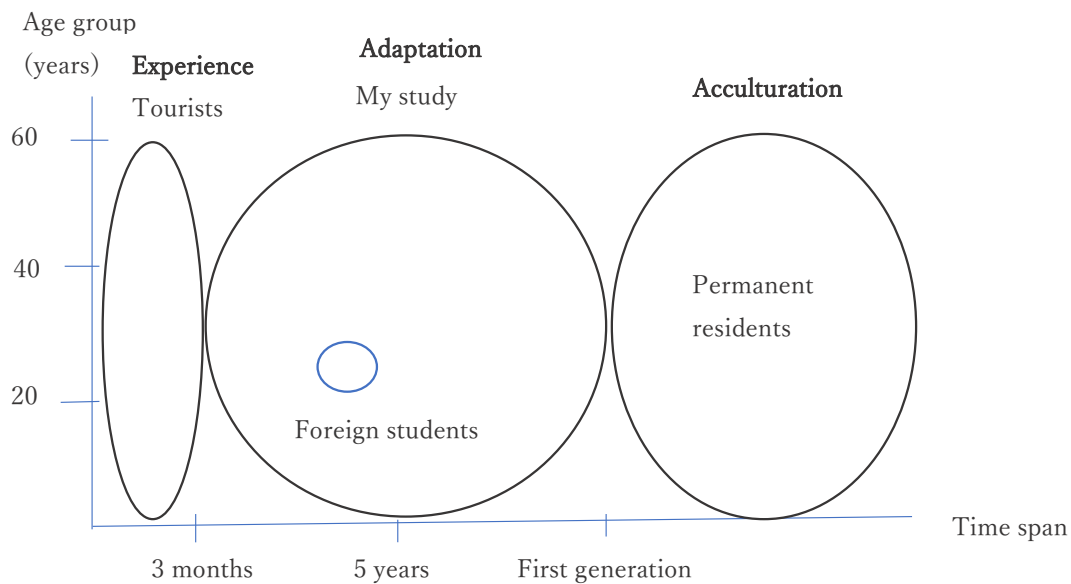


Figure 5.2 The scope of my study

acculturation process consists of 3 stages, experience, adaptation and acculturation. Figure 5.2 shows the scope of my study. Previous studies covered on experience stage and acculturation stage. My study is on the stage of adaptation. Previous studies targeted on tourists, foreign students and permanent residents with different time spans. My study's time span is the middle or in between tourists and permanent residents and with a larger area of age group compared with foreign students.

5.5. Limitation/Future study

As a metropolis, a high number of eating out occurred in Kuala Lumpur. For further research, I would like to choose a rural area as a new study area where eating out chances are lower. Secondly, I would like to investigate how the dietary habit of the Japanese in Kuala Lumpur changes after returning back to Japan. Third, I would like to consider other factor that affects the eating behavior. As communication usually starts at a party, where it is a good opportunity for networking while people are enjoying the food, I would like to choose social factor as a task and conduct a research on how social factor affects eating behavior.

References

- Axelsson, M. L. (1986). "The impact of culture on food-related behavior", *Annual Review Nutrition*, 6, pp. 345-363.
- Bammann, K., Lissner, L., Pigeot, I., and Ahrens, W. (2019), *Instruments for Health Surveys in Children and Adolescents*, Springer Series on Epidemiology and Public Health.
- Berry, J. W. (1997), "Immigration, Acculturation, and Adaptation", *Applied psychology*, 46(1), pp. 5-34.
- Brittin, H. C. and B. A. Obeidat (2011). "Food practices, changes, preferences and acculturation of Arab students in US universities", *International Journal of Consumer Studies*, 35, pp. 552-559.
- Deaton, A. and Muellbauer (1980). "An Almost Ideal Demand System", *American Economic Review*, 70, pp. 312-326.
- Department of Statistics Malaysia, Official Portal (2010). (<https://www.dosm.gov.my/v1/>) [Accessed on March 20, 2019]
- Djatinugroho, A. D. M., Destiamand A. H. and Yana D. (2014). "Aplikasi motif fauna budaya Peranakans pada tableware menggunakan Teknik sgraffito dengan perwarna engobe", *Jurnal Tingkat Sarjana bidang Senirupa dan Desain*, 1, pp. 1-9. (In Indonesian)
- Dittus, K. L., V. N. Hillers and K. A. Beerman (1995). "Benefits and barriers to fruit and vegetable intake: relationship between attitudes and consumption", *Journal of Nutritional Education*, 27, pp. 120-126.
- Franzen, L. and C. Smith (2009). "Acculturation and environmental change impacts dietary habits among adult Hmong", *Appetite*, 52, pp. 173-183.

