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CHARACTERISTICS OF THE COMMERCIAL SEX MARKET IN THAILAND: A MICROECONOMICS INVESTIGATION[†]

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Abstract

The market for commercial sex is in fact just like any other market characterized by demand, supply, and price. The market exists in almost every country, and different types have different market structures. In Thailand, the economic structure of the commercial sex market is rather complicated and there is need for a methodological or scientific approach to help better our understanding. This paper aims to provide a working taxonomy appropriate to the commercial sex market for Thailand. Both primary data (survey and interview) and secondary data based on microeconomic analysis are used to describe the market forces behind Thai's commercial sex markets. We discuss the demand and supply conditions to see what kind of market structure best suits Thailand's case. Because the commercial sex market in Thailand is not homogeneous, we categorized the market into sub-markets according to demand and supply characteristics and then justify the kind of market structure and equilibrium for each. For the analytical results, this paper provides many cases and details, for example, the monopoly position and price discrimination practice of brothel, and the oligopoly position in massage parlors, which contrast with the online market that is closer to the perfect competitive model with large number of agents as well as free entry or exit. We hope that an objective take on Thai's commercial sex market grounded on microeconomics will clear many myths and unfounded issues usually associated with this market.

Keywords: Demand and Supply of Commercial Sex, Sex Workers, Industrial Organization Model

1. Introduction

Although there is no apparent evidence indicating the beginning of the commercial sex market in Thailand, this market is believed to exist in Thai society more than six centuries. From the historical evidences, we found that the commercial sex market in Thailand used to operate legally and taxed by the government. At that time the brothel or the prostitution house was the only direct sex work place so the structure of the market is not much complicated compare to the present time when this market became illegal.

After Thailand becoming democracy as well as member of the United Nation, the country declared the Prostitution Suppression Act in 1960 in order to illegalize market for commercial sex. This led to the significant change in the structure of commercial sex

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market. Some place as brothels, hotels, guest houses, etc. still operate illegally and offer commercial sex directly, while some are covered under several types of businesses as massage parlor, sauna, night club, pub etc. Considering the market for commercial sex, this paper found that the market is in fact just like any other market characterized by demand, supply, and price. The market exists in almost every country, and different types have different market structures. In Thailand, there are some former literatures aiming to study the structure and categorize the market by using different criterions. However, there is quite rare study aiming to analyze Thai market for commercial sex under economic theory. Therefore, this paper attempts to investigate the structure of Thai commercial sex market under microeconomics industrial organization model. Both primary data (survey and interview) and secondary data based on microeconomic analysis will be used to describe the market forces behind Thai's commercial sex markets. In this paper, we begin with the characteristics of demand and supply in Thai commercial sex market. Because the commercial sex market in Thailand is not homogeneous, we categorized the market into sub-markets according to demand and supply characteristics and then justify the kind of market structure and equilibrium for each.

We hope that an objective take on Thai's commercial sex market grounded on microeconomics will be another alternative way to clear many myths and unfounded issues usually associated with this market. Understanding the structure and behavior of the commercial sex market by using economic theories will be an important way for developing further policy in order to improve the situation in the market as well as prevent and reduce the spread of the HIV. Finally, we hope that the analytical results in this paper could be the base for both further empirical and theoretical study focusing on the issue of the commercial sex market.

2. Demand and Supply of Commercial Sex in Thailand

This section is the review of Thai commercial sex market and some related literatures. The contents are divided into 2 sections which are the demand for commercial sex, and the supply of commercial sex.

2.1. The Demand for Commercial Sex

(1) Characteristics of the demand, in the past commercial sex market was legal and taxed by the government so the sex work establishments offered the supply of commercial sex directly. However, after the 1960 Prostitution Suppression Act, the commercial sex was illegal and the structure of the market became more complicated. Some place as brothels still operate illegally and offer commercial sex directly, while some are covered under many several types of business. This paper categorizes types of demand for commercial sex into 2 main characteristics which are the direct demand for commercial sex and the combination of demand for commercial sex with other goods and services.

For people who have the direct demand for commercial sex, they often go to the places where directly offer the commercial sex such as the brothel, or find the way to contact sex worker and meet each other at some meeting points.

While the combination of demand for commercial sex with other goods and services significantly existed in the Thai economy after the commercial sex was covered by other businesses due to the illegalization of commercial sex. In Thailand, we divide these kinds of fronting business into another 2 sections; first is the treatment or spa business, and second is the food, drink, and entertaining business as pub, bar, restaurant, etc.

The treatment business basically offer the treatment services such as massage, spa, and sauna as their fronting business while there are still opportunity to offer commercial sex during or after finishing the treatment service. Hence, for people who prefer massage parlor to brothel might have the demand for commercial sex complement to the treatment service.

The entertaining business as night club, pub, bar and restaurant offer foods, drinks, music, and shows to their customer. However, some of these places also have waitresses, waiters, dancers, and singers offering sex service to the customers. Some places also have a back-door room for the service.

(2) Number of the demand, for Thailand, we found that single and divorced males are the main demand of commercial sex while, the foreigners as tourists, foreign workers as well as immigrants also has an important role determining the demand for commercial sex.

(3) Sex preferences, although the sex preferences are different and vary across person, this paper separates them into three main groups which are the group of people who have sex with female, the group of people who have sex with male (including male who have sex with male; the MSM) and the group who are able to have sex with both female and male. Moreover, Tan and Brown (1994) added that the sex preferences in the market for commercial sex still vary across cultures; for example, in many Asian countries including Thailand, it is still acceptable for the males to visit the commercial sex market as well as to have many sexual partners or wives compared to the females who are required to be loyal to their husbands.

(4) The substitutes for commercial sex, there are 3 factors that can be considered as the substitutes for commercial sex. First is the sex with marriage partner. This paper recognizes sex with marriage partner as an important substitute for commercial sex for the case of Thailand. We hypothesize that the person who lives in a happy family with a strong relationship between marriage partners would have less demand for commercial sex.

