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Country of Origin and Thai Consumer Valuation of Fruits and Vegetables Under Free Trade Agreements

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Abstract: Trade barriers provided Thai fruit and vegetable producers protection against imported fruits and vegetables until the advent of Free Trade Agreements (FTAs). Whilst FTA benefits in terms of lowering prices to consumers and opening opportunities for local producers to penetrate foreign markets are often cited, FTAs allow imported goods and services to compete freely with domestic production. This srudy adopts the nth price auction method in order to elicit the Willingness to Pay (WTP) of Thai consumers for fruits and vegetables which have different Countries of Origin (COOs). About 60 subjects participated in the experiment. Fruits and vegetables used in this experiment included strawberries, kiwifruits and carrots from China, the United States, New Zealand, Japan and Thailand. Three of these countries currently have FTAs with Thailand, except for the United States where the process is still under negotiation. FTAs eliminate trade barriers and as a result intensify price competition. The results show that Thai consumers gave COO valuations with the highest average WTP to the United States, followed by Japan, New Zealand, China and Thailand, respectively. WTPs of fruits and vegetables grown in Thailand and imported from China are statistically not different which implies that Thai fruits and vegetables are overpriced and cannot compete with imports from China. On the other hand, the WTPs of fruits and vegetable imported from the United States, New Zealand and Japan are within the same range.

Key words: Country-of-origin, willingness to pay, free trade agreement, nth price auction, vegetables, Thailand

INTRODUCTION

Due to its location and available resources, Thailand produces a variety of tropical and subtropical fruits and vegetables. Several fruits namely durian, mango, mangosteen, longan, lychee and pineapple appeal to consumers all around the world. Thailand's exports of agricultural products have shown rising trends since 2004, reaching 6.18 trillion Baht in 2010. Due to Thai consumers' tastes for foreign fruits and vegetables and Thai producers' competitive disadvantage in producing certain fruits and vegetables, Thailand's import value of fruits and vegetables are similar to those of the export value.

In 2009, Thailand imported >20 billion Baht of fruits and vegetables. Approximately, 14.2 billion Baht of fruits were imported from 70 countries, the major ones being China and the United States with the top five imported fruits including apples, grapes, pears, oranges and cashew nuts. For vegetables, approximately 6.3 billion Baht of imports were from >50 countries, the main ones being again China and the United States. Important imported vegetables were carrots, potatoes, mushrooms, garlic and broccoli.

Free Trade Agreements (FTAs) have raised concerns and criticisms amongst Thai fruit and vegetable producers. Several examples of FTA's adverse effects have been reported in the local media. For example, Thailand's garlic plantation area and production have reduced by >22% during 2004-2007. Another example involves Thai tangerine production which is expected to shrink by half due to FTA (MCOT, 2010). Currently, Thailand has a bilateral FTA with Australia, New Zealand, Japan india and Peru in which each agreement has its own distinctive coverage and timetable (Department of Trade Negotiations, 2011a).

The European Union and the United States FTAs are still in the negotiation process. In addition, Thailand is involved with several multilateral FTAs including the ASEAN Free Trade Area (AFTA) and Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).

The Association of South-East Asian Nations (ASEAN) itself also has FTAs with several countries namely, China and South Korea. Whilst FTA benefits in terms of lowering prices to consumers and opening opportunities for local producers to penetrate

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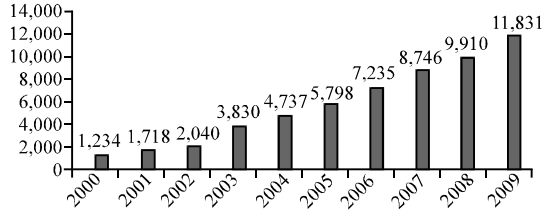

Fig. 1: Value of imported fruits and vegetables from China (Million Baht) National Food Institute (2010)

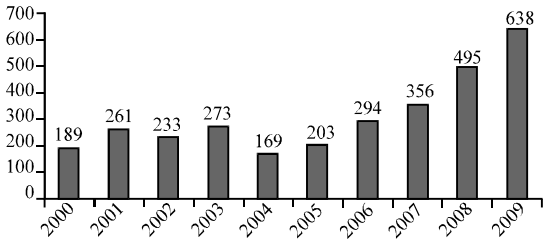

Fig. 2: Value of imported fruits and vegetables from New Zealand (Million Baht) National Food Institute (2010)

