# ปัญหาความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ,การแพร่ระบาดของเชื้อ HIV, และการใช้ถุงยางอนามัย

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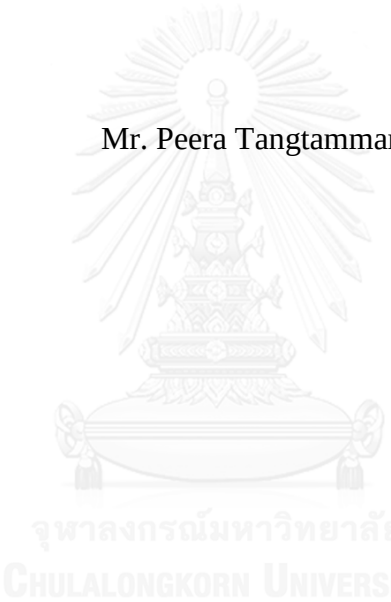
# Asymmetric Information in Commercial Sex Market, HIV, and Condom uses

Mr. Peera Tangtammaruk

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วิทยานิพนธ์ฉบับนี้ศึกษาพฤติกรรมของผู้ขายบริการทางเพศและลูกค้าในการตลาดขายบริการทางเพศในประเทศไทยที่มีปัญหาความไม่สมมาตรของข้อมูลข่าวสาร ในส่วนแรกงานวิจัยนี้ได้นำเสนอ อุปสงค์ อุปทานและโครงสร้างตลาดในกรณีของประเทศไทย ส่วนที่สอง งานวิจัยชิ้นนี้ได้นำทฤษฎีความไม่สมมาตรของข้อมูลข่าวสาร ประกอบกับทฤษฎีเกมส์มาพัฒนาแบบจำลองทางทฤษฎีเพื่ออธิบายพฤติกรรมของลูกค้าและผู้ขายบริการทางเพศในตลาดภายใต้เงื่อนไขของความไม่สมมาตรของข้อมูล แบบจำลองแสดงให้เห็นว่าลูกค้าที่มีความกังวลเกี่ยวกับเอชไอวีจะต้องการมีเพศสัมพันธ์อย่างปลอดภัยด้วยการใช้ถุงยางอนามัย อย่างไรตาม ลูกค้ามีแนวโน้มที่จะแสดงพฤติกรรมเสี่ยงไม่ใช้ถุงยางอนามัย หากมีสัญญาณบ่งชี้ว่าพนักงานขายบริการทางเพศคนดังกล่าวมีความปลอดภัยและไม่เป็นโรค วิทยานิพนธ์ฉบับนี้พบว่า ในสถานประกอบการราคาสูงมักจะมีนโยบายให้พนักงานบริการเข้ารับการตรวจเชื้อเอชไอวีทุกๆสามเดือน ดังนั้นนโยบายตรวจโรคทุกๆสามเดือนจึงจัดว่าเป็นสัญญาณของความปลอดภัยในตลาดขายบริการทางเพศ เมื่อเช่นนี้จะเข้ากรณีที่ผู้ขายบริการมีความน่าจะเป็นที่จะปลอดภัยสูงในขณะที่ไม่ทราบว่าลูกค้าปลอดภัยหรือไม่ นอกจากนี้แบบจำลองทางทฤษฎียังได้ศึกษากรณีที่ไม่มีนโยบายตรวจโรคทุกสามเดือน ซึ่งเป็นปัญหาความไม่สมมาตรของข้อมูลแบบสองด้าน ในส่วนสุดท้ายวิทยานิพนธ์ฉบับนี้ได้ทำงานเก็บข้อมูลปฐมภูมิเพื่อคำนวณความน่าจะเป็นของผลลัพธ์ที่เป็นไปได้ทั้งหมดในแบบจำลองทางทฤษฎี ซึ่งพบว่า อัตราเสี่ยงของการมีเพศสัมพันธ์โดยไม่ใช้ถุงยางอนามัยต่อการมีเพศสัมพันธ์หนึ่งครั้งเท่ากับ 9.5% ในตลาดหญิงขายบริการที่มีการตรวจโรค, 8.8% ในตลาดจำลองของชายขายบริการที่มีการตรวจโรค, 0% ในตลาดหญิงขายบริการที่ไม่มีการตรวจโรค, และ 6.7% ในตลาดชายขายบริการที่ไม่มีการตรวจโรค วิทยานิพนธ์ฉบับนี้สรุปว่านโยบายตรวจเอชไอวีเป็นสัญญาณในตลาดขายบริการทางเพศตามทฤษฎีเศรษฐศาสตร์ แต่ผลจากการสำรวจ นโยบายดังกล่าวไม่มีความเข็มงวดพอที่จะรับประกันว่าพนักงานบริการตรวจอย่างสม่ำเสมอ นอกจากนี้กลุ่มชายรักชายทั้งด้านลูกค้าและผู้ขายบริการเป็นกลุ่มที่มีพฤติกรรมความเสี่ยงมากที่สุด

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This thesis studies the behavior of sex workers and clients in the commercial sex market under conditions of asymmetric information for the case of Thailand. First we discuss the demand and supply conditions to see what kind of market structure best suits Thailand's case. Second the basic game-theoretical asymmetric information model is adapted to the situation in which only the sex worker knows his/her HIV status in order to deduce the behavior of client and sex workers in the commercial sex market under conditions of information asymmetry. The basic model shows that clients concerned about HIV would prefer safe sex, but is likely to engage in riskier transactions under conditions of information rents when there is signal that the sex worker is HIV-free. This thesis found that HIV-testing policy is signaling in Thai commercial sex market and considers the case of "reverse" asymmetric information, i.e. when the client may be HIV-infected and the sex worker does not have this information. Then, we investigates the possible equilibrium in the situation of "double-sided" asymmetric information in which both the sex worker and client know their situation, but either party does not. Lastly, this thesis estimate the probability of all possible outcomes by using the data collected from both sex workers and clients in Thailand and found that the risk rate of sex without condom per one time commercial sex is 9.5% in the venue-based female sex worker market with HIV testing policy, 8.8% in the hypothetical venue-based male and transgender sex worker market with HIV testing policy, 0% in the non-venue-based female sex worker market without HIV testing policy, and 6.7% in the venue-based male and transgender sex worker market without HIV testing policy. The thesis concludes that HIV testing policy is only signaling in Thai commercial sex market but is not strong to guarantee that all sex workers are test frequently. In addition, the group of male who has sex with male (MSM) are the most risk taking group.

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# 1 Introduction

## 1.1 Background of the study

Adverse Selection is one of the Microeconomics Asymmetric Information model explaining a type of market failure in which perfect information is absent. The problem commonly appears in contractual or agency relationship, where the party (principle) establishing the condition of the contract has better or more information than the other party (agent) (Macho-Stadler & Pérez-Castrillo, 2001).

The concept of Asymmetric information has been developed and applied to the studies of various economic issues. Amongst the most famous and well-known ones is "the lemon market" by Akerlof (1970). His paper applied the consequences of asymmetric information to the market of second hand cars and concluded that this problem finally caused all good cars out of the market.

Considering the case of commercial sex market together with the risk of HIV infection, this thesis proposes that the commercial sex market is likely to exhibit asymmetric information. It thus aims to develop both theoretical and empirical analysis of Thai commercial sex market under asymmetric information.

Starting from the microeconomics model of the classical principal-agent scenario (e.g. Arkelof and others), we consider a situation in which a party (sex worker or his/her client) knows her/his HIV status (i.e. HIV infected or HIV-free), but the other party does not have this information. Both players have to make a decision about whether to engage in safe sex (sex with a protection or condom) or risky sex (sex without condom). This situation can be modeled as a problem of asymmetric information as well as personal decision making based on utility maximization.

In the market under asymmetric information, sex workers and their clients have an important role to play in the prevalence of HIV/AIDS depending on their decision. If there is a telling sign in the market indicating a high risk of HIV infection, a rational client would choose to have a safe sex (use the protection such as condom). It is believed that there would be a pooling equilibrium of increased condom use in sexual encounters.

Previous studies and related literatures have interestingly reported that testing positive for HIV neither increased the level of condom use nor reduced HIV transmission in commercial sex market (Andersen & Bech, 2011; Boozer & Philipson, 2000; Thornton, 2008). Andersen and Bech (2011) theoretically proved that without public disclosure HIV testing did not reduce HIV transmission in the market for commercial sex, Thornton (2008) found that in Malawi, testing positive for HIV did not significantly increase the purchases of condom and the respondents only used condom with their regular sexual partner (husband or wife), Boozer and Philipson (2000) added that only those who unexpectedly tested positive for HIV would reduce their risky behavior.

Therefore, it would be interesting to apply the microeconomic theoretical model of asymmetric information and signaling to the commercial sex market in order to investigate the behavior of sex workers and their clients, and also to see how signal is interpreted in the market. Theoretically, a valid sign should help the client pick out HIV-infected from HIV-free sex workers, thereby reducing condom use. At this point many interesting questions begin to emerge: What would be the appropriate signal? What types and how is signaling perceived by the client? How do both parties react/behave consequently? Does behavior lead to changes in HIV infection rates?

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## 1.2 **Significance of the problems**

For more than three decades AIDS has had a significant effect on people around the world. Until now, millions of the world's population have died from AIDS, a disease which has so far remained incurable.

Table 1:1 Global summary of AIDS epidemic/2013

| | **Adults** | **Children (Less than 15 years old)** | **Total** |
|---|---|---|---|
| **Number of people living with HIV in 2013** | 31.8 million | 3.2 million | 35.0 million |
| **People newly infected with HIV in 2013** | 1.9 million | 0.24 million | 2.1 million |
| **AIDS deaths in 2013** | 1.3 million | 0.2 million | 1.5 million |

Source: World Health Organization (2013)

There are five main ways for HIV to transmit, namely through sexual relations, contaminated blood transfers, the reuse or sharing of hypodermic needles, or from an infected mother to her child during pregnancy or lactation. (World Health Organization, 2005a) Among HIV five risk factors, unsafe sexual relation is believed to be the most common cause that drives HIV epidemic.

In Thailand, Thai Bureau of Epidemiology under the Ministry of Public Health reported that since 1984 to 2014, there were 388,621 AIDS patients with 100,617 deaths. Additionally, 83.75% of the patients in Thailand got infected with HIV through sexual intercourse; 4.34% from the reuse or sharing of hypodermic needles, 0.14% from contaminated blood transfers, 3.52% from infected mother, 0.03% from other risk factors, and the rest 8.22% cannot be identified. (Thai Bureau of Epidemiology, 2014 (สำนักระบาดวิทยา กรมควบคุมโรค))

Regarding the HIV infection through sexual intercourse, commercial sex market is considered as another important domain for virus to spread. Interestingly, 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.

Two characteristics regarding HIV and asymmetric information in the commercial sex market are worth pointing out. Firstly, an asymmetric information problem is quite severe and dangerous, even fatal. The worst case scenario of those participating in the commercial sex market is HIV infection, which can lead to AIDS, and eventually death.

Secondly, the structure of commercial sex market especially in Thailand is rather complicated and the information problems in the market are varied depending on different situations.

Therefore, there was a need for a methodological or scientific approach to help better our understanding. The objective of this thesis was to investigate the behavior of sex workers and their clients in Thai commercial sex market under an asymmetric information setting by using the microeconomics model. Firstly, we analyzed the structure of Thai commercial sex market with microeconomic industrial organization model. Secondly, the game theory was then applied to the consequence in the market while the asymmetric information was considered as crucial condition for the equilibrium analysis. Lastly, we used the data from field survey and interviews as an empirical result to support the theoretical model.

Understanding the structure and behavior of the commercial sex market by using economic theories, perspectives, and methodologies are the key to developing further policies in order to curb the spread of the virus. We hope that an objective take on Thai's commercial sex market grounded on microeconomics will clear the many myths and unfounded issues usually associated with this market.

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## 1.3 **Research Objectives**

This thesis has three main research objectives which are

- To study the structure of Thai commercial sex market by using microeconomics industrial organization model
- To develop a theoretical model of a sex worker and a client in the commercial sex market under asymmetric information that fit in the context of Thailand
- To conduct empirical observation of Thai commercial sex market in order to interpret and compare the result with the theoretical model


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# 2 Literature Review

This section is divided into four parts. The first part concerns economics most fundamental concepts: the demand and supply in the commercial sex market. In the second part, we introduce the original idea of Akerlof (1970)'s asymmetric information. The third part expands on a number of literatures relating to commercial sex, HIV awareness, behaviors, and asymmetric information. Finally, the fourth part presents literatures that focus on the issue of safe commercial sex.

## 2.1 **Market for Commercial Sex**

Although the market for commercial sex could be recognized as another type of market in our world economy because there are demand, supply, income, preference, as well as price, less of researches focused on the settle up of the structure of market for commercial sex and the issue of HIV/AIDS. According to D.E. Bloom and Godwin (1997), the first generation of HIV/AIDS economic research aimed to focus on the relationship between HIV/AIDS epidemic and economic growth, and then the second generation focused on the impact of HIV/AIDS at micro level or specific groups such as household, woman, poverty, for instance; Danziger (1994) studied the social impact of HIV/AIDS in developing countries; David E Bloom and Mahal (1997) studied the impact of AIDS epidemic on economic growth by using cross-country data and GDP as the proxy of economic growth; Pitayanon, Kongsin, and Janjareon (1997) measured the economic impact of adult AIDS deaths on rural household in Thailand using Chiang Mai province as the case study; and Basu, Gupta, and Krishna (1997) studied the impact of HIV on households regarding the rise in the morbidity and mortality of men age between 19 and 39 in India.