- Hall, H. (2013). "A unique blend: how a surge in the Chinese population influenced Singaporean-Malay cuisine", *Oi Vietnam*, October 10, 2013, Metro Advertising Co., Ltd., Ho Chi Minh (Vietnam).
- Ishida, A., Law, S. H. and Aita, Y. (2003). "Changes in Food Consumption Expenditure in Malaysia", *Agribusiness*, 19(1), pp. 61-76.
- Jalis, M., Hairi et. al. (2014). "Utilising local cuisine to market Malaysia as a tourist destination", *Procedia - Social and Behavioral Sciences* 144, p. 103.
- Jessie S-A. (2003). "Dietary Acculturation: Definition, Process, Assessment, and Implications", *International Journal of Human Ecology*, 4(1), pp. 71-86.
- Kettani, H. (2010). "Muslim Population in Asia: 1950-2020", *International Journal of Environmental Science and Development*, 1(2), pp. 143-153.
- Kim, M. J., S. J. Lee, Y. H. Ahn, P. Bowen, and H. Lee (2007). "Dietary acculturation and diet quality of hypertensive Korean Americans", *Journal of Advanced Nursing*, 58(5), pp. 436-445.
- Kusakari, H. and Jin, Z. (2015). "A Food Demand Analysis with the Rapid Economic Growth in Urban Areas of China", *Journal of Rural Economics*, 87(2), pp. 306-309 (in Japanese with English abstract).
- Lv, N. and K. Cason (2004). "Dietary pattern change and acculturation of Chinese Americans in Pennsylvania", *Journal of the American Dietetic Association*, 104, pp. 771-778.
- Malaysia Department of Statistics (1995, 2000, 2006, 2011), Household Expenditure Survey (1993/94, 1998/99, 2004/05, 2009/10). Kuala Lumpur: Government Printer.
- Malaysia Kitchen Secretariat (2013). (<http://themalaysiakitchen.blogspot.com/2013/10/what-is-malaysia-kitchen-programme.html>) [Accessed November 20, 2015].

- Matsuyama, T. (1976). "A Short Report of Observing Dietary Pictures of Six Japanese Women Emigrants in Hawaii" (in Japanese), *Eiyo To Shokuryo*, 29(7), pp. 400-403. (in Japanese with English abstract)
- Ministry of Agriculture, Forestry and Fisheries of Japan (2019). (http://www.maff.go.jp/j/supply/hozyo/shokusan/attach/pdf/180424_1-2.pdf). [Accessed March 20, 2019].
- Ministry of Foreign Affairs of Japan (2018) Annual Report of Statistics on Japanese Nationals Overseas. Tokyo: Consular Affairs Bureau.
- Mintz, S. W. and C. M. Du Bois (2002). "The Anthropology of Food and Eating", *Annual Review of Anthropology*, 31, pp. 99-119.
- Nahar, N., S. A. Karim, R. Karim, H. Ghazali and S. E. Krauss (2018). "The Globalization of Malaysia National Cuisine: A Concept of 'Gastrodiplomacy'", *Journal of Tourism, Hospitality & Culinary Arts (JTHCA)*, 10(1), pp 42-58.
- Office of the Prime Minister of Japan (1966). Annual Report on the Family Income and Expenditure Survey (1965). Japan Statistical Association (in Japanese).
- Okimasu, S., N. Kishida and M. Akabane (1981a). "Studies on the Basic Food Consumption Patterns of Japanese -a Projection from Nutritional Investigations of Japanese Emigrants in Brazil – Part 1 From the Side of Food Intakes", *The Japanese Journal of Nutrition and Dietetics*, 39(1), pp.15-24. (in Japanese with English abstract)
- Okimasu, S., N. Kishida and M. Akabane (1981b). "Studies on the Basic Food Consumption Patterns of Japanese -a Projection from Nutritional Investigations of Japanese Migrants in Brazil – Part 2 From the Side of the Structural Analysis of Food Consumption Patterns", *The Japanese Journal of Nutrition and Dietetics*, 39(1), pp. 25-35. (in Japanese with English abstract)

- Pan, Y. L., Z. Dixon, S. Himburg and F. Huffman (1999). "Asian students change their eating patterns after living in the United States", *Journal of the American Dietetic Association*, 99(1), pp. 54-57.
- Papadaki, A. and J.A. Scott (2002). "The impact on eating habits of temporary translocation from a Mediterranean to a Northern European environment", *European Journal of Clinical Nutrition*, 56, pp. 455-461.
- Pierce, B., M. Austin, P. Crane, B. Retzlaff, B. Fish, C. Hutter and W. Y. Fujimoto (2007). "Measuring dietary acculturation in Japanese Americans with the use of confirmatory factor analysis of food-frequency data", *American Journal of Clinical Nutrition*, 86, pp. 496-503.
- Poulain, J. P., L. Tibere, C. Laporte and E. Mognard (2014). "Malaysian Food Barometer: Food, Culture and Health," Taylor's Press.
- Rockower, P. S. (2012). "Recipes for gastrodiplomacy", *Place Branding and Public Diplomacy*, 8(3), pp. 235-246.
- Saidi, N., A. Tani, T. Sasaki and H. Kusakari (2015). "Analysis of Food Demand in Urban and Rural Areas of Malaysia Focusing on Relatively Moderate Economic Growth", The Association for Regional Agricultural and Forestry Economics, Tottori University, October 31.
- Saidi, N., A. Tani and T. Sasaki (2016). "Dietary Style of Japanese Immigrants in Malaysia", *Journal of Food System Research*, 23(3), pp. 165-168.
- Saidi, N., A. Tani and T. Sasaki (2019). "Meal selection among Japanese immigrants in Malaysia based on year of immigration", *Journal for the Integrated Study of Dietary Habits*, 29(4), pp. 195-203.
- Satia, J. A., R. E. Patterson, A. R. Kristal, T. G. Hislop, Y. Yasui, and V. M. Taylor (2001). "Development of scales to measure dietary acculturation among Chinese-Americans and Chinese-Canadians", *Journal of the American Dietetic Association*, 101(5), pp. 548-553.