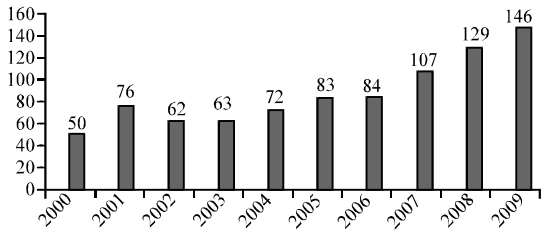

Fig. 3: Value of imported fruits and vegetables from Japan National Food Institute (2010)

foreign markets are often cited; FTAs allow imported goods and services to compete freely with the domestic production.

One of the major competitors is China which has a price advantage originating from several factors which include lower wages and larger economies of scale. ASEAN and China signed the Framework Agreement on ASEAN-China Comprehensive Economic Cooperation on November 4, 2002 (Department of Trade Negotiations, 2011b). Tariffs on Chinese fruits and vegetables were significantly reduced from January 1, 2004 and subsequently eliminated on January 1, 2006. However, China and Thailand have signed an agreement to accelerate tariff elimination of imported fruits and vegetables including apples, strawberries, carrots and garlic. About 0% tariffs became effective on October 1, 2003 since then, Thailand's imports of fruits and vegetables from China have increased dramatically as shown in Fig. 1.

Although, the FTA has provided Thai consumers with more choices at cheaper prices, it has not had the effect of raising total fruit and vegetable consumption amongst Thais; instead it has reallocated consumption to the cheaper priced ones. The consumption of vegetables by Thais has declined by 2.18% year^{-1} during 2002-2005 whilst consumption of fruits increased slightly by 0.44% over the same period. On the other hand, the consumption of certain vegetables which were imported from China dramatically increased for examples, a 38.89% annual increase for carrots and a 10.73% annual increase for garlic. The consumption of Chinese kiwifruits, strawberries, apples and plums has also risen at a very high rate, ranging from 13.36- 569.43% annually.

This study aims to analyze Thai consumers' perceptions towards imported fruits and vegetables. The focus is on countries that Thailand currently and will potentially have the FTAs with. Other than China, New Zealand, Japan and the United States were selected because these countries are currently major trading partners with Thailand. In addition, each has its own renowned fruits amongst Thai consumers. In the case of New Zealand for example, most Thai consumers would think of kiwifruit of which there are >1 type. New Zealand has its own leading cultivars of kiwifruit which include Abbott, Allison, Bruno, Hayward, Monty and Green Hill, all of which are uniquely different (Morton, 1987). The Thailand-New Zealand Closer Economic Partnership (TNZCEP) was signed on April 19, 2005 (Department of Trade Negotiations, 2011c). Effective on July, 1 of the same year, certain fruits' and vegetables' tariffs were reduced to 0% immediately and those included apples, carrots, garlic and kiwifruits. This agreement eventually led to tariff elimination for 89.72% of total imported goods on January 1, 2010 and included strawberries and raspberries.

As shown in Fig. 2, the value of imported fruits and vegetables has increased significantly since, the agreement became effective in 2005. Japan and Thailand signed the Japan-Thailand Economic Partnership Agreement (JTEPA) which became effective on November 1, 2007 (Department of Trade Negotiations, 2011d). Since then, Thailand has opened its markets to Japanese fruits and vegetables where tariffs on several fruits and vegetables including apples were reduced to 0% immediately. Tariffs on carrots were removed from 2009 onwards, tariffs on strawberries and cherries will be gradually reduced to 0% in April 2012 whilst tariffs on kiwifruits will be removed in 2015. After JTEPA, import values have increased continuously as shown in Fig. 3. Japan's fruit production is supported by a plentiful water supply and relatively mild temperatures as a result,