However, Ahlburg and Jensen (1998) attempted to illustrate the structure of commercial sex market by resorting to previous literatures focusing on the societal issues surrounding HIV/AIDS, sex workers, as well as sex market. This article puts the market for commercial sex in economic perspective.

The structure of the market for commercial sex could be divided into two main sectors, which are the demand for commercial sex and the supply of commercial sex.

The demand for commercial sex

Firstly, regarding the demand for commercial sex, Ahlburg and Jensen (1998) focused on the number of consumers. Basically, they found that single or divorced males were the main demanders of commercial sex, as such an increase in the number of them would result in an increased demand for sex. However, there were still some other factors that could affect the demand for sex such as the culture of polygyny, migration, and prolonged postpartum abstinence. Anarfi (1993) for example found that in Ghana, 67% of male respondents had sexual relationship with girlfriends, while 16% had sex with sex workers when their wives were in the period of lactation.

Secondly, it is also found that sexual customs of the participants in the market for commercial sex varied across cultures; for example, Tan and Brown (1993) indicated that in many Asian countries it is still acceptable for the male to participate in the commercial sex market as well as to have many sexual partners or wives. The same thing, however, isn't applicable to the female who is required to be loyal to their husband.

Thirdly, regarding the consumer's income, Ahlburg and Jensen (1998) indicated that they did not find any studies that focused on the income elasticity of demand for commercial sex. However, Morris, Pramualratana, Podhisita, and Wawer (1995) found that in Thailand, customers with higher permanent income (as measured by the number of possessions) prefer safer sex to risky sex. Thus, commercial sex may be considered as a normal good in economic term, meaning that as income rises, and the demand for sex rises.

Fourthly, commercial sex is not a homogeneous service and price usually depends on the quality of the service. There are many factors relating to the quality of service such as location, beauty and educational level of the sex workers, the risk of contracting a STD[1]/HIV infection, and the price of condom (as a complementary good).

Fifthly, considering the substitutes for and complements to commercial sex, Ahlburg and Jensen (1998) found that in some traditions bride-price and polygyny could delay marriage, resulting in the men looking to commercial sex as a substitute for marital sex. Similar to the study of Caraël, Van Der Perre, Clumeck, and Butzler (1987)

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[1] Sexually Transmitted Disease

which stated that in those countries where men had to pay the bride-price, the high cost of bride-price would delay marriage and led them to the commercial sex market. Moreover, the newer sex workers who are younger, and safer can be considered as a type of substitute.

Secondly, regarding the complementary to the commercial sex, Ahlburg and Jensen (1998) considered condom, alcohol, and drug as examples of complementary goods to commercial sex. They found that many prostitutes as well as the commercial sex customers drink alcohol and use drugs. Interestingly however, while these goods increase the demand for commercial sex, they decrease the amount of condom use.

The supply of commercial sex

According to a number of studies including Wirawan, Fajans, and Ford (1993), Celentano et al. (1994), Jenkins (1994), Brown et al. (1995), Wawer, Podhisita, Kanungsukkasem, Pramualratana, and McNamara (1996), Ahlburg and Jensen (1998), and Archavanitkul and Guest (1994), it is evident that the majority of sex workers are young (usually not more than 30 years old), have low education (primary school), and an average of 3-4 clients per day. In many places, the market can be divided into at least two types. The high market is characterized by higher price, lower volume, and lower risk compared to the low market. Additionally, sex workers can be divided into two types, which are full-time sex worker and part-time sex worker. Examples of the commercial sex establishments are brothels, massage parlors, etc.

In the commercial sex market, sex workers themselves can be considered as the supply. There are many factors that drive an individual into sex trade. Some sex workers are lured into the sex market by a strongly-established recruitment network (Brown et al., 1995). Some are kidnaped, forced, or threatened with physical violence. Poverty as well as low level of human capital (skill, education, training, health, etc.) also play an important role as they deprive an individual of the better occupational choices, and in effect, driving them into the commercial sex market (Akuffo, 1987; Basu et al., 1997; Chakraborty et al., 1994). A 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 significant factors that explain the final resort to sex work. Similarly, Jenkins (1994) found that in Papua New

Guinea the main reason that young women age between 14 and 18 sell sex was to pay for school fees, to buy clothes, and to travel. However, for those who enter sex market voluntarily, Ahlburg and Jensen (1998) hypothesized that her utility maximization depended more on income from selling sex and individual preference (like sex work).

Regarding earnings from sex work, many literatures mentioned that high income from sex work is the major factor affecting the supply of sex worker. Moreover, earnings from sex work is relatively greater than the earnings from other occupations given a similar level of education. Plange (1990) estimated that in Fiji the average of high, medium, and low weekly earning of sex workers were F$300, F$160, and F$100 respectively. These were far higher than the income of the women who were employed in garment industry (approximately F$40 per week). Pickering and Wilkins (1993) found that the income per day of female sex workers in Africa was three times higher than the income per day of the women working in the informal sector. Jenkins (1994) estimated that the earnings from sex work was about twice as much as the earnings of unskilled female urban employee and about the same as semiskilled employee in Papua New Guinea. In the US, Lillard, Berry, and Kanouse (1995) reported that income per year of Los Angeles sex workers was 23,845$ while the income per year of female service workers was just 17,192$. Nagaraj and Yahya (1995) added that the income of sex workers in Malaysia was six times higher than that of unskilled labors. Finally, in Thailand, Archavanitkul and Guest (1994) who used the 1993 survey of 106 sex workers working in brothels in a province several hundred kilometers from Bangkok, as well in those working massage parlors in Bangkok, found that the average income of their sex worker samples was around 20,000 baht per month ($800), with an average of 35,000 baht per month ($1,400) for the women working in massage parlors and the average 6,000 Baht per month ($240) for the women in 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).

## 2.2 **An Introduction to Asymmetric Information "Adverse Selection"**

In order to study adverse selection, the original article by Akerlof (1970) should be a good one to start with. Akerlof (1970) looked at the consequences of asymmetric information to the market of second hand cars, known as "the market for lemon". In the

used automobile market, there are two types of used cars which are good cars (lime) and bad cars (lemon). The buyer for second-hand cars may not have full information about whether his choice is a good car or a bad car, while the seller would know about the quality of his/her car. Since the buyer cannot distinguish between a good and a bad car, both types of car are demanded at the same expected price.

Akerlof (1970) found that the demand for the second hand car depends on the comparison between price of second-hand car ( $p$ ), and the average quality of second hand cars ( $\mu$ ), while the supply for second hand car is depended only on price.

$$Q^d = D(p, \mu) \tag{2.1}$$

$$S = S_1(p) + S_2(p) \tag{2.2}$$

Given $S_1(p)$ is the supply of good second-hand car and $S_2(p)$ is the supply of bad second-hand car.

In equilibrium, aggregate demand equals to aggregate supply.

$$D(p, \mu) = S_1(p) + S_2(p) \tag{2.3}$$

Since, there is an asymmetric information problem in this case; the buyers do not know the real quality of the second hand car. Thus, the buyers will use the average quality of the car ( $\mu$ ) as the condition for buying and the price traded in the market will equal to the expected price of average quality car.

$$S = S_1(p) + S_2(p) \quad \text{when} \quad \frac{\mu}{p} < 1 \tag{2.4}$$

$$S = 0 + S_2(p) \quad \text{when} \quad \frac{\mu}{p} \geq 1 \tag{2.5}$$

With price equal to the average quality, there will be no supply for good second hand car because the good second hand car deserves the better price. Akerlof (1970)'s conclusion was finally all good second hand cars will leave the market which leads the market to have only the bad second hand car (lemon) as equation 2.5.

## 2.3 **Commercial sex and Asymmetric information related literatures**

Even though the number of studies on theoretical relationship between asymmetric information and HIV transmission in commercial sex market is still relatively small, studies such as Ahlburg and Jensen (1998), Edlund and Korn (2002), Rao, Gupta, Lokshin, and Jana (2003), P. Gertler, Shah, and Bertozzi (2005), and Robinson and Yeh (2011) mentioned that there is clearly an information asymmetry in the commercial sex market, because it is difficult for a client to know the health information of a sex worker. Moreover, Morris et al. (1995) observed that the initiation of condom use by a sex worker can be interpreted by the client as a signal of disease and mistrust, and this can affect the sex worker's reputation and income. Therefore, in order to signal that she is safe, she will not offer the use of condom to her customer.

Among all the literatures we found that Andersen and Bech (2011) was the ones who attempted to investigate the theoretical relationship between HIV testing and the transmission risks in the commercial sex market. They added that an information problem in the commercial sex market is double-sided asymmetric, since it is difficult for both seller and buyer in the commercial sex market to know the HIV/AIDS status of the other. This is an interesting area of research we hope to address as well.

Andersen and Bech (2011) had developed a theoretical relationship between HIV testing and the transmission risks in the market of commercial sex. This study hypothesized that HIV testing could reduce HIV transmission risk since a person who know his/her HIV-positive status would wish to stop spreading the virus by opting for protected sex. An example of client and sex worker utility function from the model of Andersen and Bech (2011) are concluded as follows.

Client's indirect utility function:

$$V_C(I_t, x, P^x) = U_C^x + I_1 - P^x + \varphi_x I_2 \qquad (2.6)$$

Where x are types of sex (safe and risk), $U_C^x$ is client's utility given the types of sex, $I_1$ is income in the first period, $P^x$ is the price of commercial sex regarding the types of sex, $\varphi_x$ is the survival probability, and , $I_1$ is the income in the next period given that the client survives from HIV.

Sex worker indirect utility function:

$$V_{SW}(I_{0,t}, x, P^x) = I_{0,1} + P^x - \widetilde{U}_{SW} + \varphi_x I_{0,2} \qquad (2.7)$$

Where $\widetilde{U}_{SW}$ is disutility when she provides sex services which are not varying in the types of sex, $I_{0.1}$is income in the first period and the subscript 0 indicates that she earns only a subsistence income.

They used the game theoretical concept of perfect Bayesian equilibrium as a tool to reach their research conclusions. Andersen and Bech (2011) however found that commercial sex worker's HIV testing does not improve the HIV epidemic in the market for commercial sex. On the contrary, it increases the probability of having risky sex especially in the poorer countries. That is, a sex worker who tests positive for HIV tends to go for the risky sex in order to increase her income in the future.

This evidence is supported by Muñoz, Adedimeji, and Alawode (2010) who found that because of the low level of education and the lacking of HIV knowledge, many sex workers in Nigeria misunderstood that they could handle the spread of virus by using their experiences as well as medicines[2].

The sex worker who tests positive for HIV is more likely to engage in risky sex since she would want to work and collect the money for her family as much as she can before she would be too sick to work. The asymmetric information in the market helps her to hide her health's information away from her client. Moreover, offering safe sex is a sign of HIV infection, and the number of infected clients are very large in the market.

Another interesting theoretical paper is by Edlund and Korn (2002). Although they did not focus on the issue of asymmetric information in the commercial sex market, their study is a good example of theoretical study applying utility function to sex workers. Edlund and Korn (2002) "A Theory of Prostitution" explained the link between marriage and prostitution. Prostitutes or sex workers are usually female, and the nature of prostitution is characterized by being low skilled, low in reputation, labor intensive, and well paid. Edlund and Korn defined prostitute as the person who engages in sexual intercourse for business purpose but not for reproduction.

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2 *'I have been on this job for some time now and I have not been infected with HIV. Why?... because I know what to do,[like] use medicine regularly and have unprotected sex with only clients that I know well. I am not careless ... it's only the ignorant ones that end up with HIV infection. [Madam, 38 years old].'* (Muñoz et al., 2010), (p.54)

Although both female and male can be a prostitute, the paper focused on the common cases in which women sell and men buy. Similar to Ahlburg and Jensen (1998), Edlund and Korn (2002) found that there are many types of sex workers such as street sex workers, sex workers in brothels, bars, clubs, etc. The sex workers who are younger, better looking and healthier are in the upper class market, charging higher prices.

Regarding the theoretical model, this paper focused on the link between marriage and sex workers. Since the definition of sex worker is the person who engages in sexual intercourse for business purpose but not for reproductive sex, sex workers are assumed to be single. They hypothesized that there was a trade-off between marriage and becoming a sex worker. They divided the market into two types which are the marriage market and the sex market.

First, given that $N$ is the size of woman population and $n$ the size of sex workers group. In case of marriage, each woman has one husband and one child. The child is considered as the public good for both father and mother given that they are married, but if not only the mother derives utility from the child. Moreover, the child is costless, everybody supplies one unit of labor, $y$ denotes the man's wage, and $w$ denotes the woman's wage.

The utility function for a man is,

$$u = u(k(m), s, c) \tag{2.8}$$

Where $k$ is the utility a man receives from his child conditional on marriage ( $m$ ), $s$ is the utility receiving from commercial sex, and $c$ is the utility receiving from consuming other goods.

The utility function for a woman is,

$$v = v(k, c) \tag{2.9}$$

Assuming that a woman does not care for sex; she will receive utility from consumption (c) and her child (k), where neither of which depends on marital status. Two options are open to a woman in this model which are marriage or becoming a sex worker. If she chooses to marry, she will work on a regular job. On the other hand, if she chooses to become a sex worker, she does not marry.