Second is a new sex worker. The newer sex workers who are younger, cleaner, as well as safer can be considered as another type of substitutes. Since people are aware of STDs/HIV/AIDS, the client will prefer the less risky sex worker. In Thailand, Celentano *et al.* (1994) and Rawungpan (1995) pointed out that when there are many incidents of HIV/AIDS among sex workers; many women from the rural hill area in Thailand, Myanmar, and Vietnam were recruited to become new sex workers which is supported by Brown and Sittitrai (1995) who said that in Thailand the supply of child prostitutes has risen with the price premium. Similar to Africa, Caldwell *et al.* (1993) noted that older men in Africa prefer younger women sex worker because they are less likely to be HIV-positive. Moreover, the price of the newer sex workers is still higher than the old sex worker.

Third is the tradition. This is supported by Ahlburg and Jensen (1998) who indicated that some traditions as bride-price and polygyny delay marriage for many men lead them to commercial sex as a substitute for sex with marriage partner. Similar to the study of Carael *et al.* (1987) which added that in those countries that male has to pay for bride-price, high level of bride-price will delay marriage for men and lead them to the commercial sex market.

(5) The complementary to the commercial sex, according to the characteristics of the demand, this paper considers treatment services, food, drink as well as entertainment as the complementary to the commercial sex. Moreover, condom, alcohol, and drug could be seen as the complementary to the commercial sex. Ahlburg and Jensen (1998) stated that many of sex workers and clients drink alcohol and use drugs. Also interestingly, both increase the demand for commercial sex but decrease the level of condom use.

2.2. The Supply of Commercial Sex

(1) Characteristics of the supply, in the commercial sex market, the sex workers are considered as the supply. For this paper, we define sex worker as a person (both female and male) who gives sexual relationship or provide any a sexual service for the commercial purpose and they can be categorized into 2 main groups.

First group is a full-time sex worker. The full-time sex worker is the person who directly works as a sex worker and receive earning mainly from sex work. This group includes both sex workers working under the supervision or control of sex work establishments, and sex workers working as a freelance.

Second group is a part-time sex worker. This group of sex worker has other main occupation but chooses to work as a part-time sex worker basing on different individual purposes; for example, student, singer, dancer, waiter, and waitress. In Thailand, we usually call this part-time sex worker as the sideline sex worker.

(2) Types of supply, regarding the client's income, we found that there are many different types of commercial sex market in Thailand. There are high, middle, and low price

commercial sex markets. Thus, commercial sex may be considered as a normal good, as income rise, the demand for high price commercial sex rise.

(3) Price, by nature commercial sex can be seen as a homogeneous service but since there are different types of supply and market structures. We consider the commercial sex as quasi-homogeneous service which is highly substitutable but imperfect substitutes. Therefore, price is usually depended on the quality of the service. There are many factors that could be related to the quality of service such as types of sex worker, beauty, educational level, the risk of contracting Sexual Transmitted Decease (STD)/HIV, location, price of condom (as a complementary good).

(4) Sex worker's profile, from the evidences of many studies as Wirawan *et al.* (1993), Celentano *et al.* (1994), Jenkins (1994), Brown and Sittitrai (1995), Wawer *et al.* (1996), Ahlburg and Jensen (1998), Archavantikul and Guest (2000), and Ketsatien (2002), it is found that the majority of sex workers are young (usually not more than 30 years old), have low level of education (primary school), and have average 3-4 clients per day. Although the data for the length of sex worker's career is still somewhere unavailable, the length of sex worker's career is thought to be relatively short, an average of around 5 years.

(5) The reasons why individual become a sex worker, there are many factors why an individual would become a sex worker. Some of them are lured into the sex market by a strong-established recruitment networks (Brown and Sittitrai, 1995). Some become sex workers because they are kidnaped, forced, or threaded by physical violence. Some become sex workers by voluntary. The study of Ketsatien (2002) stated that main reason why the sex workers in Huay Kwang district, Bangkok voluntarily become sex worker is high income from sex work and they want to send the money back to their parents. Poverty pressures as well as low level of human capital (skill, education, training, health, etc.) are other important factors that cause them to have not much occupational choice which finally leads them to the commercial sex market. (Akuffo, 1987; Chakraborty *et al.* 1994 and Basu, 1997) The study in Fiji by Plange (1990) indicated that unemployment, divorce, desertion, inadequate government help, failure of husbands to pay maintenance, and the breakdown of the extended family are the significant factors explaining sex work. Similarly, Jenkins (1994) found that in Papua New Guinea the main reasons of young women age between 14 and 18 for selling sex are to pay for school fees, to buy clothes, and to travel. However, for those who enter the sex market by voluntary, Ahlburg and Jensen (1998) hypothesized that her utility maximization is expected to depend on income from selling sex and individual preference (like sex work).

(6) Sex worker's income, many literatures described in the same way that high income from sex work is the major factor affecting the supply of sex worker. Moreover, earning from sex work is greater than earning from other occupations at similar level of education. In Thailand, Archavantikul and Guest (2000) who used the 1993 survey of 106 sex workers working in brothels in a province several hundred kilometers from Bangkok, and massage parlor workers in Bangkok, found that the average income of their entire sex worker sample was around 20,000 baht per month (\$800), with the average 35,000 Baht per month (\$1,400) for women working in the massage parlors and the average 6,000 Baht per month (\$240) for women in the brothels. In contrast, based on the 1988 Thailand socio-economic household survey, the average monthly earning of women employees in other industries was only 1,500 baht per month (\$60).

In some other countries, Plange (1990) estimated that in Fiji the average high, medium, and low weekly earnings for sex workers was F\$300, F\$160, and F\$100 which was higher than the income of women who were employed in the garment industry (approximately F\$40 per week). Pickering and Wilkins (1993) found that the income per day of woman sex workers in Africa was three times more than the incomer per day of women working in informal sector. Jenkins (1994) estimated that earnings from sex work about twice the earnings of unskilled female urban employees and about the same as semiskilled employees in Papua New Guinea.