large-volume production of apples and pears are possible (Dyck and Ito, 2004). The main strength of Japanese fruits and vegetables is their unique taste. As such the perception of higher quality allows Japanese fruits and vegetables to carry price premiums in the Thai market. In addition to China, New Zealand and Japan, Thailand imports various fruits and vegetables from the United States including apples, strawberries and carrots. Fruits and vegetables imported from the US have an appetizing appearance and good taste. A wide variety of which are cultivated across different states in the US during different seasons where certain states such as California, Florida and Washington remain the prime production areas. Apples from the US, especially from Washington state include the varieties of Red Delicious, Fuji, Gala and Pink Lady which are popular in Thailand as well as other countries around the world. On October 19, 2003, the President of the US and Thailand's Prime Minister agreed to negotiate on FTA. According to Ahearn and Morrison (2006), there are many issues that have not been concluded on Thailand's side such as existing high tariffs on certain goods and weak intellectual property protection. For agricultural products, the US average tariff is 7% but Thailand's average tariff stands at 24% in addition, Thailand imposes tariffs of 40-60% on US fresh fruits and vegetables.

Although, the prices of imported US fruits and vegetables may not be competitive because of the current imposed tariffs, Thailand still imports a large volume of US fruits and vegetables (Fig. 4). FTAs have clearly raised the competitiveness of imported fruits and vegetables against the local ones. Thai consumers have more varieties to choose from although, prices still vary depending on the products' origins as evidenced in Table 1. The origin of fruits and vegetables carries certain

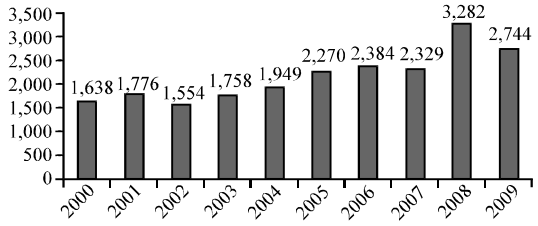

Fig. 4: Value of imported fruits and vegetables from the United States (Million Baht) National Food Institute (2010)

qualities and characteristics in consumers' perceptions. For example, concerns have been raised regarding fruits and vegetables from China due to a remaining insecticide residue which they use to protect their plants. As a result, imported fruits and vegetables from certain countries enjoy price premiums whilst others have been discounted by consumers.The purpose of this study is to quantify the effects of the country of origin into a monetary unit by attempting to measure Thai consumers' Willingness to Pay (WTP). Although, Thai consumers receive a benefit from FTAs, local fruit and vegetable growers could be adversely affected because local ones are no longer considered to be the cheapest nor the best quality. Comparisons between consumers' WTP and market prices would provide important implications to both Thai fruit and vegetable producers and policy makers alike.

Literature review: Consumers' Willingness to Pay (WTP) for a product or service is influenced by many factors which can be grouped into intrinsic and extrinsic ones. The intrinsic factors involve physical characteristics of the product itself whilst extrinsic factors provide information for consumers' decision making such as warranty, brand and Country of Origin (COO) (Schiffman and Kanuk, 2000). For this study, COO is defined based on the consumers' perspective. Elliott and Cameron (1994) defined COO as information regarding the location where that product is produced which causes a positive or negative influence on consumers' decisions. COO gives consumers an overall perception of a product from a particular country (Roth and Romeo, 1992).

Certain countries carry certain specific images for their products for example, Japanese electronic products carry a high-quality image whilst Italy and France are well-known leaders in the fashion industry. However, higher quality perception could come from higher country-specific costs such as taxes or wages (Haucap *et al*., 1997).

While many researchers attempt to develop models to explain how consumers evaluate a product that originates from a particular country others focus on quantifying COO and determining premiums or discounts associated with COO. Skuras and Vakrou (2002) surveyed Greek consumers in order to identify the factors that affect consumers' WTP for wines labeled with different COOs. Based on the Contingent Valuation Method (CVM), the results show that consumers of non-quality wine are

Table 1: Price of selected fruits and vegetables from different countries (Baht)

Items	China	Japan	United States	New Zealand	Thailand
Kiwifruit	63/4 pieces	90/4 pieces	100/4 pieces	140/4 pieces	88/4 pieces
Strawberries	60/250 g	90/250 g	219/250 g	179/250 g	75/250 g
Carrots	35 kg^{-1}	140 kg^{-1}	55 kg^{-1}	65 kg^{-1}	49 kg^{-1}

Personal surveys at two hypermarkets in Bangkok conducted during May and July, 2010

willing to pay twice the price of table wine when the wine's place of origin is confirmed. The level of education and consumers' familiarity with the place of origin also influence the WTPs.