The nature of marriage market is assumed to be similar to any other competitive markets. Child quality $k$ is constant and $p_m^*$ is the compensation that a wife receives in equilibrium. Since the child quality is constant, the choices between becoming a wife or a sex worker depend on consumption $c$. If she chooses to marry, she will receive the compensation ( $p_m^*$ ) and the wage from her regular job ( $w$ ). However if she chooses to become a sex worker, the earning she receives will be equal to the price of commercial sex ( $p^*$ ) and the price of commercial sex is also a function of the number of sex workers ( $n$ ).

Budget constraint of a wife is,

$$c = p_m^* + w \tag{2.10}$$

Budget constraint of a sex worker is,

$$c = p^* \tag{2.11}$$

An equilibrium occurs when the revenue from both options are equal.

$$p^* = p_m^* + w \tag{2.12}$$

Regarding the sex market, aggregate supply of commercial sex is,

$$S(n) = n \tag{2.13}$$

Aggregate demand for commercial sex is,

$$D(y, p_m^*; p, n) = nd(y; p) + (N - n)\bar{d}(y, p; p_m^*) \tag{2.14}$$

$d(y; p)$ is the demand of unmarried man and $\bar{d}(y, p; p_m^*)$ is the demand of married man. The married man's demand is a fraction of the unmarried man's demand.

$$\bar{d}(y, p; p_m^*) = \lambda(p_m^*)d(y; p) \quad , \lambda(p_m^*) \in (0,1) \tag{2.15}$$

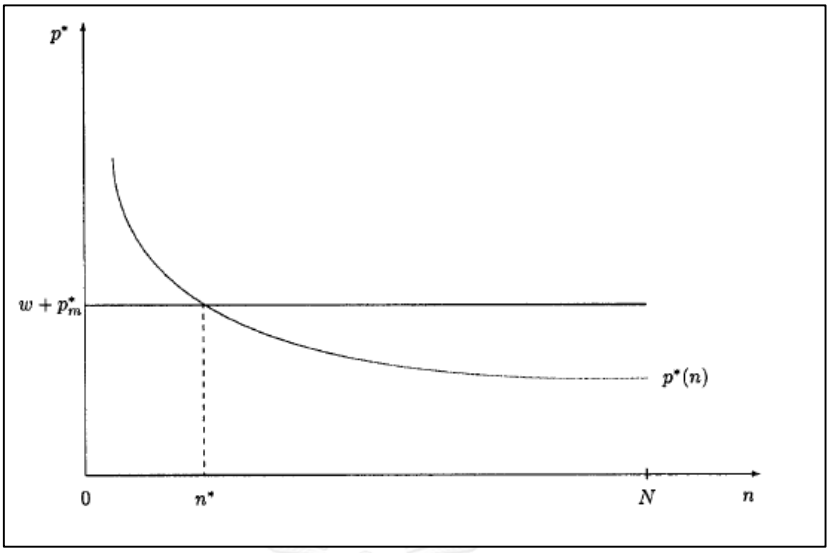
The equilibrium in sex market is reached when aggregate supply equals aggregate demand.

$$\begin{aligned} n &= nd(y; p) + (N - n)\lambda(p_m^*)d(y; p) \\ n &= [n + \lambda(p_m^*)(N - n)]d(y; p) \end{aligned} \tag{2.16}$$

This paper defines equilibrium as the point where no sex worker would do any better if she were a wife, and vice versa. The income of a sex worker is equal to the income of a wife.

$$p^*(n^*) = p_m^* + w \tag{2.17}$$

Figure 5.1 Marriage and sex market equilibrium (Edlund & Korn, 2002) (p.196)




This equilibrium will be stable under the condition that $\frac{dp^*(n)}{dn} < 0$ ,an equation which represents the law of demand. If all the women were sex workers, the income of a sex worker is lower than the income of a wife. However if there are less sex workers in the market, the price of commercial sex will be high since men would still have the demand for commercial sex.

To conclude, the base model of Edlund and Korn (2002) tells us that (1) there is exist unique equilibrium in the market under $0 < n^* < N$ which means there are still sex workers in every society more or less, (2) when the number of wives is greater than the number of sex workers it means that a sex worker has more clients than a wife has husband and marriage is woman's incentive while sex worker is man's incentive which need some woman's supply in the market, (3) the income from sex work is higher than the income from regular job.

Regarding the previous empirical literatures, although none of them directly investigate the empirical evidence of sex workers and their clients' behaviors under asymmetric information, some actually focus on the relationship between HIV awareness and behavioral change. Boozer and Philipson (2000) employed a survey to investigate the behavior of people after knowing their HIV status in San Francisco. They found that the ones who unexpectedly tested negative for HIV tended to increase his/her sex risky behavior, while those who unexpectedly tested positive for HIV tended

to reduce their risky behavior. However, most of the samples who were HIV-infected believed that they were infected before testing, so their behavior did not change after the HIV testing. Similarly, the study of Thornton (2008) found that in Malawi testing positive for HIV did not have a significant effect on condom purchase. They only used the condom with their regular sexual partner (husband or wife). Muñoz et al. (2010) also added that thoughts and economic factors play a crucial role in explaining sex workers' behaviors.

### 2.4 **Market for safe commercial sex**

Firstly we will consider the issue of power in sexual relationship which can be divided into sexual power in family and in commercial sex establishments. For the family domain, Ahlburg and Jensen (1998) found that power in sexual relationship within the family is a function of the economics and custom. In some counties in South Africa and East Asia where women have less power, wives has no power in sexual relationship. On the other hand, in countries where women have gained economic independence and have a higher level of education, they are in the position to refuse to have sexual relationship with their infected husband, during pregnancy or in the postpartum period. Hence, the position of women in the society plays an important role in indicating the power in sexual relationship as well as the risk of contracting HIV. Regarding the power in sexual relationship in commercial sex establishments, David E Bloom and Mahal (1997) stated that sex workers generally do not have the right to refuse service to a customer. The decision made in the sexual establishments depends only on the customer and the establishment's owner.

Finally, we consider the factors affecting the use of condom in commercial sex market. Regarding the demand for commercial sex, condom is recognized as a complement to commercial sex. Although, condom helps both of the sex workers and their customers to reduce the risk of HIV infection, Morris et al. (1995) found that use of condom in sexual intercourse was not popular; for example, in Thailand they found that the consistency of condom use with commercial partners was only 25 to 30 per cent.

There are many factors that affect the condom use. According to Ahlburg and Jensen (1998) age, income, and price are the factors that affect condom use. They found

that customers are least likely to use a condom with the younger and older sex workers; customers who have more income or own many assets are more likely to use condom, since they are more aware of HIV than the low income customers; also the high price of the sex worker can sometimes imply that the sex worker is young and safe, and so the rate of condom use decreases as the price of sexual service increases.

From the study of Celentano et al. (1994), the types of sex establishments and regions are also significant factors that affect condom use. To illustrate the point, in Thailand the consistency of condom use in brothels (70%) is significantly higher than in indirect sex commercial sex establishments (37%). Additionally, the rate of condom use in urban sex establishments is higher than in the rural ones (Celentano et al., 1994). Hanenberg and Rojanapithayakorn (1996) also found that government policy is another factor that affects the rate of condom use. Many countries have different policies to encourage people to use condom when engage in sexual intercourse. The study of Celentano et al. (1994), VanLandingham, Suprasert, Sittitrai, Vaddhanaphuti, and Grandjean (1993) indicated in that alcohol and drugs are closely linked to commercial sex and the rate of condom use. Alcohol and drugs both increase the demand for commercial sex but decrease the rate of condom use.

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# 3 Research Methodology

## 3.1 Conceptual framework

To achieve the purposes of the study, this thesis investigates the commercial sex market under asymmetric information in both theoretical and empirical studies, and the methodology can be divided into three parts.

First is the structure of Thai commercial sex market. This part provides an economic description of Thai commercial sex market. The data and information from field surveys, related reports, and literatures together with microeconomic industrial organization model are used to describe the structure of Thai commercial sex market in both demand side and supply side. The data on the first part is the basis of the model set up in the theoretical part.

Second part of this thesis is a theoretical part. The structure of Thai commercial sex market in the first part, some related literatures together with microeconomics theory are used for the model setting up and optimization. The result in this part presents all possible outcomes and equilibrium conditions in the commercial sex market under asymmetric information in the context of Thailand. The approaches used for the equilibrium analysis are the sequential and simultaneous game theory.

Finally, the third part is the empirical part. This part investigates empirically the situation, in Thailand by using an experimental survey.

The results of this study are expected to be another microeconomic study explaining the epidemic of HIV/AIDS through sexual relation in the market for commercial sex, the factors affecting human sexual relation decisions, and a role of sex protection tools such as a condom.

Table 3:1 Study framework

| |
|---|
| 1: The structure of Thai market for commercial sex<br>The objective of this part is to study the structure of Thai commercial sex market. |
| 2: The theoretical part<br>This part is for the model set up. The objective of this part is to use the data from the first part to support the model set up and find the all possible outcomes (payoffs) in the sex market under the asymmetric information. |
| 3: The empirical part<br>The objective of this part is to use the empirical study to interpret and compare the theoretical result in the second part. |

## 3.2 **Data collection**

1: The structure of Thai market for commercial sex

This thesis uses three channels to study the structure of Thai commercial sex market. First, we spent a time for six months to establish a relationship with the NGO working with the sex worker by joining their activities, conferences, and field works. These support us to understand the current situation in Thai commercial sex market, to have a chance to interview people related to this market, and to know people inside the market that can support the empirical part of this thesis.

Second, we did an undercover survey of commercial sex sub-markets as street, and park, massage parlors, and online. Regarding street, park, and massage parlors, we set up a team and visited these markets in order to understand the real transaction inside the market as well as their real price. Regarding an online market, we spent around one

month to track the conversations, negotiations, and transactions in an online commercial sex page.

Third, we use the secondary data collected from previous literatures, researches, reports, surveys, news, etc. These data include HIV/AIDS information, market for commercial sex information, information on sex worker, sex attitudes, opinions, behaviors, condom use etc.

2: The theoretical part

The data used in this part comes from two sources which are the first part, and some related literatures. Both sources of data are used to set up the model of asymmetric information in commercial sex in the era of HIV.

3: The empirical part

The data mainly used in this part is primary data. Depending on the availability of the data this thesis aims to use two ways of primary data collection which are surveyed by questionnaire, and an interview of the related person.

Regarding the survey by a questionnaire, this thesis aims to collect information on client, female sex worker, and male and transgender sex worker. This thesis took help from two Non-Governmental Organizations (NGOs) which are the "The Service Workers in Group (SWING) Foundation" and "The Rainbow Sky Association of Thailand" for the data collection. However, since the market for commercial sex is illegal in Thailand and our target groups are quite sensitive and difficult to reach, we do not expect to collect a large sample. According to financial budget, and both NGOs abilities to collect the data, our estimated sample size is around 300 samples (100 clients, and 200 sex workers). The questionnaire is designed from the theoretical model that suits the context of Thailand. Table 3:2 shows the details on the data collection method.

| Table 3:2 Details on the Data Collecting Method | |
|---|---|
| **Lists** | **Description** |
| Participants | 1. Client<br>2. Female sex worker<br>3. Male and transgender sex worker |
| Sample size (Estimated) | 1. Client = 100<br>2. Female sex worker = 100<br>3. Male and transgender sex worker = 100 |
| Inclusion and Exclusion criteria | 1. Client = A male who has demand for commercial sex, currently or used to visit any type of sex work establishment.<br>2. Sex worker = A person (both female and male) who gives sexual intercourse or provide sexual service for the commercial purpose. |
| Approaching methods | 1. Client (100):<br>• Around 50 are approached by "The Rainbow Sky Association of Thailand". The NGO asks the owners of the commercial sex massage, spa, and sauna shops to distribute the questionnaire to their clients.<br>The sampling area are:<br>a. Phaya Thai road<br>b. Ladprao road<br>c. Nawamin road<br>d. Rama 9 road<br>e. Bangkapi district Lumsaree intersection<br>f. Somdet Phra Chao Tak Sin road<br>g. Lek Si road<br>• Around 50 are approached by the network of the client. There are some clients who are voluntarily support this study. They distribute the questionnaire through their networks and connections.<br><br>2. Female sex worker (100):<br>• Around 80 venue-based female sex workers who work under sex work establishment that have HIV testing policy (A go-go bar and Massage parlor) are approached by "The Service |

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| Table 3:2 Details on the Data Collecting Method | |
|---|---|
| **Lists** | **Description** |
| | Workers in Group (SWING) Foundation".<br>The sampling area are:<br>a. Silom road<br>b. Sukhumvit road<br>• Around 20 female sex workers who are freelance (online, street, and park, in Bangkok) that have no HIV testing policy are approached by the "The Rainbow Sky Association of Thailand".<br>The sampling area are:<br>a. Wachirabenchatat Park<br>b. Chatuchak Park<br>c. Lumpini Park<br>d. Online<br>3. Male and transgender sex worker (100):<br>• Around 100 male sex workers who work under the sex work establishment (Traditional massage, massage, sauna, and spa) that have no HIV testing policy are approached by the "The Rainbow Sky Association of Thailand".<br>The sampling area are:<br>a. Phaya Thai road<br>b. Ladprao road<br>c. Nawamin road<br>d. Rama 9 road<br>e. Bangkapi district, Lumsaree intersection<br>f. Somdet Phra Chao Tak Sin road<br>g. Lek Si road |
| Sets of questionnaire | 1. Client: There are two sets of questionnaire designed for clients. The first set is used to test for the market with HIV testing "the reverse one side asymmetric information" and the second set is used to test for the market without HIV testing "the double side asymmetric information". Both sets of questionnaire are randomly picked for each client. |

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| Table 3:2 Details on the Data Collecting Method | |
|---|---|
| **Lists** | **Description** |
| | 2. Sex worker: There are four sets of questionnaire designed for sex workers and all of them can be used for both female, and male and transgender sex worker. Almost all questions in these four sets are the same except question number 15. In question 15, the sex worker is offered the tip at 10,000 Baht in questionnaire set 1, at 5,000 Baht in questionnaire set 2, at 2,000 Baht in questionnaire set 3, and 500 Baht in questionnaire set 4, respectively. These four sets are randomly picked for each sex worker. |
| Collecting methods | 1. Client: The client answers the question through the questionnaire directly by himself.<br>2. Sex worker: By nature the sex workers do not want to waste their time for reading and analyzing the questionnaire. However, they are quite close and trust the NGOs, so both NGOs talk to them and ask them all the questions in the questionnaire during the talking time. |

Regarding the interview, we aim to use information from this part to support the information from the questionnaire. We aim to interview some related people as around 2-5 sex workers, around 2-5 clients, and around 2 NGO officers. All of the participants are recruited by both NGOs. Only the main researcher of this thesis is the interviewer. The estimated time for the interview is around 10-15 minutes per person. The participants can use the fictitious name and there is no tape recorder during the interview. The scope of information needed for the interview is shown in Table 3:3.