3. Methodology

3.1. Theoretical Background

The theoretical analysis in this paper is based on microeconomics industrial organization model (I/O model) which explains types and the structure of market through price, number of demand, number of supply, market power, obstacles, and information in the market. Regarding the I/O model, the market can be classified into 4 types which are the perfect competitive model, the monopoly model, the oligopoly model, and the monopolistic competition model. Each of them has different characteristics. After collecting data from primary and secondary sources, this paper will contribute the I/O model to practice by justifying the kind of market structure and equilibrium for each.

3.2. Data Collection

In order to study the structure of Thai commercial sex market, we used both primary and secondary data. The secondary data is collected from previous literatures, reports, and data form Thai Ministry of public health while, the primary data is collected from the survey. For the primary data, at first we attempted to do a formal survey by interview. However, since market for commercial sex in Thailand is illegal, some sub-markets are covered themselves under other businesses, no one even the police officer and the NGOs wants their names to be published. Therefore, we decide our preliminary survey to be an informal survey. Our survey includes undercover survey, field survey, interview, as well as online survey. However, the information and the analytical results presented in this paper are not as risky as our expectation because some information which we collected is already well-known for the insiders or many types of people involving in this market, but is pioneer or difficult to explore in academics.

4. Findings and Discussion

4.1. The Sex Work Establishment as the Market

After considering demand and supply sides, it is necessary to focus on the market. In economic, market means a place or an intermediary where the supply and demand meet. For this paper, we use the word of "sex work establishment" to refer this market definition and we define sex worker as a person (both female and male) who gives sexual relationship or provide any kinds of sexual service for the commercial purpose. And we still consider the commercial sex as quasi-homogeneous service which is highly substitutable but imperfect substitutes. In Thailand, Department of disease control, Ministry of Public health did the survey in 1998 and used to categorize the sex work establishments into 25 types (Table 1).

There were some former literatures categorized and described the types of sex work establishment as Mahidol University Institute for Population and Social Research (1994), Rawungpan (1995), Guest *et al.* (2007), UNFPA (2007), and Tangthanaseth (2011). However, the difference between this paper and those former literatures is this paper relates the sex work establishment to microeconomic theory by categorizing them according to the characteristics of demand and analyzing them under economic industrial organization definitions. Moreover, due to technological advancement, the market for commercial sex develops into new different forms compare to the survey of Department of disease control in 1998. Therefore, in this paper, we include a new type of the market as an online market into the analysis.

**Table 1. Types of sex work establishment in Thailand
(January 1-31, 1998 whole kingdom)**

Types of sex work establishment	Number of place	Number of worker	Number of female sex worker	% of female sex worker	Number of male sex worker	% of male sex worker	Total number of sex worker
Restaurant and food garden	2745	27491	11477	98.39	188	1.61	11665
Karaoke bar	1210	12356	7272	99.10	66	0.90	7338
Traditional massage and Spa	799	17290	9392	99.95	5	0.05	9397
Beer bar	699	6491	5087	97.28	142	2.72	5229
Brothel	682	5401	5153	99.96	2	0.04	5155
Café	482	11122	5677	98.85	66	1.15	5743
Hotel	252	2986	1537	99.81	3	0.19	1540
Cocktail lounge	148	3216	2538	99.33	17	0.67	2555
Pub	142	1792	689	92.36	57	7.64	746
A Go-Go bar	135	4017	3118	93.35	222	6.65	3340
Massage parlors	121	7227	5962	99.97	2	0.03	5964
Gay bar	83	2071	10	0.52	1926	99.48	1936
Bungalow	74	285	143	100.00	0	0.00	143
Male barbershop	71	459	156	100.00	0	0.00	156
Salon	64	145	68	100.00	0	0.00	68
Night club	50	1082	562	100.00	0	0.00	562
Discotheque	49	831	156	67.24	76	32.76	232
Coffee shop	44	709	110	100.00	0	0.00	110
Wander	35	914	914	98.28	16	1.72	930
Call girl	33	306	304	100.00	0	0.00	304
Guest house	14	26	0	0.00	0	100.00	0
Tea house	13	377	325	100.00	0	0.00	325
Dance bar	10	403	288	99.31	2	0.69	290
Farmer	4	53	29	100.00	0	0.00	29
Other	57	509	168	91.30	16	8.70	184
Total	8016	107559	61135	95.61	2806	4.39	63941

Source: Thailand Ministry of Public Health (1998)

Basically, the market in economic would exist when there are demand and supply same as the existence of the sex work establishment. Because the commercial sex market in Thailand is not homogeneous, we categorized the market into 21 sub-markets (S1-S21) according to demand and supply characteristics (Table 2) and then justify the kind of market structure and equilibrium for each. The market can be divided into 3 main groups according to the demand which are the direct demand for commercial sex, the combination of demand for commercial sex and treatment services, and the combination of demand for commercial sex and foods, drinks and entertainment.

Table 2. Types of commercial sex market according to the demand

Types of Market according to the demand	Intermediary	Sub-markets
The Direct Demand for Commercial Sex	Direct sex work place	S1: Brothel
		S2: Hotel, Bungalow, and Guest house
	Public place	S3: Street and Park
	Communication channel	S4: Escort service by telephone (Ex. Call-girl)
		S5: Internet and online market
The Demand for Commercial Sex complement to the Demand for Treatment Services	Treatment business	S6: Massage parlor
		S7: Traditional massage and spa, and Sauna
		S8: Salon and Barbershop
		S9: Restaurant and food garden
The Demand for Commercial Sex complement to the Demand for Foods, Drinks and Entertainment	Food, Drinks, and Entertainment business	S10: Karaoke bar
		S11: Beer bar
		S12: Café
		S13: Cocktail lounge
		S14: Pub
		S15: A Go-Go bar
		S16: Gay bar
		S17: Night club
		S18: Discotheque
		S19: Coffee shop
		S20: Tea house
S21: Dance bar		

4.2. Brothel (Direct Demand, Direct Sex Work Place)

We begin our investigation of the brothel as the first sub-market. In the past, brothels, or prostitution houses were legal and taxed by the government. The brothels had to be registered and were required to hang lantern at the front door as a sign of a sex service place. At that time most of lanterns were light green. Hence, it was generally known as "The Green Lantern house" (Raksorn, 2002; Mattariganond, 2004). But after brothel became illegal since 1960, they operate illegally without any signal or the advertisement sign. However, there are well-known by tourists, locals as well as playboys. Most of them had no formal name but usually be called as the name of brothel's owner. The location was a house with many little rooms for customers. Most of the brothels in Thailand operate from 4 p.m. to 1 a.m. In some areas, there are "day-time" brothel and "night-time" brothels (Guest *et al.* 2007).