Recently, the EU and the US launched a labeling regulations related to the product's origin. Loureiro and Umberger (2003) studied the WTP for mandatory labeling for meat products sold in the US. The results show that the survey respondents in Colorado were willing to pay premiums of 38 and 58% for US Certified steak and hamburgers, respectively. Umberger *et al.* (2002) compared the WTPs of American corn-fed beef and Argentine grass-fed beef. Total 248 representative consumers from Chicago and San Francisco participated in the experimental auction.

Participants were presented with the steaks which they were allowed to taste before bidding. The results show that American beef has a premium of 30.6% over grass-fed beef but not all participants have the same bidding behavior. Total 62% of the participants preferred American beef and were willing to pay up to an extra of \$1.61 pound^{-1} , 23% preferred the Argentine beef and were prepared to pay up to \$1.36 extra per pound and the remaining 15% were indifferent between the two types. Focusing on fruits and vegetables, Eastwood *et al.* (1987) differentiate consumers' behavior towards Tennessee grown and out-of-state fresh produce.

To evaluate the WTP, respondents were asked whether they were willing to pay higher, lower or the same price for a specified commodity. The results show that consumers were not concerned about the origins of apples, broccoli and cabbage; whilst local tomatoes and peaches received positive responses from consumers. Overall since, consumers had no strong preferences towards local fruits and vegetables, it was suggested that price settings had to reflect this behavior.

Mabiso *et al.* (2005) adopted an experimental auction and a survey questionnaire to identify consumers' WTP for apples and tomatoes with grown in the US labeling. The average WTPs for apples and tomatoes were \$0.49 and \$0.48 pound^{-1}, respectively. In addition, 79% and 72%, respectively of representative consumers were willing to pay a premium for grown in the US apples and tomatoes. Since, the premiums of apples and tomatoes are not statistically different, the researchers suggest that all US produce be labeled in order to raise their competitiveness. While most studies on COO have been conducted on the Western consumers, only a few studies have been dedicated to Asian consumers. Chern and Chang (2008) for example, elicited Taiwanese WTP for Taiwanese, Chinese and Vietnamese products, based on the experimental auction and CVM. About 74 representative consumers participated in the study; whilst preserved olives and oolong teas were the chosen products. The findings reveal that Taiwanese olives receive a 67% premium over Chinese olives whilst Taiwanese oolong tea is valued at least 50% higher than teas from China and Vietnam.

As a result, continued enforcement of the current regulation which mandates COO label on all packaged food is recommended by the researchers. Although, food products are usually picked to study COO due to their close ties to geographical locations, a number of recent studies have focused on other products. One study compares the COO effects on the purchasing decisions of mobile handsets of consumers from Thailand and Scotland (Ibrahim and Sothornnopabutr, 2006). The researchers conducted a survey of 300 respondents, 150 in each country.

The results show that the COO is perceived as less important, relative to other product characteristics namely, durability, design, features, brand and price. In addition, COO effect on Scottish consumers appears to be less than that of Thai consumers. Ahmed and D'Astous (2007) looked at how Thai and Canadian consumers evaluate automobiles and VCRs from different COOs. About 201 respondents from Bangkok and 250 respondents from Sherbrooke participated in the study in which COO is analyzed in terms of Country of Design (COD), Country of Assembly (COA) and Country of Parts (COP). The researchers found that there is a large discrepancy between Thai and Canadian consumers' perceptions of COO. General Thai consumers prefer products from newly industrialized South East Asian countries whilst more educated and wealthy Thais would prefer products from industrialized countries such as the US, Japan and Germany.

MATERIALS AND METHODS

In order to quantify Thai consumers' WTP, the nth price auction is employed in this study. Van Wechel *et al.* (2003), Huffman *et al.* (2003), Rousu *et al.* (2004) and Chiaravutthi (2010) have adopted the same methodology to elicit WTP for genetically modified food. All subjects place a bid for a product. The experimenter then randomly selects a number n from 1 to the total number of participants. Winners are the highest n-1 bidders and winners must purchase the product at the price of the nth bidder. This demand-eliciting mechanism is useful in engaging off-margin bidders during the auction (Shogren *et al.*, 2001). The advertisement of the experiment was posted at major fresh markets and hypermarkets around Nakhonpathom province, Thailand.