Table 3:3 Scope of information needed for interview

| **Types of participant** | **Scope of information needed for interview** |
|---|---|
| Client | • Their experiences in the commercial sex market<br>• Their preferences in commercials sex<br>• Their information and knowledge about Thai commercial sex market, HIV, and condom<br>• Their problems and suggestions |
| Sex worker | • Their working experiences<br>• Their solutions when the client asking for the sex without condom<br>• Their information and knowledge about Thai commercial sex market, HIV, and condom<br>• Their problems and suggestions |
| NGOs officers | • Their working experiences<br>• Their information and knowledge about Thai commercial sex market, HIV, and condom.<br>• Their problems and suggestions |

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## 3.3 **Terminology**

Table 3:4 Terminology and meaning

| **Terminology** | **Meaning** |
|---|---|
| Sex work establishment | A place, establishment, business, or an intermediary where sex worker meets client. |
| Sex worker (SW) | A person (both female and male) who gives sexual intercourse or provides a sexual service for commercial purpose.<br>• FSW = Female sex worker<br>• MTSW = Male and transgender sex worker |
| Venue-based sex worker (VSW) | A sex worker who works under the supervision or control of sex work establishments<br>• VFSW = Venue-based female sex worker<br>• VMTSW = Venue-based male and transgender sex worker |
| Non-venue-based sex worker (NVSW) | A sex workers who works as a freelance<br>• NVFSW= Non-venue-based female sex worker<br>• NVMTSW = Non-venue-based male and transgender sex worker |
| Client (C) | A person who has demand for commercial sex, and currently receives such services from any types of sex work establishment.<br>• CFSW = Client seeking female sex worker<br>• CMTSW = Client seeking male and transgender sex worker |
| MSM | A male who has sex with male |

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## 3.4 **Budget Plan**

Table 3:5 Budget Plan

| **Activity** | **Cost per unit** | **Unit** | **Total Cost** |
|---|---|---|---|
| Respondents' gifts | 30-35 Baht per person | 300 | 10,000 Baht |
| Field assistants | 100 Baht per questionnaire | 300 | 30,000 Baht |
| Transportation for field assistants | 2,000 Baht per trip | 5 | 10,000 Baht |
| Payment for artist (Note: There are 8 pictures in the questionnaire ) | 500 Baht per picture | 8 | 4,000 Baht |
| Printing questionnaires | 20 Baht per questionnaire | 300 | 6,000 Baht |
| **Total Grant Request** | | | **60,000 Baht** |

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# 4 Characteristics of the Commercial Sex Market in Thailand: A Microeconomics Investigation

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 chapter aims to provide a working taxonomy appropriate to the commercial sex market for Thailand. Both primary data (survey and interview) and secondary data are used to describe the market forces behind Thai's commercial sex markets. In essence, 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. This chapter provides many cases and details, for example, the monopoly position and price discrimination practice of brothel, and the oligopoly position in massage parlors, which in contrast with the online market that is closer to the perfect competitive model with large number of agents as well as free entry and exit.

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## 4.1 Introduction to Thai commercial sex market

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

After Thailand became democratic as well as a member of The United Nations, the country declared the Prostitution Suppression Act in 1960 in order to illegalize the market for commercial sex. This led to a significant change in the structure of the

commercial sex market. Some places such as brothels, hotels, guest houses, etc. still operate illegally and offer commercial sex directly, while others are covered under several types of businesses such as massage parlor, traditional massage, spa, sauna, A Go-Go bar, night club, pub etc. This leads the structure of Thai commercial sex market is rather complicated. (See Appendix ". 3 the chronology of Thai commercial sex market")

## 4.2 **Demand and Supply of Commercial Sex in Thailand**

### 4.2.1. The Demand for Commercial Sex in Thailand

(1) Characteristics of the demand; For this study, we define a client as a person who has demand for commercial sex, and currently receives such services from any types of sex work establishment. In the past commercial sex market in Thailand was legal and taxed by the government, so the sex work establishments would supply commercial sex directly. However, after the adoption of 1960 Prostitution Suppression Act, commercial sex is now illegal and the structure of the market has more complicated. Some places as brothels still operate illegally and offer commercial sex directly, while others are covered under several types of businesses. This chapter categorizes the types of demand for commercial sex into two main characteristics which are (1) the direct demand for commercial sex and (2) the demand for commercial sex accompanying other goods and services.

Clients with direct demand for commercial sex, often go to those places where commercial sex is offered directly such as the brothel, or find a way to contact the sex worker to meet at some agreed places.

While commercial sex establishments that accompany to other goods and services significantly existed in the Thai economy, after illegalization of commercial sex. In Thailand, we divide these kinds of fronting business into two groups; first, is the treatment or spa business, and second is the food, drink, and entertaining business.

The treatment businesses basically offer treatment services such as massage, spa, and sauna as their fronting business while offering commercial sex during or after the treatment service. For example, clients who prefer massage parlors to brothels might have demand for commercial sex accompany with other treatment services.

The entertaining business as A go-go bar, night club, pub, 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 customers. Some places also have a backdoor room for such services.

(2) Number of the demand; In Thailand, we found that single and divorced males are the main clients of commercial sex while, the foreigners such as tourists, foreign workers as well as immigrants also are important client for commercial sex.

(3) Sex preferences; Although the sex preferences are different and vary across a person, this chapter separates them into three main groups which are (1) the group of people who have sex with female, (2) the group of people who have sex with male (including male who have sex with male; the MSM) and (3) the group who are able to have sex with both female and male. Tan and Brown (1993) added that the sex preferences in the market for commercial sex also 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.

(4) Substitutes for commercial sex; There are two factors that can be considered as the substitutes for commercial sex. First is sex with married partners (spouse). This chapter recognizes sex with married partners as an important substitute for commercial sex. A person who lives in a happy family with a strong relationship between married partners would have less demand for commercial sex.

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

4.2.2. The Supply of Commercial Sex

(1) Characteristics of the supply; In the commercial sex market, a sex worker is considered as supply. We define a sex worker as a person (both female (FSW) and male

(MTSW)) who gives sexual intercourse or provides a sexual service for commercial purpose and they can be categorized into two main groups.

First is the venue-based sex worker (VSW). VSW is a sex worker who works under the supervision or control of sex work establishments such as a massage parlor, A go-go bar, traditional massage, spa, and sauna, etc. Most of the VSW are full-time sex workers who directly work as a sex worker and receive income mainly from sex work. Some VSW receive salary plus an extra per client, but some receive only the portion of the fee per client which depended on the agreement of each sex work establishment. In addition, there is still a part-time VSW and we call them "a sideline sex worker". Sideline sex workers usually have another main occupation, but apply to work as a part-time sex worker in sex work establishments for different individual purposes; for example, a student, a singer, a model, a dancer, a waiter, and a waitress. Basically, their price is higher than the full time sex worker and they do not need to follow all rules in the sex work establishment.

Second is the non-venue-based sex worker (NVSW). NVSW is a freelance sex worker who uses a public places or communication channels as an intermediary. NVSW does not have an owner and receives all money from a client per one time of service. Regarding the sex worker who works in the public places, or online, but is owned by sex work establishment or intermediate agents, we consider them as the venue-based type.

(2) Types of supply; Regarding the client's income, we find 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 rises, the demand for high price commercial sex rises.

(3) Price; By its nature, commercial sex is a homogeneous service, but since there are different types of supply and market structures, it can be considered as a quasi-homogeneous service which is highly substitutable but with imperfect substitutes. Hence, the price is usually depending 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, and price of condom.

(4) Sex worker's profile; From the evidences of many studies as Wirawan et al. (1993), Celentano et al. (1994), Jenkins (1994), Brown et al. (1995), Wawer et al. (1996), Ahlburg and Jensen (1998), Archavanitkul and Guest (1994), and Ketsatien (2002) (อภินันท์ (2545)), 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.

(5) The reasons why individual becomes 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 network (Brown et al., 1995). Some become sex workers because they are kidnaped, forced, or threaten by physical violence. Some become sex workers voluntarily. Ketsatien (2002) (อภินันท์ (2545)) stated that the main reason why sex workers in Huay Kwang district, Bangkok voluntarily become sex worker is the high income from sex work and they want to send the money back to their parents. Poverty pressure as well as low level of human capital (skill, education, training, health, etc.) are other important factors that constrain occupational choices which finally leads many to the commercial sex market. (Akuffo, 1987; Basu et al., 1997; Chakraborty et al., 1994)

(6) Sex worker's income; Basically a venue-based sex worker (VSW) has two sources of income. The first is the salary per month or the portion of the fee per customer depending on the organization of each sex work establishment. The second source of income is a tip which is always given by the client for a service. While an income of non-venue-based sex worker (NVSW) mainly comes from service price.

Many authors state that high income from sex work is the major factor affecting the supply of sex worker. Earning from sex work is usually greater than earning from other occupations at a similar level of education (Jenkins, 1994; Pickering & Wilkins, 1993; Plange, 1990).

### 4.3 **The Sex Work Establishment as the Market**

After considering the demand and supply sides, it is necessary to focus on the market. In economic, market means a place or an intermediary where supply meets

demand. In this chapter, we use the word of “sex work establishment” to refer to this market definition.

We consider the commercial sex as quasi-homogeneous service which is highly substitutable but are imperfect substitutes. In Thailand, the Department of Disease Control, Ministry of Public health did a survey in 1998 and categorized the sex work establishments into 25 types (Table 4:1).

There were some former literatures categorized and described the types of sex work establishment as Mahidol University Institute for Population and Social Research (1994) (มหาวิทยาลัยมหิดล (2537)), Rawungpan (1995) (นิตยา (2538)), Guest (2007), UNFPA (2007), and Tangthanaseth (2011) (รัตนาภรณ์ (2554)). However, the difference between this study and those former literatures is this study relates the sex work establishment to microeconomic theory by categorizing them according to the characteristics of demand and supply, and then analyzing them under economic industrial organization definitions. Moreover, due to technological advancement, the market for commercial sex has developed into a new different form compares to the survey of Department of Disease Control in 1998. More specifically, in this chapter, we include a new type of the market as an online market into the analysis.

Because the commercial sex market in Thailand is not homogeneous, we re-categorize the market based on supply (venue-based and non-venue-based) and demand (direct demand and demand accompanying other goods and services) characteristics. Therefore, we have two main markets with some small sub-markets inside (see Table 4:2).

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Table 4:1 Types of sex work establishment in Thailand (January 1-31, 1998 whole kingdom)

| Types of sex work establishment | No. of place | No. of worker | No. of female sex worker | % of female sex worker | No. 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)

Table 4:2 Types of commercial sex market according to supply and demand characteristics in Thailand

| **Supply** | **Demand** | **Sub-markets** |
|---|---|---|
| Venue-based sex worker | The direct demand for commercial sex | Direct commercial sex<br>• Brothel (VFSW) |
| | The demand for commercial sex accompanying other goods and services | Treatments service<br>• Massage parlor (VFSW)<br>• Traditional massage and spa, and Sauna (VFSW & VMTSW)<br>• Salon and Barbershop (VFSW & VMTSW) |
| | | Foods, drinks, and entertainments (VFSW & VMTSW)<br>• A Go-Go bar<br>• Restaurant and food garden<br>• Gay bar<br>• Karaoke bar<br>• Beer bar<br>• Dance bar<br>• Café<br>• Cocktail lounge<br>• Pub<br>• Night club<br>• Discotheque<br>• Coffee shop<br>• Tea house |
| Non-venue based sex worker | The direct demand for commercial sex | Direct commercial sex<br>• Street and Park (NVFSW & NVMTSW)<br>• Escort service by telephone (Ex. Call-girl) (NVFSW)<br>• Internet and online market (NVFSW & NVMTSW)<br>• Hotel, Bungalow, and Guesthouse (NVFSW & NVMTSW) |

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## 4.4 **Venue-based sex worker (VSW) market**

Sub-market 1: Brothel (Direct Demand; VFSW market)

From past to present, the brothel is still a market only for a client seeking female sex workers (CFSW). In the past, brothels, or prostitution houses were legal and taxed by the government. The brothers had to be registered and were required to hang a lantern on the front door as a sign of a sex service place. At that time most of the lanterns were light green. Hence, it was generally known as "The Green Lantern house" (Raksorn, 2002 (เด่น, 2545); Mattariganond, 2004 (ดารารัตน์, 2547)). But after brothels have become illegal since 1960, they operate illegally without any signal or the advertisement sign. At present, many of them have changed their structure to become a part of the traditional massage market by introducing the massage service as the fronting business.

