

(Format No. 3)

## SUMMARY OF DOCTORAL THESIS

Name: Alias bin Abdullah

Title: JAPANESE HOUSEHOLD DEMAND FOR FRESH FRUITS, 1973-2006  
(日本人世帯における生鮮果実の需要に関する研究, 1973-2006年)

---

Quantity demanded for the fresh fruits by Japanese household had declined since 1973. Japanese per capita consumption of fresh fruits was on the average of 45.2 kg/capita in 1965 and peaked to 54.6 kg/capita in 1973 but then decreased to 27.5 kg/capita in 2006. This research involves a comparative study for the demand of fresh fruits by Japanese household across all over Japan for the periods of 1973-1992 and 1992-2006. Household expenditure on fresh fruit in Japan can be divided into two periods based on expenditure such as period of increase in expenditure (1973-1992) and period of decrease in expenditure (1992-2006) which shows the consumption pattern for the commodity. In Japan, fruit consumption distribution shows different pattern due to each fruit have different consumption characteristic and trend of demand. Therefore, it is crucial to understand economic characteristic for each fruit by understanding its price and expenditure elasticity.

The study starts with the analysis of the demand elasticity values of 14 aggregate food groups and the comparison of the elasticity values between the periods of 1973-1992 and 1992-2006 as well as for further analysis the cross price elasticity values were computed for the latter period. The 14 categories of food considered in this study are rice, bread, noodles, other cereals, dairy products, fish and shellfish, meat, fruits, vegetables, cakes and candies, oil and fats, alcohol, coffee and tea and juices (fruit and vegetable). The analysis of food consumption pattern is very important in order to understand the position of fresh fruits among other food consumed by Japanese households.

The study also covers the current demand for fresh fruits across the prefectures and cities in Japan for the year of 1991-2006. The demand estimates are given across some 49 cities in Japan. For each city, the demand and expenditure elasticities are calculated and the percentage of potential increase or decrease of demand was estimated. We also report the comparison study of two historical data sets for each of 14 fresh fruits and fruits in general. This benchmark allows reader to have a clear picture of the demand situation for these discussed fruits in the surveyed cities. In this study, we applied a double log demand function to Japan's household fresh fruit expenditure data for the period of 1973-2006. This model enabled to project fundamental economic dynamics within cities in the prefecture, demand elasticity (price and expenditure) for each of 14 fresh fruits such as apple, pear, peach, persimmon, mandarin orange, orange, other citrus, grapefruits, watermelon, melon, strawberry, grape, banana and other fruit and fresh fruits in general. The statistical software SHAZAM was used to analyze the data.

To complement the study, a survey on fresh fruit consumption in the Tokyo

city was undertaken. The survey was conducted in the early winter of 2008, questionnaires were administered to 71 of Tokyo City residents to elicit increased understanding on fresh fruits consumption issues at different locations of train stations in Tokyo along Yamanote Line. The survey was designed to respond to the following questions: "What concerns do Tokyo City residents have about fresh fruits?" and "What do they perceive about tropical fresh fruits and fruit juices?" Also "What factors determine the Tokyo consumers in choosing fresh fruits?" The fact of fast-moving society in Tokyo city make people turn from time-consuming food habits to fast foods such as fresh fruits and other ready-to-eat food. We analyze our spending behavior in the perspective of age, gender, working status, number of members per household and income. Most of the findings in this study agree with our earlier hypotheses which are; Tokyo residents think that fruits are important for health, female consume fruits more frequent than male, younger generation eats fruits more than the older, and older generations consume more fruit juices.

Our previous study on Japanese household demand has shown that the tropical fresh fruits have positive demand due to several reasons such as increase in importation of fruits, easy access and preference for new taste, etc. Therefore, we focus closely on the demand for tropical fresh fruits by first examining the variety of fresh fruits that are imported into Japan including fresh fruits; mainly avocado, banana (the most important), mango, papaya, pineapple (fresh and canned), watermelon and melon. Then, we compare the elasticity values for ten local fresh fruits and seven tropical fresh fruits. This study provides important information for tropical fresh fruits producers' country such as Malaysia as well as the traders to understand the Japanese market for tropical fresh fruits.

We also conducted a study on fresh fruits consumption behavior in developing nations. In this study, we compare the consumption of fresh fruits in Malaysia as a developing nation with Japan as a developed nation. We examine the performance of the sector in terms of local fresh fruit consumption. Our analysis has shown that the demand for tropical fresh fruits in Malaysia are relatively income elastic as evidenced by the increase in quantities demanded which is same as for other developed nations and more specifically demand for fresh fruits in Japan as revealed by the previous demand analysis.

The demand drive for fresh fruits in Japan is affected by many economic, social and cultural factors. Mori et al. (2009) suggested that the younger generations in Japan have moved away from eating fresh fruit for unknown reason. It is important to identify the main factors affecting fresh fruits demand such as price and expenditure factors. Moreover, an understanding of the mechanisms of interaction between these factors could serve as guidelines for understanding consumer spending on fresh fruits as well as for making structural marketing adjustments. Market segmentation analysis is also very important in order to analyze the situation in-depth. Furthermore, the view point of market segmentation is very important because expenditure elasticities vary geographically. To better understand the fruits demand behavior in Japan, research should be conduct based on local context.