Since, the experimental process required >1 h of participants' time, it was not feasible for participants who were located far from the venue. The experiment was conducted at Mahidol University International College, Nakhonpathom. About 60 representative Thai consumers volunteered to join the experiment. All participants were older than 18 and are the main shoppers of their households.

There was no restriction on gender, education and occupation. The experiment consisted of 6 sessions and 10 participants were randomly assigned to each session. The number of participants required for each session has to be sufficient to encourage competition but not too many to discourage bidding. While Noussair *et al.* (2002) had 7 participants in each session, Noussair *et al.* (2004)'s study had an average of 9.7 participants in each session (a total of 97 subjects participated in the 10 sessions). In Rousu *et al.* (2004)'s study, 13-16 participants were in each session and Huffman *et al.* (2003) set the maximum of 16 participants per group.

The average age of the participants of this study is 33.92 with the oldest subject being 47 years old and the youngest participant is 25 years old. 80% of the participants are female. About 95% of the participants have at least a bachelor's degree or higher and full-time jobs. For the monthly income, 61.67% of participants reported their income between 10,000 and 24,999 Baht, 25.00% are in the 25,000-49,999 Baht range, 6.67% are in the 5,000-9,999 Baht range and the remaining 6.67% are in the 50,000-99,999 Baht range.

The average number of persons in the household is 4.38. Participants were also asked to rate the importance of COO according to a 5-point scale. The responses show that 55% rated COO as important, 35% rated it very important and 7% rated it as the most important factor in making a purchasing decision. Researcher also asked whether this group of representative consumers looked for the product's COO when they buy fruits and vegetable. About 38% of them were not certain, 35% have noticed COO and the remaining 27% have not noticed COO. For each experimental session, after participants had read and signed the informed consent form, each was paid 500 Baht in cash for the endowment. Participants were asked to randomly choose their ID (A, B, C, ...) in order to hide their identity throughout the session. Each session consisted of 7 rounds which included two practice rounds and five actual rounds.

In the first practice round, participants were asked to bid for a bag of salt. Since, participants were asked to bid for three products simultaneously in the actual rounds, the second practice round allowed subjects to bid for three products namely, guava, dried banana and tamarind. In each of the five actual rounds, subjects were presented with three packages of 250 g of strawberries, 44.8 g of kiwifruits and 250 g of carrots.

All fruits and vegetables used in this experiment were re-packaged in clear plastic boxes with a plain white label attached to each box. The label presented only the weight of the product and its COO. The 5 actual rounds differed in terms of COO which included China, the United States, New Zealand, Japan and Thailand. The COO label was shown with a statement stating imported from or grown in Thailand. In order to eliminate any possible effect from the order of COOs, the sequences of the COOs were randomly assigned for each session. For each actual round after participants had examined the products and written down their bidding prices on a decision sheet, the experimenters collected all the sheets and wrote all the bids on the board from the highest to the lowest. The number n was randomly selected by the experimenter and winners of each round were determined but only their alphabetical letter ID was announced. Each experimental session took approximately 90 min.

Strawberry, kiwifruit and carrot are obvious choice since, Thai consumers are familiar with these fruits and vegetables imported from the countries of interest. In 2009, Thailand imported >33 million Baht of fresh strawberries from the United States, followed by Australia, New Zealand, South Korea indonesia and Japan each with <20 million Baht import value.

As expected, Thailand imported most of its kiwifruits from New Zealand, amounting to approximately 59 million Baht in 2009. France, Australia, China, the United States and Japan followed with a value of <10 million Baht. As for carrots, Chinese carrots were popular amongst Thai consumers with an import value of >930 million Baht in 2009. Thailand also imported a small number of carrots from Australia, New Zealand, the United States, Belgium and Japan.