Although, an original brothel is difficult to find, this sub-market is well-known by locals, playboys, and some tourists. Most of them have no formal name but are usually named after the brothel's owner. They are located in houses 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" brothels and "night-time" brothels (Guest, 2007).

We found that the brothel's owner has to pay a lot of money to the middle man to bring new customers as well as pay the local police to maintain their businesses. However, the owners are able to make some profits by paying only a little to the sex workers. Sex workers in brothels do not have a salary. They receive the portion of the fee per customer and have no right to refuse a customer. These findings are also supported by the study of Thomas and Jones (1993); Mahidol University Institute for Population and Social Research (1994) (มหาวิทยาลัยมหิดล (2537)); and UNFPA (2007).

The brothels can be divided into high class, middle class, and low class depended on the price of services. The price of service is related to the quality of sex worker, and the type 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 conclude that the price in the brothel market is varied, but depends on the brothel owner.

An ability to set up price in each brothel leads the brothel market to have similar features as a monopoly market. Moreover, price making 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 where sex workers sit. Each row has different prices. Each sex worker would wear a price tag showing their 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 the 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 types of service. There are two types of services; a temporary service (around 45 to 60 minutes) and an overnight service. For the temporary service, the client pays the brothel owner according to the sex worker's price tag and then receives the service in one of the brothel rooms for 45-60 minutes. The price for the overnight service is higher than the temporary service. According to the study of Rawungpan (1995, p.100) (นิตยา (2538)) in Chiang Mai Province, the price of the temporary service is around 50-500 Baht (1.5-15.6$), while the price of the overnight service is around 300-1,200 Baht (9-375$). A client can spend the night at the brothel. Some brothels allow a client to take a sex worker outside, but the client must pay higher prices.

Sub-market 2: Massage parlor (Demand accompanying treatment services; VFSW market)

The massage parlor is one of the most famous commercial sex business for a client seeking female sex workers (CFSW) in Thailand. The massage parlor business is legal and taxed by the Thai Excise Department at 10% per income tax rate. The fronting business of massage parlor is to offer therapeutic massage, bathing services, health spa as well as entertainment. Under the prostitution law, theoretically workers in the massage parlor are allowed to provide only the massage and bathing services to clients, while commercial sex is prohibited. However, it is difficult to verify or prohibit the prostitution when both client and worker are together in a private room.

Sex workers in a massage parlor are only a female (VFSW). There are two types of sex worker working in this market. First is called a full time sex worker and second is called a sideline sex worker. The full time 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, model, or pretty who just works

temporarily. Moreover, the number of sideline sex workers is less than the full time sex worker. From our samples, only 8 of 24 massage parlors offer a service from the sideline sex worker. Therefore, service price from a sideline sex worker is usually higher than the full time 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 a client comes to the place and chooses sex worker who sits inside the glass room. Each of the sex worker charges with different price based on her price tag, and types of room. The massage parlor works almost similar to the brothel. The difference is the brothel offers only sex service while the massage parlor provides bathing services and massage to the client before sex. According to the different price between each sex worker and 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 4:4, massage parlor market can be divided into two level markets, which are high class (Sample 1-9), and normal class market (Sample 10-24) based on their price and the luxury of the place. The structure of the high class market is similar to the oligopoly model while the structure of the normal class market shares some features of monopolistic competition.

Firstly, the number of supply, from our investigation most of the massage parlors in Thailand are in the normal class market (monopolistic competition) while a small number of them in the high class market (oligopoly).

Secondly, non-price competition, although the owners of the massage parlor have an ability to set 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, cleanliness, and 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 to enter high class business.

Table 4:3 Characteristics of the high class and middle class massage parlor market

| | **High class market** | **Normal class market** |
|---|---|---|
| **Number of supply** | Small | Large |
| **Type of establishment** | Luxury and large building | Small or medium building |
| **Average net service price per 1 hour 30 minutes** | Higher than 3,000 Baht (96.77$) | Lower than 3,000 Baht (96.77$) |
| **Barriers to entry** | 1. License<br>2. 10% per income tax rate<br>3. Small number of competitor but high reputation competitors<br>4. High establishment cost | 1. License<br>2. 10% per income tax rate<br>3. Large number of competitor with medium reputation competitors<br>4. Medium establishment cost |
| **Market Structure** | Oligopoly | Monopolistic Competition |

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| Table 4:4 Price level in the massage parlor market | | | | |
|---|---|---|---|---|
| **Name** | **Member Price (Baht)** | **Normal Service Price (Baht/1 hour 30 minutes)** | **Sideline Service Price (Baht/1 hour 30 minutes)** | **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$) |
| | | | | |

| Table 4:4 Price level in the massage parlor market | | | | |
|---|---|---|---|---|
| **Name** | **Member Price (Baht)** | **Normal Service Price (Baht/1 hour 30 minutes)** | **Sideline Service Price (Baht/1 hour 30 minutes)** | **Average Price of Both Normal and Sideline [(Min+Max)/2]** |
| 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 26 to November 10 in 2013

Sub-market 3: Traditional Massage and Spa, and Sauna (Demand accompanying treatment service; VFSW and VMTSW markets)

This sub-market offers treatment services such as massage, spa, and sauna similar to massage parlor, but the difference is this sub-market does not offer bathing services. Moreover, massage parlor is the main market for clients seeking female sex workers (CFSW), but the traditional massage and spa, and sauna is the market that offers both female sex worker (FSW), and male and transgender sex worker (MTSW).

There are both FSW and MTSW in this sub-market and each of them work separately on their own market. From our interview with the NGO who works with sex workers, we found that the price for the female sex workers market is a little bit different among different sex work establishments, while the price in the market of male sex workers stands at the similar price.

For our analysis, we conclude that this sub-market has some characteristics similar to the monopolistic competition model. 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 are 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, 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.

Table 4:5 Price level in the Traditional massage and Spa, and Sauna market (Female sex worker)

| 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 26 to November 10 in 2013

For the female sex workers' market, we collected the price of 14 Traditional massage and Spa, and Sauna business offering a commercial sex service in Bangkok. In Table 4:5, 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 (Full option price). Although the price is different for each sex work establishment, the price level in this market is still close with the average price is lower than 2,000 Baht (64.51$) per 1 time of service. While, the price in the MTSW is around 1,000 Baht per 1 time of service.

Sub-market 4: Salon and Barbershop (Demand accompanying treatment service; VFSW and VMTSW market)

Salon and barbershop is another market where commercial sex is provided, albeit discretely. This market offers both female and male sex workers. However, from our investigation, we found that at present the salon and barbershop 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.

Sub-market 5: A go-go bar, pub, night club, etc. (Demand accompanying foods, drinks, and entertainment; VFSW and VMTSW market)

Because the fronting business of A go-go bar, pub, night club, etc. is to provide foods, drinks, and entertainment, we consider them all as one kind of sub-market. Although these places offer foods, drinks as well as entertainments (shows, and music), the places also have waitresses, waiters, singers, dancers offering commercial sex. Some places have a backdoor room for the service. There are some signals of these kinds of pub, bar, and restaurants, for example; they usually operate in a night time with many colorful lights decorated around the place, and the number of the waiters or waitresses is significantly greater than the number of the Tables (UNFPA, 2007).

We found that this sub-market offers both FSW and MTSW, and shares some features of monopolistic competition. First, many of the suppliers, considering 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, the commercial price range in the market is quite wide. From our interview with the NGOs and some secondary data reviewed, we found that the minimum price in this market is 100 Baht (3.22$) for the lower class market

while the maximum price is up to 5,000 Baht (161.29$) for the high class market. Some places, especially a market for a client seeking female sex worker (CFSW) as A Go-Go bar has a high price sex worker and HIV testing policy that require their sex workers to test for HIV every three months similar to the massage parlor.

### 4.5 **Non-venue-based sex worker market**

Sub-market 6: Street and Park (Direct Demand; NVFSW and NVMTSW market)

Sex workers who use the street, and park as their market are categorized in this sub-market. In addition, the sex workers in this market are 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 that are well known as places having sex workers. In this chapter, 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 4:3.

From Table 4:6, although they have different characteristics, when we analyze each of them one by one, we can conclude that each of them share some similar features of the perfect competitive market model. Firstly, since there are many public places in Thailand that are well known as the place having sex workers, it seems like there are a large number of seller and buyer in this sub-market.

Secondly, considering free entry and exit, sex workers working in this market are freelance so the decision to enter or quit the market mainly depend 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 is ineffective. From our interview with the police working in the area near Lumpini and Chatuchak park, we found that in practice the law punishes 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 rather lax.

Thirdly, 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 FSW, Hua Lamphong

Railway Station is a place for green papaya salad FSW, or the road in front of Saranrom Palace is the place for MTSW, etc. Therefore, the equilibrium in the market exists when the client chooses a place which matches his sex preference.

Fourthly, although sex worker working in the same place offers a homogenous service, each of them still has different profiles in terms of age, beauty, education level, etc. We found that price is depended on the variety of sex workers. Price does not vary much 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 FSW at Hua Lamphong Railway Station whose beauty, age, and education level are not much different, is the same at 500 Baht (16.13$). On the other hand, the price of sideline FSW at Siam hotel (New Petchburi Road) is between 800-3,000 Baht (25.8-96.77$) since there are many types of sideline sex worker in this area as a young student, singer, dancer, pretty or the massage parlor sex worker.

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Table 4:6 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$) | Sex workers in this area cover themselves as green papaya salad hawker. At night they carry stuffs for papaya salad and sit in the street around the railway station waiting for the customer. |
| Khlong Lot (Atsadang Road) | Street | 150-1,000 (4.8-32.25$) | Khlong Lot is an original place for sex worker in Bangkok. |
| Sanam Luang (Ratchadamnoen Road) | Street | 500-1,000 (16.13-32.25$) | Sanam Luang is a large field in front of the grand palace. At present this place is a low cost market with sex worker whose age is around 30 to 40. |
| Siam Hotel (New Petchburi Road) | Street | 800-3,000 (25.8-96.77$) | 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$) | Another well-known place where we can easily find the sex workers stand for prostitution services in the street. This area is located near the China town and there are many fleabags in this area. |
| Saranrom Palace (Sanam Chai Road) | Street | 150-1,500 (4.83-48.38$) | 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 | 500-1,200 (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 15 to October 20 in 2013

Sub-market 7: Escort Service by Telephone (Direct demand; NVFSW market)

Call-girl can be found in the escort service market. From our investigation, we found that there are two types of call-girl. The first type is the freelance call-girl while the second type is the call-girl working under the brothel. Some brothels offer escort service on the telephone as other 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 this service is usually advertised by brochure giving a telephone number. However, at present due to the widespread use of the internet, it seems that the market of escort service on the telephone has changed and adapt itself to be another part of online market. Therefore, the analytical result of this market is a part of the online market.

Sub-market 8: Internet and Online Market (Direct demand; NVFSW and NMTSW market)

The 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 matching demand and supply. From our investigation, there are two types of commercial sex Facebook pages. Both of them have similar market structure. The difference between them is only the role of an 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 an owner. We hypothesize that the owner of these Facebook pages might be closely related to a commercial sex establishment and wants to expand the market

channel. However, it is difficult to find the true identity of the owner of such Facebook pages. In this case, if sex workers want to advertise themselves, they can send their picture, profile, and contact 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 they need to be a member first. Then the owner will give the contact channel of sex worker to the client by using Facebook's message where no one can see their conversation. The membership price is around 100 Baht (3.22$). The clients can pay the membership fee easily by money transfer, or a cash card.

We found that there are two types of service offered 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 18 to October 2 in 2013, we got 64 samples offering many different prices of temporary service and only 24 out of 64 samples offering both services. Note that the price shown in Table 4:7 is only the service price. The clients also need to pay an extra for the room, tip, and travelling expenses.

Table 4:7 Price level in the online commercial sex market

| **Types of Service** | **Temporary service (per hour)** | **Overnight service** |
|---|---|---|
| Maximum price | 5,000 Baht (161$) | 1,0000 Baht (322.5$) |
| Minimum price | 166 Baht (5.35$) | 300 Baht (9.67$) |
| Average price | 1,353.875 Baht (43.67$) | 2,325 Baht (75$) |
| Standard Deviation | 996.2614959 | 1365.490834 |
| Number of samples | 64 | 24 |

**Source:** Data surveyed during September 18 to October 2 in 2013

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 three factors affecting the price in the online market. Some can charge a high price; the price of young sex worker is often higher than the older sex workers; and the price of FSW is higher than MTSW because the main demanders in the online market are still the CFSW. In our sample, two girls who offered 5,000 Baht (161 U.S. dollar) for only the temporary service are attractive girls. Many CFSWs attempt to contact her by offering a higher price. We found that one CFSW offered 10,000 Baht for overnight service. Most of the sex workers posting their profile online are freelance as well as a part-time sex worker.