From our survey, we found that the brothel's owner has to pay a lot of money to the middle man for bringing new customers as well as pay the local polices for maintaining business situation. However, the owners are able to make a profit by paying only little for the sex workers. Sex workers in the brothels do not have a salary. They receive the portion of the fee per customer and have no right to refuse the customer. These findings are also supported by the study of Asia Watch and The Women's Rights Project (1993); Mahidol University Institute for Population and Social Research, (1994); and UNFPA, (2007). The brothels can be divided into high class, middle class, and low class depended on the price of service. The price of service is

related to the quality of sex worker, and the luxury of the brothel. Each brothel operates individually and illegally by the brothel owner and the price is set under the decision of the owner. Therefore, we concluded that the price in brothel market is varied but depend on the brothel owner.

The ability to set up price in each brothel leads the brothel market to have similar features as the monopoly market. Moreover, price taker position leads the owner to increase profit by using price discrimination. We found that the brothel offers the same sex service with different prices. There are rows inside a room or a glass room for sex workers to sit. Each rows charge with different prices. Each sex workers wear a price tag in order to show their own price. Basically, the sex workers sitting in the front row are usually new, young, or beauty. Hence, the service from front row sex workers is a higher price, while the service from back row sex worker is a lower price.

The equilibrium in this market exists when the client (the demand) chooses the sex worker (the supply) and then chooses the types of service. There are 2 types of services which are the temporary service (around 45 to 60 minutes) and the overnight service. For the temporary service, the client pays price to the brothel owner according to the sex worker's price tag and then receives the service in one of the brothel rooms until the end of the time. While the price for the overnight service is higher than the temporary service. According to the study of Rawungpan (1995, p.100) in Chiang Mai Province, the price of the temporary service is around 50-500 Baht (1.5-15.6\$), while the price of the overnight service is around 300-1,200 Baht (9-375\$). Client can spend the night at the brothel. Some brothels allow client to bring sex worker to spend the night outside but the client must pay at the higher price.

4.3. Hotel, Bungalow, and Guest House (Direct Demand, Direct Sex Work Place)

It is important to note that for the hotel, bungalow, and guest house that mainly operate for the commercial sex purpose or own the sex workers; we categorize them as another type of brothel since they are sharing the same business purpose. Hotel, bungalow, and guest house in this part refer only to the businesses which main objective is still to provide the place or room for spending but offer commercial sex to the client as another option. They do not own sex workers but the sex workers working there are freelance or owned by another intermediate agent. However this market is quite small and operates illegally in different places, it is difficult to identify the real price as well as the structure of the market.



Figure 1. Two female workers sitting on hotel steps waiting for the customer

Source: Field survey, 15 October 2013, Considering privacy and ethics, we choose to show the picture which we cannot identify the true identity of both sex workers.

From our field survey, we found one small hotel in Yaowarat (China town) having sex workers sitting on hotel steps waiting for customer (Figure 1). When we asked for the price, she told us that the service rate is 500 Baht per hour and 1,000 Baht per hour for the foreigner. This information still consists with our interview with the NGOs working with sex worker. Therefore, it can be conclude that the equilibrium in this market exists when the client (the demand) comes to the place chooses the sex worker (the supply). After the price negotiation which is approximately around 500 to 1,000 Baht (16 to 32\$) per hour, they will rent for the room in the

hotel, bungalow, or guest house. The client has to pay for the room separately while, the sex worker need to pay a fee to the hotel, bungalow, or guest house owner.

4.4. Street and Park (Direct Demand, Public Place)

Sex workers who use street, and park as a market are categorized in this sub-market. In addition, the sex worker in this market must be a freelance if not they are considered as a part of brothel market or hotel, bungalow, and guest house market.

Basically, there are many public places in Thailand where are well known as the place having prostitution. In this paper, we used the data from field survey in 9 famous public commercial sex places in Bangkok (6 streets and 3 parks) as the examples. The details from our survey are shown in Table 3.

Table 3. Price level in the street and park commercial sex market

Name	Type	Price (Baht per 1 time)	Description
Hua Lamphong Railway Station (Rama IV Road)	Street	500 (16.13\$)	Sex workers in this area cover themselves as green papaya salad hawker. At night they carry stuffs for papaya salad and sit in the street around the railway station waiting for the customer.
Khlong Lot (Atsadang Road)	Street	150-1000 (4.8-32.25\$)	Khlong Lot is an original place for sex worker in Bangkok.
Sanam Luang (Ratchadamnoen Road)	Street	500 (16.13\$)	Sanam Luang is a large field in front of the grand palace. At present this place is a low cost market with old sex worker whose age is around 30 to 40.
Siam Hotel (New Petchburi Road)	Street	800-3000 (25.8-96.77\$)	This place is well-known as a high price market with sideline workers who are young student, or the massage parlor sex worker working as a part time job.
July 22nd Circle (Maitreechit Road)	Street	300-700 (9.67-22.58\$)	Another well-known place where we can easily find the sex workers stand for prostitution services in the street. This area is located near the China town and there are many fleabags in this area.
Saranrom Palace (Sanam Chai Road)	Street	150-1500 (4.83-48.38\$)	This place is a well-known place for a male sex worker. At night many of male sex workers stand for prostitution service along the road where begin at Saranrom palace to the Ministry of War.
Lumpini Park, Wachirabenchatat Park, and Chatuchak Park	Park	500-1200 (16.13-38.7\$)	We did a survey on 3 famous parks in Bangkok and found that 3 of them having a similar characteristics. In the day time some blind spot corners in the park are the place for clients to find sex workers. In the night time after the park is closed, the clients can easily find sex workers stand for prostitution around the park.