RESULTS AND DISCUSSION

As shown in Table 2, Thai consumers' WTP for Thai fruits and vegetables is the lowest compared to other countries selected in this experiment. The average WTP for all of the fruits and vegetables produced in Thailand is approximately 18.87 Baht, representing a 35.82%

Table 2: Average bids of fruits and vegetables from different countries (Baht)

Countries	Strawberries	Kiwifruits	Carrots	All three products
Thailand	22.13	26.58	7.90	18.87
China	22.60	26.65	8.07	19.10
New Zealand	29.13	34.77	11.23	25.04
Japan	29.85	34.67	11.42	25.31
United States	31.15	34.32	11.43	25.63

discount against those from the United States, 34.13% from Japan, 32.70% from New Zealand and 1.22% from China. Strawberries and carrots from the United States carry the highest premiums, followed by Japan and New Zealand. As expected, New Zealand's kiwifruit received the highest bid at an average of 34.77 Baht followed by those from Japan and the United States. Although, many might think that Thai consumers would perceive Chinese products as inferior compared to Thai products; surprisingly, the experimental results show that Thai strawberries, kiwifruits and carrots received cheapest average bids even when compared to those Chinese fruits and vegetables.

Although, the results from the average bid prices show that fruits and vegetables from the United States, Japan, New Zealand and China received higher premium than Thailand's products; not all consumers shared the same WTP. Table 3 shows the bidding behavior of participants by presenting the number and the percentage of those bidding the same, higher or lower than bids for Thai products. Except for the case of China, more then two thirds of participants bid higher for Japanese, US and New Zealand products. Interestingly, 22.78, 22.78 and 25.00% of the participants did not perceive any differences between Thailand's products and those of Japan, the United States and New Zealand. Relative to Thailand, 35.00% gave a discount to Chinese products, 28.33% gave a premium to Chinese products whilst the remaining 36.67% did not perceive any difference between them.

Although, the average bid prices for Thai products are slightly lower than Chinese products, t-test statistics in Table 4 conclude that there is no statistical difference between Thailand's prices and Chinese prices for strawberries, kiwifruits and carrots. However, the null hypothes is of no difference between the average bids for all fruits and vegetables produced in Thailand and imported from Japan, the United States and New Zealand is rejected. Fruits and vegetable from Japan, the United States and New Zealand statistically carry premiums over Thailand's products. In addition, more t-tests were conducted by taking China as the reference country. The result is the rejection of the hypothesis of no difference between prices on Chinese products and prices on products imported from Japan, the United states and New Zealand, similar to Thailand's case. However, researchers cannot reject the hypothesis that there is a difference between prices on products imported from Japan, the United States and New Zealand. Statistically, Thai consumers have the same WTPs for products imported from these three industrialized countries. All test results have $p<0.05$ (Table 4). Results from the experiment show that Thai consumers have a more positive perception of fruits and vegetable imported from Japan, the United States and New Zealand, compared to those imported from China or grown domestically. For each product, New Zealand's kiwifruits carried the highest average WTP of 34.77 Baht (per 4 pieces). The United States' strawberries and carrots received the highest WTPs with average prices of 31.15 and 11.43 Baht (per pack of 250 g), respectively. Chinese products received slightly better WTPs than the Thai ones. Overall, representative consumers gave COO premiums for f ruits and vegetables imported from the United States of 35.82%, Japan 34.13%, New Zealand 32.70% and China 1.22%. Three result can be drawn from the t-test statistics. Firstly, there is no difference between WTPs for Thai and Chinese products. Secondly, there is a difference

Table 3: Classification of bidding behavior relative to Thai fruits and vegetable

Classification	No. of bids	Percentage
China		
Equal bids for products from China and Thailand	66	36.67
Decreasing bids for products from China	63	35.00
Increasing bids for products from China	51	28.33
Japan		
Equal bids for products from Japan and Thailand	41	22.78
Decreasing bids for products from Japan	16	8.89
Increasing bids for products from Japan	123	68.33
United States		
Equal bids for products from United States and Thailand	41	22.78
Decreasing bids for products from United States	15	8.33
Increasing bids for products from United States	124	68.89
New Zealand		
Equal bids for products from New Zealand and Thailand	45	25.00
Decreasing bids for products from New Zealand	6	3.33
Increasing bids for products from New Zealand	129	71.67

Table 4: t-test statistics

Difference between all products produced in Thailand and imported from the countries	t-test statistics
Bids for strawberries	
China	-0.263
Japan	-4.368*
United States	-4.427*
New Zealand	-7.442*
Bids for kiwifruit	
China	-0.053
Japan	-5.397*
United States	-5.031*
New Zealand	-5.990*
Bids for carrots	
China	-0.377
Japan	-5.122*
United States	-5.168*
New Zealand	-5.602*
Average bids for all products	
China	-0.317
Japan	-7.895*
United States	-7.571*
New Zealand	-10.217*