Both client and sex worker can offer the price, but the sex worker 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 characterized by 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 accessed by a large number of clients. There is no permanent contract between client, sex worker, as well as the commercial sex Facebook owner. In other words, without a strict obligation both client and sex worker 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 shut down, but it is easily re-open in another new page. Thus, the lifetime of many sites is quite short.

Second, the information in this market is nearly perfect. In this market, there are many profiles of sex worker posting freely on the Facebook page. Picture, price, age, other details of sex worker, and condition of services are usually posted. The clients can see the price offered and the profile of each sex worker, and then freely choose to contact one of them. If someone attempts to cheat, the owner or the people using the page will post a warning to other clients.

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Sub-market 9: Hotel, Bungalow, and Guest House (Direct Demand; NVFSW and NVMTSW market)

Some hotels, bungalows, and guest houses where mainly operate for the commercial sex purpose or own sex workers; can be categorized 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, but in addition also offer commercial sex to the client as another option. They do not own sex workers, but the sex workers working there are freelances 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.

From our field survey, we found one small hotel in Yaowarat (China town) having sex workers sitting on the hotel steps waiting for the customer (Figure 4:1).

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 was confirmed with our interview with the NGOs working with sex workers. Therefore, it can be concluded that the equilibrium in this market exists when a client comes to the place and chooses a sex worker. 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 pays a fee to the hotel, bungalow, or guest house owner.

Figure 4:1 Two female workers sitting on hotel steps waiting for a 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.

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## 4.6 **The Summary of Thai Commercial Sex Market**

This chapter provides many cases and details of the commercial sex market in Thailand. We use a concept from microeconomics together with industrial organization to describe each sub-market. Table 4:8 shows the conclusion of all sub-markets.

### **(1) The Perfect Competition Market**

We concluded that Street and Park (Sub-market 6) and Online market (Sub-market 8) have some characteristics similar to the perfect competition model. For the Street and Park, we found that there are many public places in Thailand that are well known for commercial sex so the number of seller and buyer can be considered as large. Moreover, this market is free entry or exit because sex workers working in this sub-

market are freelances and the barriers to entry are low. Although we cannot clearly say that commercial sex service is homogenous, we rather 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 a price taker in this market. We found that price is depended on the variety of sex workers. Price does not much vary in the place where sex worker sharing the same level of beauty, age, and education level.

Regarding online market, we consider escort service by telephone 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, the price is quite varied, but competitive among the same profile sex worker. Beauty, age, and gender are three 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 a 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.

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**(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, the price in different brothels is varied because 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, the 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 row 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 police for maintaining business situation.

**(3) The Oligopoly Market**

We found that most of massage parlors in Thailand are in the normal or medium class market (monopolistic competition) while small numbers of them complete in the high class market (oligopoly). For the high class massage parlor there are high barriers to entry 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.

**(4) The Monopolistic Competition Market**

The normal class massage parlor (Sub-market 2), the traditional massage and spa, and sauna (Sub-market 3), and the market for food, drink, and entertainment (Sub-market 5) are consisted to the monopolistic competition model.

The structure of the middle class massage parlor, and the traditional massage and spa, and sauna are quite similar. There are many of the suppliers, and the barriers to entry in this market are lower compared 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 5 or the demand for commercial sex accompanying 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 complements 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.

Table 4:8 Conclusion Table of market for commercial sex in Thailand

| **Types of market** | **Characteristics based on microeconomic theory** | **S1** | **S2 (High class)** | **S2 (Normal class) & S3** | **S5** | **S6** | **S8** |
|---|---|---|---|---|---|---|---|
| **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 | | | | / | | |
| | Low barriers to entry | | | / | / | | |
| | Differentiated Product | | | | / | | |

# 5 Thai commercial sex and asymmetric information in the era of HIV: The Theoretical Approach

This chapter develops a model of behavior of sex workers and clients in the commercial sex market under conditions of asymmetric information. The basic game-theoretical asymmetric information model is adapted to the situation in which only the sex worker knows his/her HIV status; the client does not know the HIV status of sex worker. The basic model shows that clients concerned about HIV would prefer safe sex, but is likely to engage in riskier transactions under conditions of information rents such as higher prices, or when there are signals that the sex worker is HIV-free. The chapter then considers the case of "reverse" asymmetric information, i.e. when the client may be HIV-positive and the sex worker does not have this information. The Nash equilibrium solution informs us that the sex workers' strategy is safe sex, while risky sex is still possible when the client offers significantly higher incentives. Lastly, we investigate the possible outcomes in the situation of "double-sided" asymmetric information in which both the sex worker and client know their situation, but either party does not.

## 5.1 Game structure

Supply condition in the commercial sex market include among other things, price, age, body shape, and the condition of service. As mentioned in the previous chapter, the client based on such information chooses a sex worker from the many different sub-markets to match his preference. In the model we treat, however, the sex worker does not reveal to the client his/her HIV status.

We aim to set up the game structure presenting the decision of both client and sex worker under asymmetric information problem.

According to chapter 4, Thai commercial sex market is quite complicated and can be divided into many sub-markets. It is important to inform that although the market of commercial sex in Thailand is illegal, some sub-markets still operate directly and illegally and some sub-markets are hiding under other types of business as the entertainment and treatment businesses.

The client decides to enter the market, so the game in Figure 5:1 starts when the client moves first. In a client's view, if he is not concerned about HIV/AIDS, he can choose any type of sub-market depending on his sex preferences, but if he is concerned about HIV/AIDS, he has to decide which one is risky or safe. This leads us to the beginning of the game. The objective of our theoretical analysis at the beginning of the game is to design the optimal contracts (or the signaling) which can separate the safe sex worker and the risky sex worker[3]. After finding the signaling, we move on to find all possible outcomes when the client buys this signal and enters the market.

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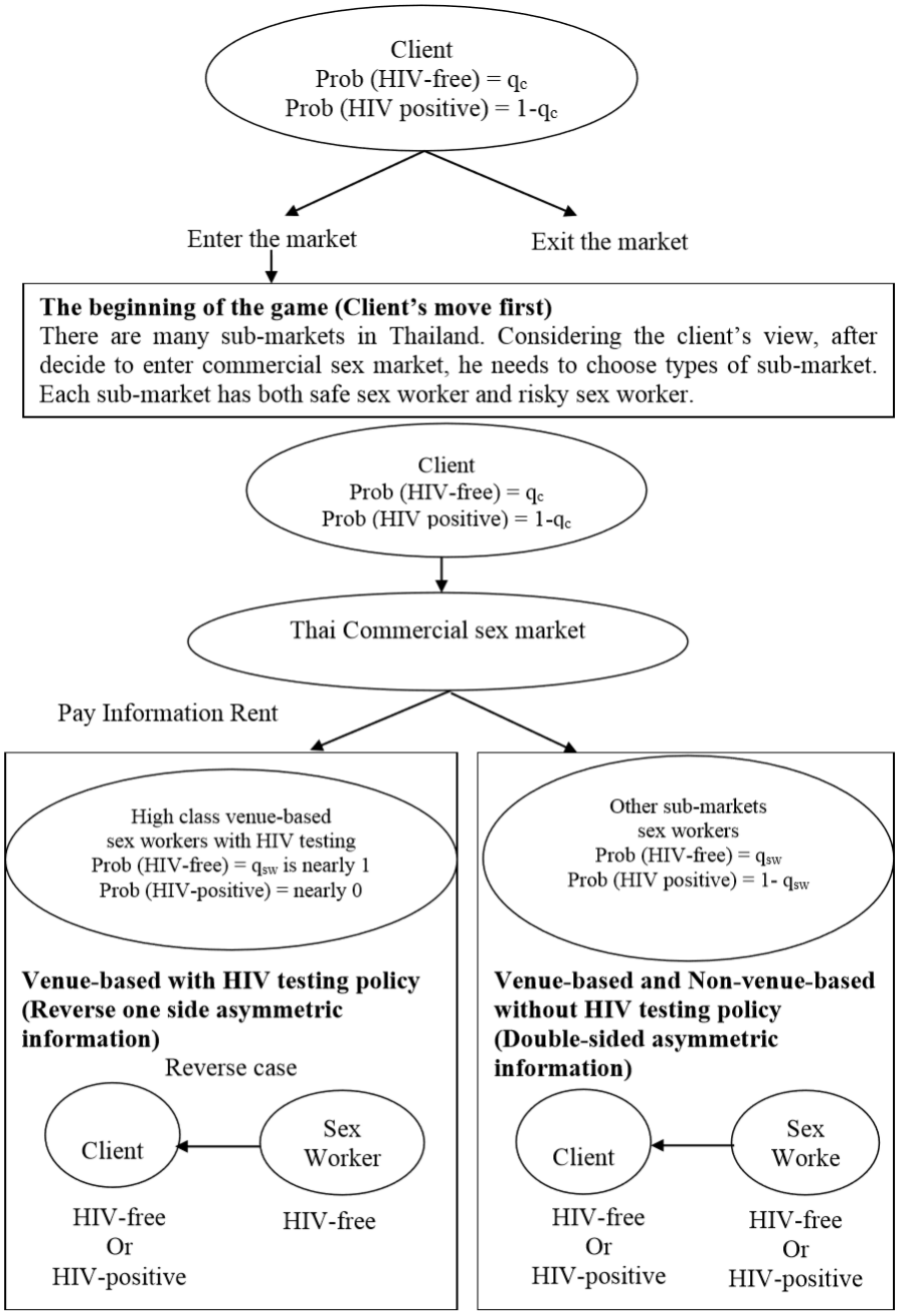
[3] Then we will use the empirical study to find the real signaling in Thai commercial sex market.

Figure 5:1 The consequence in Thai commercial sex market



## 5.2 **The beginning of the game (Client moves first)**

Figure 5:1 shows the sequences in the commercial sex market. We consider either client and sex worker having a possibility to be a HIV-free or HIV-positive. $q_c$ is the probability that client is HIV-free, and $q_{sw}$ is the probability that sex worker is HIV-free (Given $0 \leq q_c \leq 1$, and $0 \leq q_{sw} \leq 1$).

Starting from the client decides whether to enter or exit the commercial sex market. If he decides to not to enter the market, then the game ended at the first step. But if he decides to enter commercial sex market, the next step for him is to contact the sex worker. However, there are many sex workers working in different types of sub-markets in Thailand regarding chapter 4.

Considering the client's view, after deciding to enter the commercial sex market, he needs to choose types of sub-market. Each sub-market has both safe sex worker (HIV-free) and risky sex worker (HIV-positive). This situation leads us to the beginning of the game (Client's move first)". This game starts with a situation in which the client does not know which sub-market is safe or risk.

When the client has incomplete information about the risk of HIV transmission in the market, there could be some signaling in the market to help separate the types of sex worker.

In this case, we assume that a client (principal) decides to enter Thai commercial sex market and wants to establish a sexual relation with a sex worker (agent). There are two types of sex workers in the market which are the HIV-free sex worker and the HIV-positive sex worker.

According to Figure 5:1, the structure of the game is a one-shot game so the utility functions of client and sex worker in our theoretical model are the short run utility function or daily utility function. For the client we assume that the client basically buy commercial sex only 1 time per day. On the other hand, the sex worker can provide more than 1 time commercial sex per day.

Now, let's begin with the client who has demand for commercial sex, the utility function of client in commercial sex market is developed from microeconomics theoretical framework of Macho-Stadler and Pérez-Castrillo (2001), Edlund and Korn (2002), P. Gertler et al. (2005), Della Giusta, Di Tommaso, and Strom (2003), and Sterck (2012).

We assume there are N clients which have different taste parameter ($\phi$). Taste parameter of clients ($\phi$) is assumed to be a random variable with continuous distribution from 0 to 1. The client whose ($\phi$) is closer to 1 has high concerns about commercial sex while those whose ($\phi$) equals to zero does not have any demand for commercial sex. In addition, we assume that the risk averse client prefers sex with condom to sex without condom ($0 < \phi^{NCD} < \phi^{CD} \leq 1$), while the risk lover client prefers sex without condom to sex with condom ($0 < \phi^{CD} < \phi^{NCD} \leq 1$).

Given $\pi(s,c)$ is the client utility function. $s$ is utility receiving from commercial sex and $c$ is exogenous consumption.

We assume that $s$ is the numeraire and can be measured by $s = \phi\gamma V$. Utility receiving from commercial sex is proportionate with his taste ($\phi$) and quality of commercial sex service ($\gamma$), where V is a constant and assumed to be client's maximum willingness to pay. Quality of commercial sex ($\gamma$) is commercial sex with or without HIV; $\gamma$ is discrete taking value between 0 and 1. For the client who is HIV-free, when he engages in commercial sex with infected sex worker then $\gamma = 0$; on the other hand, $\gamma = 1$ when a commercial sex is HIV-free. For the client who is already HIV-positive, sex worker's HIV status does not affect his utility, so $\gamma = 1$. Therefore, the maximum utility of client is when $\phi = 1$, and $\gamma = 1$.

$c$ is exogenous consumption good which also serves as the numeraire. Basically, we assume exogenous consumption equal to clients income ($I$) subtract the price ($P$) and tip ($t$) that a client pays for commercial sex; $c = I - P - t$.