Source: Data surveyed during October 1 to October 20 in 2013

From Table 3, although they have different characteristics, when we analyze each of them one by one, we can conclude that each of them shares some features of the perfect competitive market model. Firstly, since there are many public places in Thailand where are well known as the place having prostitution, we can conclude that there are a large number of seller and buyer in this sub-market.

Secondly, free entry and exit, sex workers working in this market are freelance so the decision to enter or quit the market mainly depended on sex worker's decision or their economic conditions. Although the prostitution law seems to be a barrier for both sex workers and clients

to enter the market, we found that this law works ineffectively. From our interview with the police working in the area near Lumpini park, we found that in practice the law punish only the sex worker and the penalty of prostitution is imprisonment for one month or a fine not exceeding 1,000 Baht (32.25\$). Therefore, sex workers can return to work easily after being arrested and the police policy is to randomly patrol not to patrol every night.

Thirdly, quasi-homogenous service, although different places offer different types of sex worker, each place represents a unique type of sex worker. Sex workers working in the same area share a similar profile; for example: Siam hotel is a place for sideline sex worker, Hua Lamphong Railway Station is a place for green papaya salad sex worker, or the road in front of Saranrom Palace is the place for male sex worker, etc. Therefore, the equilibrium in the market exists when the demand choose the place where matches to his sex preference.

Fourthly, price taker, although sex worker working in the same place offer a homogenous service, each of them still have different profiles in term of age, beauty, education level, etc. We found that price is depended on the variety of sex worker. Price is not vary in the place where sex worker sharing the same level of beauty, age, and education level; for example: the price of the green papaya salad sex worker at Hua Lamphong Railway Station whose beauty, age, and education level are not much different, is the same at 500 Baht (16.13\$). On the other hand, the price of sideline sex worker at Siam hotel (New Petchburi Road) is between 800-3000 Baht (25.8-96.77\$) since there are many types of sideline sex worker in this area as young student, singer, dancer, pretty or the massage parlor sex worker.

4.5. Escort Service by Telephone (Direct Market, Communication Channel)

Call-girl is an example of escort service market. From our investigation, we found that there are 2 types of call-girl. First type is the freelance call-girl while the second type is the call-girl working under the brothel. Some brothels offer escort service by telephone as another types of service. For the call-girl who works under the control of the brothel owner, we consider them as a part of brothel market. Only the freelance call-girl will be considered in this sub-market.

In the past the service is usually advertised by brochure giving a telephone number for making contact. However, at present due to the widespread use of the internet, it seem that the market of escort service by telephone change and adapt itself to be another part of online market. Therefore, the analytical result of this market is a part of the online market.

4.6. Internet and Online Market (Direct Market, Communication Channel)

Internet or the online market is the newest type of commercial market existing in Thailand. We found that there are many possible online pages where the demand and supply can meet. Moreover, some of these online pages can be easily found by using basic internet searching system. For example, there are some intermediary facebook pages in Thailand allowing sex workers to advertise themselves to the clients.

In this analytical result, we use the example of facebook as the case study. The objective of these pages is to act as an intermediary for the demand and supply. From our investigation there are 2 types of commercial sex facebook pages. Both of them have similar market structure. The difference between them is only the role of the owner.

We call the first type as the public commercial sex facebook page. The owner of this online commercial sex page has no role and does not receive any fee or money from both demand and supply. The facebook page acts as an intermediary that allows the sex worker to post their profile and picture to the client as well as the clients to post their demand to the sex worker.

The second type is called the member commercial sex facebook page. This page is operated by the owner. We hypothesize that the owner of these facebook pages might be closely related to the commercial sex market and wants to expand the market by introducing a new channel. However, it is difficult to find the true identity of the owner of those facebook pages. In this case, if sex workers want to advertise themselves, they can send their picture, profile, and contact to the facebook owner for free and then the owner will post only the picture

and the profile of sex worker on the page. For the clients who want to contact a sex worker need to be a member first. Then the owner will give the contact channel of sex worker to the client by using facebook message where no one can see their conversation. The membership price is around 100 Baht (3.22\$). The clients can pay the membership easily by using a cash card.

Table 4. Price level in the online commercial sex market

Types of Service	Temporary service (per hour)	Overnight service
Maximum price	5000 Baht (161\$)	10000 Baht (322.5\$)
Minimum price	166 Baht (5.35\$)	300 Baht (9.67\$)
Average price	1353.875 Baht (43.67\$)	2325 Baht (75\$)
Standard Deviation	996.2614959	1365.490834
Number of samples	64	24

Source: Data surveyed during September 24 to October 2 in 2013

We found that there are 2 types of service offering in the online market which are temporary service and overnight service. Most of the sex workers offer only the temporary service while some of them offer both. From our online survey during September 24 to October 2 in 2013, we got 64 samples offering many different price of temporary service and only 24 out of 64 samples offering both services. Note that the price shown in Table 4 is only the service price. The clients also need to pay an extra for the room and travelling expense.

The price in the online market is quite varied but competitive among the same profile sex worker. We found that beauty, age, and gender are 3 factors affecting the price in the online market. The most beauty can charge with the highest price; the price of young sex worker is often higher than the old sex worker; and the price of female sex worker is higher than the male sex worker because the main demanders in the online market are still the male. In our sample, 2 girls who offered 5,000 Baht (161 U.S. dollar) for only the temporary service are cute and very beautiful high school girls. Many clients attempt to contact her by offering higher price. We found that one of the clients offers 10,000 Baht to her if she gives the overnight service for him. Most of the sex workers posting their profile online are the freelance as well as a part-time sex worker. Both demand and supply can offer the price but the supply usually offers the price first. Additionally, from their conversation posting in the online pages, we found that “need money” is the main reason for selling sex.

Interestingly, the characteristics of the online market especially online commercial sex facebook are quite similar to the perfect competitive market. First, this market is free entry and exit. At present, it is not difficult to access the online market as well as facebook. Thus, this market can be easily access by a large number of agents. There is no permanent contract among demand, supply as well as the commercial sex facebook owner. In other word, without a strict obligation both demand and supply can enter and exit the market easily. Prostitution law is the only barrier in the market. If the page is found by the authority, it will be closed and then easily re-open in another new page. Thus, the life time of them is quite short.