*p-value<0.01

Table 5: Comparison of market prices and bids between Thailand and other countries

	Thailand	China			Japan		
Items	Market price/pack (Baht)	Market price/pack (Baht)	Difference between market prices of Thailand and China (%)	Difference between average bids of Thailand and China (%)	Market Price/Pack (Baht)	Difference between market prices of Thailand and Japan (%)	Difference between average bids of Thailand and Japan (%)
Strawberries	75	60	25.00	-2.08	90	-16.67	-25.86
Kiwifruit	88	63	39.68	-0.26	90	-2.22	-23.33
Carrots	49	35	40.00	-2.11	140	-65.00	-30.82

		United States			New Zealand		
Items	Thailand Market Price/Pack (Baht)	Market Price/Pack (Baht)	Difference between market prices of Thailand and US (%)	Difference between average bids of Thailand and US (%)	Market Price/Pack (Baht)	Difference between market prices of Thailand and New Zealand (%)	Difference between average bids of hailand and New Zealand (%)
Strawberries	75	219	-65.75	-28.96	179	-58.10	-24.33
Kiwifruit	88	100	-12.00	-22.55	140	-37.14	-23.55
Carrots	49	55	-10.91	-30.88	65	-24.62	-29.65

between WTPs for both Thai and Chinese products and WTPs for products imported from Japan, the United States and New Zealand. Thirdly, there is no difference between WTPs for products imported from Japan, the United States and New Zealand. In short, Thailand and China have the same COO effect whilst Japan, the United States and New Zealand receive the same but higher COO valuations. The fact that Chinese and Thai products are viewed indifferently has many important implications. It could pose a major problem to Thai producers of fruits and vegetables, because Chinese products in general are known to be cheaper. This is especially, true when trade barriers between the two countries are removed under the existing FTA. Comparisons between WTP premiums and discounts derived from this study and the actual market prices would provide a clearer picture.

As shown in Table 5 although, the WTPs for fruits and vegetables grown in Thailand and those imported from China are not significantly different, the actual market prices of strawberries, kiwifruits and carrots produced in Thailand carry percentage premiums over Chinese prices of 25.0, 39.7 and 40.0%. Relative to Chinese prices, Thai fruits and vegetables are evidently overpriced. Thai fruit and vegetable growers will be at a disadvantage, unless they substantially lower their prices. If lowering production costs and prices are not possible on the supply side other new market opportunities have to be explored. Although, many believe that Thai fruits and vegetables are of better quality and should command a premium, Thai consumers do not seem to share this view. In the case of fruits and vegetables imported from Japan, the United States and New Zealand, a comparison between the WTP discounts and the actual market price discounts has been made. If the percentage of the actual market price discount is higher than the WTP discount; the current price settings by foreign producers are acceptable to Thai consumers and imported fruits and vegetable may be overpriced. On the other hand if the percentage of the actual market price discount is lower than the WTP discount, Thai fruits and vegetable could be overpriced. Generally, the current prices can compete with Japan, the United States and New Zealand. Foreign fruits and vegetable that are considered to be overpriced include Japanese carrots, United States strawberries and New Zealand strawberries and kiwifruits. Based on the consumers' perspective, the results from the experiment should serve as a wake up call to Thai fruit and vegetable growers and policy makers. Although, Thailand can still compete with fruits and vegetables from developed countries, it is obvious that Thailand cannot compete with China based on the price factor. FTAs further intensify such competition. One limitation of this study is that it does not determine the reason that Thai consumers do not perceive local products as superior to Chinese ones. If Thai producers are certain of their product quality, better communication to public is necessary. If not, a repositioning of Thai fruits and vegetables in the domestic and world market is urgently required.

CONCLUSION

As for the case of the United States, Thailand and the US do not currently have a FTA. Although, Thai consumers are willing to pay higher prices for fruits and vegetables imported from the US, the threat to Thai producers is still not immediate. Further studies can be conducted with more representative subjects and expanded to other products. Another interesting question which is not asked in this study is how foreign consumers perceive Thai fruits and vegetables.

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