Therefore, Client's Utility function: $\pi(s,c) = \pi(\phi\gamma V, I - P - t)$

$$\pi(s(\phi,\gamma), c(I,P,t))$$

To conclude, the client can be divided into 4 types which are:

- HIV-free risk averse client:

$$\pi(s(\phi,\gamma), c(I,P,t)),$$

$$0 < \phi^{NCD} < \phi^{CD} \leq 1,$$

$$\gamma = \begin{cases} 1, & when\ sex\ worker\ is\ HIV-free \\ 0, & when\ sex\ worker\ is\ HIV-positive \end{cases}$$

- HIV-free risk lover client:

$$\pi(s(\phi,\gamma),c(I,P.t)),$$

$$0<\phi^{CD}<\phi^{NCD}\leq 1,$$

$$\gamma=\begin{cases}1, & when\ sex\ worker\ is\ HIV-free\\ 0, & when\ sex\ worker\ is\ HIV-positive\end{cases}$$

- HIV-positive risk averse client:

$$\pi(s(\phi,\gamma),c(I,P,t)),$$

$$0<\phi^{NCD}<\phi^{CD}\leq 1,$$

$$\gamma=1$$

- HIV-positive risk lover client:

$$\pi(s(\phi,\gamma),c(I,P,t)),$$

$$0<\phi^{CD}<\phi^{NCD}\leq 1,$$

$$\gamma=1$$

For the sex worker, the utility function of sex worker is developed from microeconomics theoretical framework of Macho-Stadler and Pérez-Castrillo (2001), Edlund and Korn (2002), and Andersen and Bech (2011).

Given that the sex worker receives utility from the money receive from her client ($w$) and tip received for the current service ($t$). If the sex worker is a freelance, all price paid by client belongs to her ($P=w$). If the sex worker is a venue-based sex worker, she does not receive all the price ($P>w$) because some of them must be given to the owner. However, to make the analysis simple, we assume $P=w$.

Sex worker does not gain benefit from commercial sex but she will lose her utility when she works or put the effort to service one client ($e_i^j$). The subscript i is the number of client per one day and the superscript j is types of commercial sex providing to each different client which can be condom ($e_i^{CD}$) or no condom ($e_i^{NCD}$). This assumption follows by Edlund and Korn (2002), and Andersen and Bech (2011) who indicated that sex workers do not receive utility from commercial sex but receive utility only from wage.

Basically, a sex worker can provide more than 1 time commercial sex per day, and we assume clients are not homogeneous so each client causes her with different disutility ($e_1 \neq e_2$). We also assume that whether sex worker is a risk averse or a risk lover, she prefers sex with condom to sex without condom because condom can prevent HIV/STDs and also pregnancy. However, a risk lover sex worker will prefer sex without condom to sex with condom only when she is offered a higher incentive or tip ($t'$) for sex without condom by a client.

In our model, $U(w,t,e)$ represents the utility function of sex worker receive from 1 time of providing service.

Sex worker's Utility function: $U(w,t,e) = u(w,t) - v(e)$ ; per 1 client

Similarly, the sex worker can be divided into 4 types which are:

- HIV-free risk averse sex worker:

$$U(w,t,e) = u(w,t) - v(e),$$

$$\frac{\partial U(w,t,e)}{\partial w} > 0, \frac{\partial U(w,t,e)}{\partial t} > 0,$$

$$\frac{\partial U(w,t,e)}{\partial e} < 0,$$

$$v(e) = \begin{cases} v(e); \ when\ provides\ sex\ with\ condom \\ v(e,h); \ when\ provides\ sex\ without\ condom \\ v(e^{NCD},h) > v(e^{CD}) \end{cases}$$

Where h is the expected loss from of HIV infection, this $h$ will appear in sex worker disutility function only when there is a risk for HIV infection.

- HIV-free risk lover sex worker:

$$U(w,t,e) = u(w,t) - v(e),$$

$$\frac{\partial U(w,t,e)}{\partial w} > 0, \frac{\partial U(w,t,e)}{\partial t} > 0,$$

$$\frac{\partial U(w,t,e)}{\partial e} < 0,$$

$$v(e) = \begin{cases} v(e); \ when\ provides\ sex\ with\ condom \\ v(e,h); \ when\ provides\ sex\ without\ condom \\ v(e^{CD}) > v(e^{NCD},h); when\ t' > t \end{cases}$$

Where $t'$ is a higher tip rate offered by a client.

- HIV-positive risk averse sex worker:

$$U(w,t,e) = u(w,t) - v(e),$$

$$\frac{\partial U(w,t,e)}{\partial w} > 0,\ \frac{\partial U(w,t,e)}{\partial e} < 0,$$

$$v(e) = \begin{cases} v(e); & for\ both\ condom\ and\ without\ condom \\ v(e^{NCD}) > v(e^{CD}) \end{cases}$$

- HIV-positive risk lover sex worker:

$$U(w,t,e) = u(w,t) - v(e),$$

$$\frac{\partial U(w,t,e)}{\partial w} > 0,\ \frac{\partial U(w,t,e)}{\partial e} < 0,$$

$$v(e) = \begin{cases} v(e); & for\ both\ condom\ and\ without\ condom \\ v(e^{CD}) > v(e^{NCD}); when\ t' > t \end{cases}$$

We will consider the case of perfect information first. If there is no asymmetric information, the market can be separated into 2 types which are HIV-free sex worker market and HIV-positive sex worker market. A client chooses types of market and then contracts the sex worker whom matched to his sex preference.

Considering client's utility function: $\pi(s(\phi,\gamma), c(I,P,t))$

HIV-free client: $\gamma = \begin{cases} 1, & when\ sex\ worker\ is\ HIV-free \\ 0, & when\ sex\ worker\ is\ HIV-positive \end{cases}$

HIV-positive client: $\gamma = 1$

Given: $P = w$

$N = Number\ of\ client$

$N = n_1 + n_2$

$n_1 = Number\ of\ HIV-free\ client$

$n_2 = Number\ of\ HIV-positive\ client$

$M = Number\ of\ sex\ worker$

$M = m_1 + m_2$ (Assume $m_1 = m_2$)

$m_1 = Number\ of\ HIV-free\ sex\ worker$

$m_2 = Number\ of\ HIV-positive\ sex\ worker$

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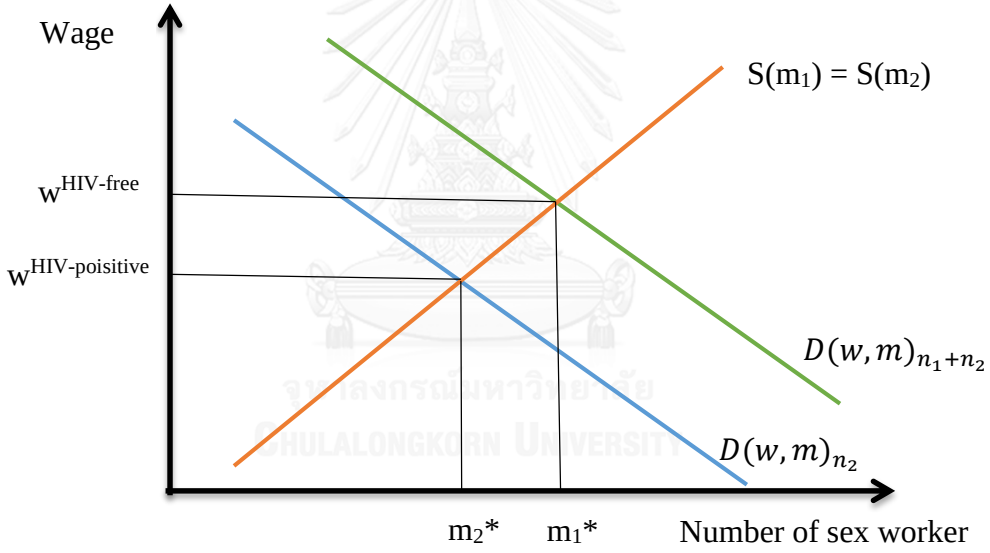
Therefore, the supply of HIV free commercial sex is $S(w, m_1)$, the supply of HIV positive commercial sex is $S(w, m_2)$, while the demand for commercial sex is a function of wage paid to sex worker and number of sex worker ($D(w, m)$).

If a client can separate between two types sex worker, HIV-free sex workers ($m_1$) are demanded by both types of clients ($n_1$ and $n_2$).

While, HIV-positive sex workers ($m_2$) are demanded only by HIV-positive clients ($n_2$). In this case, the market will have two separating equilibriums which are the equilibriums in HIV-free sex worker market and HIV-positive sex worker market. The high demand in HIV-free sex worker market causes the price higher than the HIV-positive sex worker market ( $w^{HIV-free} > w^{HIV-positive}$ ).

Figure 5:2 Demand and supply in commercial sex market (perfect information)




However, there is normally an asymmetric information problem in the market for commercial sex. In this case, the client cannot distinguish between HIV-free and HIV-positive sex worker. When the client has incomplete information about sex workers there is only one pooling equilibrium with the single wage for all types of sex worker. Basically, this wage is an expected wage.

$$E(w) = [(prob(HIVfree))w^{HIV-free}] + [1 - prob(HIVfree)w^{HIV-positive}]$$

$$E(w) = [q_{SW}w^{HIV-free}] + [(1 - q_{sw})w^{HIV-positive}]$$

If $E(w)$ is offered to every sex workers in the market, it would lead to the market failure in the commercial sex market as Akerlof (1970) because there is no incentive for HIV-free sex worker to work with low wage. Therefore, the signaling of safe commercial sex must be designed in order to separate HIV-free sex worker from HIV-positive sex worker and continually remain the existence of the market.

Figure 5:3 Demand and supply in commercial sex market (asymmetric information)

When the client cannot distinguish between HIV-free sex worker and HIV-positive sex worker, the client could pay a signaling cost or an information rent in order to separate the safe from risky sex worker. This signaling cost raises the price of HIV-free sex worker higher than HIV-positive sex worker which leads the market to have separating equilibriums.

However, the mechanism to design the signaling for safe commercial sex is quite difficult and relies on 3 conditions;

- Firstly the efficiency condition, the signaling must be powerful enough to generate two separating equilibriums in the market. In other words, it must have some conditions supporting the client to have a HIV-free sex worker when he pays higher price at $w^{HIV-free}$ rather than the HIV-positive sex worker.
- Secondly the incentive condition, the condition in HIV-free market is only designed for the HIV-free sex worker and she significantly has a

greater utility when choosing contract designed for her than the contract designed for the HIV-positive sex worker. This condition implies that $w^{HIV-free}$ should be significantly higher than $w^{HIV-positive}$.

- Thirdly the barrier to entry condition, since the higher wage in the HIV-free market is more attractive to the HIV-positive sex worker, there must be a condition that strongly prevent HIV-positive sex worker entering the HIV-free market.

The optimal conditions in theoretical model show that under asymmetric information when the client cannot distinguish between HIV-free sex worker and HIV-positive sex worker in many different types of sub-market, the client has to pay a signaling cost or an informational rent as a compensation for the safe sex worker.

The theoretical model in this part suggests us that the safe commercial sex comes with the high price. And in order to have a separating equilibrium rather than pooling equilibrium, the sex worker or the supply side need to signal the sign of safe sex.

At this point many interesting questions begin to emerge: What would be the appropriate signal? What types and how is signaling perceived by the client? Does the signal contain all three conditions? How do both parties react/behave consequently? Therefore, our next step is to empirically investigate the signaling in this market.

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## 5.3 **Signaling in Thai commercial sex market**

The theoretical model suggests that safe commercial sex comes with a higher price, we therefore begin our investigation with the price in each sub-market (see Table 5:1).

From Table 5.1, we found that the high class massage parlors, some of normal class massage parlors, some of traditional massages, saunas, spas and some of food, drink, and entertaining businesses where the average price per one time of service is around or more than 2,000-3,000 Baht can be categorized as the high price market. The fronting business of these markets are legal and taxed by the Thai Excise Department with 10% per income tax rate.

Table 5:1 Price range in Thai commercial sex sub-markets

| **Sub-market** | **Price Range per 1 time service (32 Baht ≈ 1 U.S. dollar)** |
|---|---|
| Brothel | 50 – 1,200 Baht (1.5 - 37.5 $) |
| Hotel, Bungalow, and Guest house | 500 – 1,000 Baht (15.5 - 31.25 $) |
| Street and Park | 150 – 1,500 Baht (4.5 - 47 $ ) |
| Escort service by telephone (Ex. Call-girl) | N/A |
| Internet and online market | 166 – 5,000 Baht (5 - 156.25 $) |
| High class massage parlor*** | 1257 – 7,200 Baht (40 - 225 $)*** |
| Normal class massage parlor** | 900 – 3,200 Baht (28 - 100 $)** |
| Traditional massage and spa, and Sauna* | 999 – 2,100 (31 - 65.5 $)* |
| Salon and Barbershop | N/A |
| A Go-Go bar**,<br>Night club, Pub, Discotheque, etc. | 100-5,000 Baht (3 - 156.25 $)** |

Interestingly, we found that the high price in these markets depends on many factors as luxury of the place, promotion on membership programs, quality of service, beauty of worker, food and drink, cleanliness, and importantly the safety of sex worker. According to our primary survey and the interview with NGOs, we found that in many of the high class markets such as massage parlor and A Go-Go bar, there are a HIV testing policy for their sex worker to test for HIV/AIDS every 3 months or every month (efficiency condition and incentive condition). The sex workers need to bring their testing result to exchange for the salary in every agreed period. If the sex worker is found as HIV-positive, she will be asked to leave and will not be hired by the owner (barrier to entry condition).