Second, the information in this market is nearly perfect. In this market, there are many profiles of sex worker posting freely in the facebook page. Picture, price, age, body shape of sex worker, and condition of services are the information which are usually posted. The clients can see the relationship between the price offered and the profile by each sex worker and then choose to contact one of them whom suit to his demand. If someone attempts to cheat, the owner or the people using the page will post to warn other clients.

4.7. Massage Parlor (Demand for Commercial Sex Complement to Treatment Services)

Although number of massage parlor is not many as the brothels, massage parlor is the most famous business in Thailand. Moreover, this business is legal and taxed by the Thai Excise Department with 10 percent per income tax rate. The fronting business of massage parlor is to offers therapeutic massage, bathing services, health spa as well as entertainment. Under

prostitution law, theoretically workers in the massage parlor are allowed to provide only the massage and bathing service to the clients while the prostitution is prohibited. However, practically female workers in the massage parlor are well-known as a sex worker since it is difficult to verify or prohibit the prostitution when both client and worker are together in the private room. Additionally, this market is well-known as another type of commercial sex market in Thailand for a long time.

There are 2 types of sex worker working in this market. First is called normal sex worker and second is called the sideline sex worker. The normal sex worker is a permanent worker working under the massage parlor owner, while the sideline sex worker is a part-time sex worker such as high school or college student, office girl, and pretty who just applies for a job and works temporarily. Moreover, the number of sideline sex worker is less than the normal sex worker. From our samples, only 8 of 24 massage parlors offer a service from sideline sex worker. Therefore, service price from a sideline sex worker is usually higher than the normal sex worker. Some massage parlors use the promotion by offering a membership to their customers and the membership price is between 15,000-100,000 Baht (483.87-3225.8\$).

The equilibrium in this market is existed when the client come to the place and choose sex worker who sit inside the glass room. Each of sex worker charges with different price depending on types of sex worker, and types of room. The way of massage parlor is almost similar to the brothel. The difference is the brothel offering only prostitution service while the massage parlor provides the bathing service and massage to the customer before prostitution service. According to the different price between normal and sideline price, we can conclude that there is price discrimination in this market which is similar to the brothel market.

From the survey data in Table 5-6, massage parlor market can be divided into 2 level markets which are high class (Sample 1-9), and middle class market (Sample 10-24) based on their price and the luxury of the place. The structure of high class market is similar to the oligopoly model while the structure of middle class market share some features of monopolistic competition. Firstly, number of supply, from our investigation most of the massage parlors in Thailand are in the middle class market (monopolistic competition) while small numbers of them complete in the high class market (oligopoly).

Secondly, non-price competition, although the owners of the massage parlor have an ability to set up price, they still maintain their price nearly to their competitors. Since the sex service is highly substitutable but imperfect substitutes, they tend to compete on service differentiation rather than price such as luxury of room and bath, promotion on membership program, quality of service, beauty of worker, food and drink, cleanness, and the safety of sex worker. We found that massage parlors in the high class market set a policy for their sex worker to test for HIV/AIDS every 3 months or every month.

Thirdly, considering the oligopoly position in the high market, the barriers to entry are high. In order to open a massage parlor business, there is a need for concessions. Moreover, due to the high establishment cost, and high reputation competitors, it is difficult for the new supply for entering high class business.

Table 5. Characteristics of the high class and middle class massage parlor market

	High class market	Middle class market
Number of supply	Small	Large
Type of establishment	Luxury and large building	Small or medium building
Average service price per 1 hour 30 mins	Higher than 3,000 Baht (96.77\$)	Lower than 3,000 Baht (96.77\$) but higher than 2,000 Baht (64.51\$)
Barriers to entry	<ol style="list-style-type: none"> 1. License 2. 10 percent per income tax rate 3. Small number of competitor 4. High reputation competitors 5. High establishment cost 	<ol style="list-style-type: none"> 1. License 2. 10 percent per income tax rate 3. Large number of competitor 4. Medium reputation competitors 5. Medium establishment cost
Market Structure	Oligopoly	Monopolistic Competition