- Sengel, T., A. Karagoz, G. Cetin, F. I. Dincer, S. M. Ertugral and M. Balik (2015) "Tourists' Approach to Local Food", *Procedia - Social and Behavioral Sciences*, 195, pp. 429-437.
- Shahrim, A.K. and C. Y. Ng (2016). "Historical and contemporary perspectives of the Nyonya food culture in Malaysia", *Journal of Ethnic Foods*, 3, pp. 93-106.
- Sukalakamala, S. and H. Brittin (2006). "Food practices, changes, preferences, and acculturation of Thais in the United States", *Journal of the American Dietetic*, 106(1), pp. 103-108.
- Takata, Y., G. Maskarinec, A. Franke and C. Nagata (2004). "A comparison of dietary habits among women in Japan and Hawaii", *Public Health Nutrition: 7*(2), pp. 319-326.
- Tani, A. and Kusakari, H. (2013). "Econometric Analysis of Household Attribution and Eating Habits Conditional on the Economy", *Journal of Rural Problems*, 49(1), 47-52. (in Japanese with English abstract).
- Tan, C. B. (1988). "The Baba of Melaka", Petaling Jaya, Selangor, Malaysia, Pelanduk Publications.
- Tan, C. B. (2001). "Food and ethnicity with reference to the Chinese in Malaysia", *Changing Chinese foodways in Asia, New Territories (Hong Kong)*, Hong Kong University Press, pp. 125-160.
- Tan, C. B. (2007). "Nyonya cuisine: Chinese, non-Chinese and the making of a famous cuisine in Southeast Asia", resource, tradition and cooking, Oxon (UK), Routledge, pp. 171-182.
- Tan, C.B. (2010). "Intermarriage and the Chinese Peranakan in Southeast Asia", In: Leo Suryadinata (ed). *Peranakan Chinese in a globalizing Southeast Asia*, Singapore, Chinese Heritage Centre, pp. 27-40.
- Teh, C. Y. and Lim Y. M. (2014). "An alternative architectural strategy to preserve the living heritage and identity of Penang Hokkien language in Malaysia", *Int J Hum Soc Sci*, 4, pp. 242-247.

- Tey, Y. S., Shamsudin, M. N., Mohamed, Z., Abdullah, A. M. and Radam, A. (2008). "A Complete Demand System of Food in Malaysia", *ICFAI Journal of Agricultural Economics*, 5(3), pp. 17-29.
- Thai Food to the World (2007). (<http://www.thaifoodtoworld.com/home/governmentpol.php>) [Accessed November 20, 2015].
- Uchino, S. (1977). *Jinkou Hendou to Syoku Seikatsu* ("Population Change and Dietary Style") Dai-ichi Shuppan.
- United Nations (1998) "Recommendations on Statistics of International Migration Revision 1", Statistical Papers, Series M, 58(1), p. 10.
- Wee, P. (2009). *A Peranakan legacy: the heritage of the Straits Chinese*, Singapore, Marshall Cavendish.
- Wen, S. C., K. Ishibashi, K. Taniguchi, and Y. Tokoyama (2002). *Analysis of Food Consumption Behavior by Japanese Households*, pp. 1-81.
- William, R. (2007). *Peranakans: a unique culture*", Selangor, Malaysia, The Sun, August 6.
- World Bank. *World Development Indicators*. (<http://data.worldbank.org/country>) [Accessed November 20, 2015].
- World Population Review (2017). (worldpopulationreview.com) [Accessed on March 20, 2019]
- Yamashita, M. (2014). "Aiming for a greater share of the global market", *Highlighting JAPAN*, April 2014, pp. 8-9.
- Yamauchi, T. (1986). "Dietary life of the Japanese living in New York City: A Case Study", *The Japanese Journal of Nutrition and Dietetics*, 44(3), pp. 143-151. (in Japanese with English abstract)

Yoshino, K. (2010). "Malaysian Cuisine: A Case of Neglected Culinary Globalization", In: Farrer, James (ed.) In *Globalization, Food and Social Identities in the Asia Pacific Region*, Sophia University Institute of Comparative Culture.