Table 6. Price level in the massage parlor market

Name	Member Price (Baht)	Normal Service Price (Baht/1 hour 30 mins)	Sideline Service Price (Baht/1 hour 30 mins)	Average Price of Both Normal and Sideline [(Min+Max)/2]
Sample 1	30000-100000 (967.74-3225.8\$)	2700-6600 (87.09-212.9\$)	N/A	4650 (150\$)
Sample 2	30000-100000 (967.74-3225.8\$)	2000-7200 (64.51-232.25\$)	N/A	4600 (148.38\$)
Sample 3	30000-100000 (967.74-3225.8\$)	1900-5500 (61.3-177.42\$)	N/A	3700 (119.35\$)
Sample 4	30000-100000 (967.74-3225.8\$)	2200-2600 (70.97-83.87\$)	3100-6700 (100-216.13\$)	4450 (143.55\$)
Sample 5	N/A	2100-5600 (67.74-180.64\$)	N/A	3850 (124.2\$)
Sample 6	25000-100000 (806.451-3225.8\$)	1425-1950 (45.97-62.9\$)	3000-5500 (96.77-177.42\$)	3462.5 (111.7\$)
Sample 7	25000-100000 (806.451-3225.8\$)	1900-2800 (61.3-90.32\$)	2500-6100 (80.64-196.77\$)	4000 (129.03\$)
Sample 8	30000-50000 (967.74-1612.9\$)	1800-2100 (58.06-67.74\$)	2500-4600 (80.64-148.38\$)	3200 (103.22\$)
Sample 9	16000-50000 (516.13-1612.9\$)	1275-1500 (41.13-48.38\$)	2300-4800 (74.19-154.84\$)	3037.5 (97.98\$)
Sample 10	15000-100000 (483.87-3225.8\$)	1400-2900 (45.1693.54\$)	N/A	2150 (69.35\$)
Sample 11	15000-100000 (483.87-3225.8\$)	1400-1700 (45.16-54.83\$)	2100-2500 (67.74-80.64\$)	1950 (62.9\$)
Sample 12	16000-50000 (516.13-1612.9\$)	1600-2600 (51.61-83.87\$)	N/A	2100 (67.74\$)
Sample 13	9000-30000 (290.32-967.74\$)	1200-1425 (38.7-45.97\$)	2200-3000 (70.97-96.77\$)	2100 (67.74\$)
Sample 14	30000 (967.74\$)	1000-1300 (32.25-41.93\$)	N/A	1150 (37.1\$)
Sample 15	N/A	2000-2600 (64.51-83.87\$)	N/A	2300 (74.2\$)
Sample 16	N/A	1500-2200 (48.38-70.97\$)	N/A	1850 (59.67\$)
Sample 17	N/A	1700-2200 (54.84-70.97\$)	N/A	1950 (62.9\$)
Sample 18	N/A	1200-1800 (38.7-58.06\$)	N/A	1500 (48.38\$)
Sample 19	N/A	1700-2900 (54.84-93.55\$)	N/A	2300 (74.2\$)
Sample 20	N/A	1800-2000 (58.06-64.51\$)	N/A	1900 (61.3\$)
Sample 21	N/A	900-1300 (29.03-41.93\$)	N/A	1100 (35.48\$)
Sample 22	N/A	2100-3200 (67.74-103.22\$)	N/A	2650 (85.48\$)
Sample 23	N/A	2000-2300 (64.51-74.19\$)	N/A	2150 (69.35\$)
Sample 24	N/A	2000 (64.51\$)	2200-3200 (70.97-103.22\$)	2600 (83.87\$)
Samples	13	24	8	24
Max	100000 (3225.8\$)	7200 (232.25\$)	6700 (216.13\$)	4650 (150\$)
Min	9000 (290.32\$)	1300 (41.93\$)	2100 (67.74\$)	1100 (35.48\$)
Mean	50423.073 (1626.55\$)	2272.4 (73.3\$)	3518.75 (113.5\$)	2695.84 (86.96\$)
S.D.	35150.161	1327.353	1514.911	1064.461

Source: Data surveyed during October 1 to October 20 in 2013

4.8. Traditional Massage and Spa, and Sauna (Demand for Commercial Sex Complement to Treatment Service)

The difference between Traditional massage and spa and sauna, and the massage parlor is the main fronting business of massage parlor is to offer a bathing service, while traditional massage and spa, and sauna mainly offer massage, spa, and sauna service. We found that a few of traditional massage, spa, and sauna businesses offering the bathing service with lower cost compare to the massage parlors and the size of these businesses are quite small compare to the massage parlor.

Table 7. Price level in the Traditional massage and Spa, and Sauna market

Name	Standard Price	Full Option Price	Average Price
Sample 1	1000 (32.23\$)	2100 (67.74\$)	1550 (50\$)
Sample 2	1399 (45.13\$)	1999 (64.48\$)	1699 (54.8\$0)
Sample 3	999 (32.22\$)	1600 (51.61\$)	1299.5 (41.91\$)
Sample 4	999 (32.22\$)	1299 (41.9\$)	1149 (37.06\$)
Sample 5	N/A	1499 (48.35\$)	1499 (48.35\$)
Sample 6	999 (32.22\$)	1499 (48.35\$)	1249 (40.29\$)
Sample 7	N/A	1900 (61.3\$)	1900 (61.3\$)
Sample 8	1499 (48.35\$)	1999 (64.48\$)	1749 (56.42\$)
Sample 9	N/A	1299 (41.9\$)	1299 (41.9\$)
Sample 10	N/A	1499 (48.35\$)	1499 (48.35\$)
Sample 11	999 (32.22\$)	1599 (51.58\$)	1299 (41.9\$)
Sample 12	N/A	1499 (48.35\$)	1499 (48.35\$)
Sample 13	999 (32.22\$)	1999 (64.48\$)	1499 (48.35\$)
Sample 14	N/A	1299 (41.9\$)	1299 (41.9\$)
Samples	14	14	14
Max	1499 (48.35\$)	2100 (67.74\$)	1900 (61.3\$)
Min	999 (32.22\$)	1299 (41.9\$)	1149 (37.06\$)
Mean	1111.625 35.85887097	1613.375 52.04435484	1473.458333 47.53091398
S.D.	209.9407655	290.3979176	213.5817682

Source: Data surveyed during October 1 to October 20 in 2013

We did a survey on 14 Traditional massage and Spa, and Sauna business offering a commercial sex service in Bangkok. In Table 7, the standard price is a starting price for the commercial sex service (traditional massage plus sexual intercourse). The customer can add more options such as spa, sauna, or other types of sex services. Considering price in this market, we found a close price level in this market and the price level is lower than middle class massage parlor market with the average price is lower than 2000 Baht (64.51\$). Hence, this sub-market can be seen as the lower class market and also has some features of monopolistic competition. First, many suppliers and low barrier to entry, the number of commercial sex traditional massage and spa, and sauna business is greater than the massage parlors since the operation and the establishment cost is lower. Basically, we can find this type of business is in the form of row house or small house.

Second, independent decision making but non-price competition, similar to the massage parlor market, the owner of traditional massage and spa, and sauna independently sets the price and types of service. However, since commercial sex service is quasi-homogeneous, they tend to compete on service differentiation rather than price competition.

4.9. Salon and Barbershop (Demand for Commercial Sex Complement to Treatment Service)

Salon and barbershop is another market where commercial sex used to hide. However, from our investigation, we found that at present the salon and barbershop where offering sex service is quite rare and difficult to find. Therefore, we expected the minimum size as well as the impact of this market in Thai economy.

4.10. The Demand for Commercial Sex Complement to the Demand for Foods, Drinks, and Entertainment (Sub-market 9 -21)

Since the fronting business of sub-market 9 to sub-market 21 is to provide foods, drinks, and entertainment we consider them all as one main sub-market. This kind of sex service is covered by restaurants and food gardens, Bar, Pub, Club, etc. (S9-S21). Although these places offer foods, drinks as well as entertainments (shows, and music) to their customers, the places also have waitresses, singers, dancers offering sex service to the customers. Some places also have a back-door room for the service. There are some signals of these kinds of restaurants, for example; they usually operate in a night time with many colorful light decorated around the place, and the number of the waitresses is significantly greater than the number of the tables (UNFPA, 2007).

We found that this sub-market shares some features of monopolistic competition. First, many of suppliers, considering sub-market 9 to sub-market 21 as one main sub-market leads this market has the most number of suppliers. Second, service differentiation, although they offer the same commercial sex but have differences in term of complementary services such as types of foods and drinks, styles of entertainment, quality, reputation, appearance, and location that tend to distinguish them from each other. Therefore, commercial price range in market is quite wide. From our interview with the NGOs and some secondary data review, we found that the minimum price in this market is 100 Baht (3.22\$) while the maximum price is up to 5,000 Baht (161.29\$).

5. Conclusion

This paper provides many cases and details of commercial sex market in Thailand. We use microeconomic theory together with the idea of industrial organization to characterize each sub-market. Table 8 shows the conclusion of all sub-markets.

Table 8. Conclusion table of market for commercial sex in Thailand

Types of market	Characteristics based on microeconomic theory	S1	S3	S5	S6 (High class)	S6 (Middle class)	S7	S9-21
Perfect Competition	Large number of seller and buyer		/	/				
	Price taker		/	/				
	Free entry and exit		/	/				
	Homogeneous product		/					
	Perfect Information			/				
Monopoly	One main seller							
	Price maker	/						
	Price discrimination	/			/	/		
	High barriers to entry	/						
Oligopoly	Small number of seller	/			/			
	Ability to set price but non price competition				/	/	/	
	High barriers to entry				/			
	Interdependence				/	/	/	
Monopolistic Competition	Large number of seller					/	/	/
	Independent decision making							/
	Free entry and exit in the long run (low barriers)					/	/	/
	Differentiated Product							/

5.1. The Perfect Competition Market

We concluded that Street and Park (Sub-market 3) and Online market (Sub-market 5) have some characteristics similar to the perfect competition model. For the Street and Park (Sub-market 3), we found that there are many of public places in Thailand where are well known as the place having prostitution so there are a large number of seller and buyer. Moreover, this market is free entry or exit because sex worker working in this sub-market are freelance and the barriers to entry is low. Although we cannot clearly identify that the commercial sex service is homogenous, we still conclude that it is a quasi-homogenous service because sex workers working in the same area share a similar profile and offer the same commercial sex service. Finally, there is price taker in this market. We found that price is depended on the variety of sex worker. Price is not vary in the place where sex worker sharing the same level of beauty, age, and education level.

For the online market (Sub-market 5), we consider Escort service by telephone (Sub-market 4) as another part of the online market. The characteristics of the online market especially commercial sex facebook are quite similar to the perfect competitive market. First, this market is free entry and exit together with low barriers to entry so there are a larger number of seller and buyer. Second, price taker, price is quite varied but competitive among the same profile sex worker. Beauty, age, and gender are 3 factors affecting the price in the online market. Finally, the information in this market is nearly perfect. We can see the profiles of sex worker such as picture, price, age, body shape of sex worker, and condition of service posting freely. Only health information or HIV/AIDS status of sex worker is the only hidden information. The clients can see the relationship between the price offered and the profile by each sex worker and then choose to contact one of them whom suit to the demand. If someone attempts to cheat, the owner or the people using the page will post to warn the others.

5.2. The Monopoly Market

Although there is not only one brothel operating in Thailand, the brothel market (Sub-market 1) has some characteristics similar to the monopoly model. Beginning with the price maker, even the price in different brothels is varied; the brothel owners have an ability to set up their own price. Basically, the price level depends on the reputation and luxury of the place, and the ability to recruit new and beautiful sex workers. Moreover, price taker position leads the owner to increase profit by using price discrimination. In the brothel sex workers wearing a price tag sit the rows inside a room or a glass room. Each rows charge with different prices depending on ages, and beauty of sex worker. Finally, high barriers to entry, since brothel offers direct commercial sex which is illegal, the brothel's owner has to pay a lot of money to the middle man for bringing new customers as well as pay the local polices for maintaining business situation.

5.3. The Oligopoly Market

We found that most of the massage parlors in Thailand are in the medium class market (monopolistic competition) while small numbers of them complete in the high class market (oligopoly). There are high barriers to entry in the high class massage parlor due to high establishment cost, and high reputation competitors. There is interdependence between high class massage parlors. In spite of price competition, massage parlor owners maintain their price nearly to their competitors in the same market level. Since the sex service is highly substitutable but imperfect substitutes, they tend to compete on service differentiation rather than price such as luxury of room and bath, promotion on membership program, quality of service, beauty of worker, food and drink, cleanness, and the safety of sex worker.

5.4. The Monopolistic Competition Market

The middle class massage parlor (Sub-market 6), the traditional massage and spa, and sauna (Sub-market 7), and the market for food, drink, and entertainment (Sub-market 9-21) are consisted to the monopolistic competition model.

The structure of the middle class massage parlor (Sub-market 6), and the traditional massage and spa, and sauna (Sub-market 7) are quite similar. First, there are many of suppliers, and the barriers to entry in this market are lower compare to the high class massage parlor and the brothel market. However, there is interdependence in each sub-market. The owners have an ability to set their price but they choose to compete on service differentiation rather than price competition. We consider sub-market 9-21 or the demand for commercial sex complement to the demand for foods, drinks, and entertainment as one main sub-market because of the similar fronting business. This market contains many different types of suppliers such as Restaurant and food garden, Karaoke bar, Beer bar, Pub, etc. so they have more independence decision making than other sub-markets. They offer commercial sex complement to many differentiated products; for example, offering food and drink together with sex service, and offering music and shows together with sex service. Therefore, we concluded that even they offer commercial sex service; the services can be differentiated by the complementary goods and service.

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