To conclude, sex workers working the sex work establishments which have HIV testing policy will have high probability to be safe (HIV-free, $q_{sw}$ is nearly to 1) because they are required to test for HIV/AIDS every six months, three months or every month.

Therefore, HIV testing policy can be considered as the signaling for the safe sex. This signaling is found only in the commercial sex market accompanying treatment, foods, drinks, and entertainment business especially the high class massage parlor, and A Go-Go Bar.

The high price is the signaling cost or the information rent for searching safe sex worker. This is another factor indicating why under asymmetric information sex worker working in high class market provides the same commercial sex as other sex workers but receiving the higher price than the others ( $w^{HIV-free} > w^{HIV-positive}$ ). From Figure 5.1, the decision to enter sub-market depended on client's sex preference and

HIV awareness. In the case that the client mainly concerns on HIV, he will pay the information rent and choose to enter the high class market (Entering venue-based market with HIV testing policy: Reverse one side asymmetric information). On the other hand, if the client who does not pay for an information rent or has sex preference for other sub-markets will enter other sub-market or go back to the general case (Entering venue-based and non-venue-based market without HIV testing policy: Double-sided asymmetric information).

To summarize, the main findings from both theoretical and empirical studies at the beginning of the game provides us some characteristics of Thai commercial sex market as:

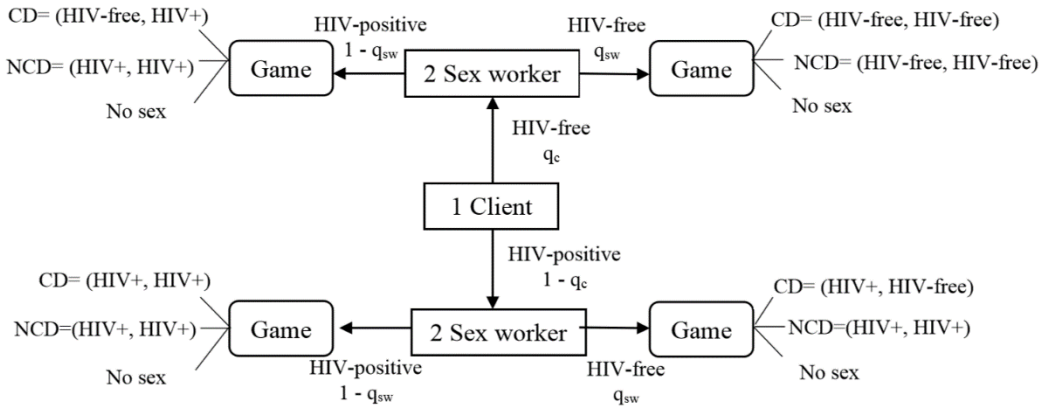
- Commercial sex can be considered as a normal good.
- The result in commercial sex is similar to the result in the basic labor market, if the principal (client) demands a good agent (safe sex worker), the principal needs to pay a high price (Signaling cost, Information rent).
- The signal that causes the separating equilibrium in Thai commercial market is the HIV testing policy which is usually in the high price or high class market for example massage parlor and A Go-Go Bar.

## 5.4 **Matching game in the commercial sex market**

Considering health information in commercial sex market, on the demand side we have HIV-free and HIV-positive clients, while the supply side we have HIV-free and HIV-positive sex workers.

Figure 5:4 presents the matching game between a client and a sex worker. There are four possibilities in this matching game which depend on the probability that a client is HIV-free ($q_c$), a client is HIV-positive ($1 - q_c$), a sex worker is HIV-free ($q_{sw}$), and also a sex worker is HIV-positive ($1 - q_{sw}$).

Figure 5:4 Matching game in commercial sex market




After a client and a sex worker are matched, they have to make a decision in the one-shot game. This one-shot game can have many steps, sequences, and strategies, but the game should end at one equilibrium or should be a non-repeated game. The game structures are vary and different depended on consequences in different situation (with or without HIV testing) of the market. Whether the structure of each game is complicated or simple, there will be only three final outcomes which are sex with a condom (CD), sex without condom (NCD), and no sex. Combination of these three outcomes and four possibilities of matching ($q_c$ and $q_{sw}$), will affect both client and sex worker health in the end.

These probabilities especially the client ($q_c$) cannot be calculated because health information is individual secret (asymmetric information). However, these probabilities can be assumed to be high (near 1) or low (near 0). If a strong signaling is found, it could help us to theoretically assume that $q_{sw}$ is high. Therefore, in the case with HIV-testing policy we assume that sex workers have high probability to be HIV-free ($q_{sw}$ is near 1), while in the case without HIV-testing policy the probability of sex worker to be HIV-free is unknown.

According to Figure 5:4, we can conclude that condom has no effect if the health status of both are matched, while it plays an important role in HIV transmission when health status of a sex worker and client are different.

Next, we construct the one-shot game which is a situation occurring after the matching. In our thesis, we separate the consequences in the Thai commercial sex market into two scenarios based on asymmetric information, one with a signaling for

safe sex (HIV testing policy) and another without signaling for safe sex (without HIV testing policy). One objective of our game theoretical model is to simplify the reality in Thai commercial sex market.

### 5.5 **Venue-based market with HIV testing policy: Reverse one side asymmetric information**

This case exists only in the venue-based sex worker (VSW) market that have HIV testing policy such as massage parlor and A Go-Go bar. At present, the HIV testing policy exists only in the female sex worker (FSW) market. Therefore, this game is the decision making between a client seeking female sex worker (CFSW) and a venue-based female sex worker (VFSW).

For the client who pays a signaling cost or who has sex preference for high class market will enter the situation of "Reverse one side asymmetric information" because this time sex workers have high probability to be safe but the clients can be HIV-free or HIV-positive.

The game structure is represented in a sequential game (Figure 5:5) which both client and sex worker have to make a decision on condom use under reverse one side asymmetric information. Before an equilibrium analysis, we need additional assumptions.

Assumption 1: Both client and sex worker are assumed to know his/her own health status but do not know the health status of the other. $q_c$ is the probability that client is HIV-free, and $q_{sw}$ is the probability that sex worker is HIV-free. In this case, a sex worker does not know HIV status of each client so $q_c$ is unknown but $0 \leq q_c \leq 1$. On the other hand, due to the HIV testing policy in high class venue-based market, sex worker is assumed to have high probability to be HIV-free, or $q_{sw}$ nears 1. Therefore, in Figure 5:4 the probability that the final outcome will exist at the left hand side is lower than the right hand side.

Assumption 2: Although $q_{sw}$ nears 1, there is still probability that a HIV-positive sex worker still works in a sex work establishment before found by an owner because of three months testing time-lag. Therefore, this type of sex worker will not have disutility of becoming HIV and tend to accept more money for any cases before she will be fired by her owner.

Assumption 3: We remove ethic out of the analysis, we assume that individuals will focus on maximizing her/his own utility without concerning the other. If we consider the assumption of ethic in the model, it will increase the probability of safe commercial sex because people concerning about ethic will care the other and tend to use the condom.

Assumption 4: In order not to complicate the model, we assume that to threaten or use of physical violence for sex without condom is not a first choice for a client. If the client wants unprotected sex with the sex worker, he will choose to offer higher incentive (tip) instead.

Assumption 5: The client and sex worker are assumed not to know each other. If they have a close relationship, they would trust each other and may have sex without condom. This would violate our first assumption.

After choosing VFSW, the CFSW has to pay money to the sex work establishment owner. The total price ($P$) he needs to pay includes the room rate, food and drink (directly to the owner), and service price (part of them ($w$) will be given to sex worker by the owner). In addition, he needs to give a tip ($t$) directly to the sex worker.

The utility function of the CFSW in this case is represented in a function 5.1.

$$\pi(s(\phi^j,\gamma),c(I,P,t)) \qquad (5.1)$$

When j = CD (Using condom), or j = NCD (Not using condom)

For the VFSW, she is assumed to have high probability to be HIV-free and offers commercial sex together with other services depending on the types of sex work establishment at a high price, while she does not know whether her client is a safe client or a risky client. The utility of a sex worker is shown in equation 5.2.

$$U^{SW}(w,t,e_i^j) = u(w,t) - v(e_i^j) \qquad (5.2)$$

When i = Number of client she already had in this day, and j = Types of commercial sex that she provides for each client.

It is important to note that the VFSW under HIV testing policy has two sources of income which are salary and tip. For our short run utility function, she receives utility from the ($w$) which now is her by day salary given from the owner of sex work establishment (can be calculated by dividing her monthly salary by 30) and she also

receives utility from tip ( $t$ ) receiving directly from the client. She does not benefit from commercial sex ( $e$ ) but rather loses her utility when she works and provide commercial sex. So $v(e_i^j)$ is the disutility of the sex worker. Moreover, the HIV-free sex worker will lose her utility from sex without condom than sex with condom because sex without condom increases the expected loss from of HIV infection ( $h$ ), and the expected loss from losing a job ( $l$ ). However, if she is already HIV-positive, there is no $l$ and $h$ in her disutility function.

Equation 5.3 and 5.4 represent indirect utility functions of sex worker when providing a safe sex and risky sex, respectively.

$$U^{SW}(w,t,e_i^{CD}) = u(w,t) - v(e_i^{CD}) \qquad (5.3)$$

$$U^{SW}(w,t,e_i^{NCD}) = u(w,t) - v(e_i^{NCD},h,l)) \qquad (5.4)$$

When, $v(e_i^{NCD},h,l)) > v(e_i^{CD})$

In Figure 5:2, the game begins when the CFSW enters the high class market and choose the VFSW. This game is a sequential game with 2 players (CFSW and VFSW). Both have to make a decision whether to have safe or risky sex under the asymmetric information.

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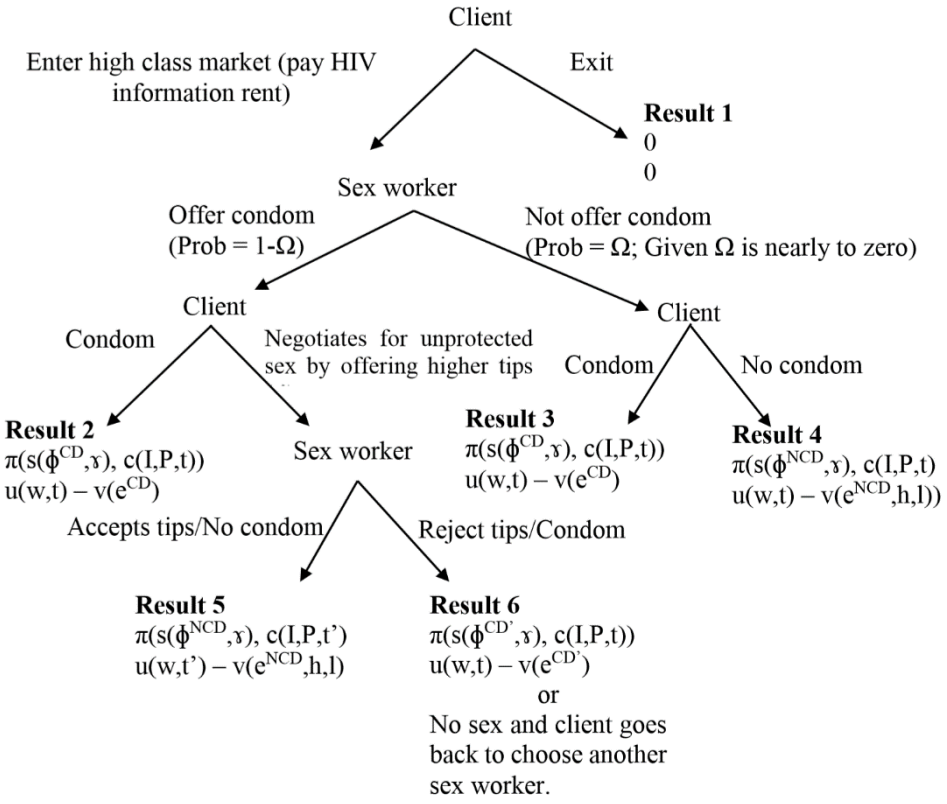
Figure 5:5 Sequential game in venue-base market with HIV testing policy




From our interview, we found that in the high market where high price also indicated luxury, cleanness, and safety, there is a service policy for sex workers to offer the condom to the client first. Moreover, in order to make sure that the place is safe, some places also hang the certificates on the wall. These certificates are received from the NGOs when the sex work establishment owners send their workers to have HIV knowledge training with the NGOs.

Therefore, after the client chooses the sex worker, the sex worker will offer condom to the client as her first move. If the client agrees, she will put the condom to the client, or the client can use condom brought by himself. In this case, the outcome will appear in **Result 2.**

Although there is a very low probability (Ω is nearly to zero) that the sex worker will not offer safe sex, the client still may or may not use a condom. **Result 3** is the outcome when the client responds with a condom, while **Result 4** is the outcome for no condom. However, we believe that Result 3 and 4 are the case that rarely to happen in the venue-based market.

On the other hand, we will consider another possibility when the sex worker offers the condom use, but the client rejects the condom and request for unprotected sex. This situation does not occur frequently because the sex worker tends to reject the risky sex due to the service policy, the expected loss from of HIV infection (h), and the expected loss from losing a job (l).

There are two options for client not to use the condom with the sex worker; the first option is to threaten or force sex worker not to use condom, and the second option is to negotiate by offering higher tip. We found that the first option could happen in other commercial sex sub-markets as the brothel where sex worker has no right to refuse the client, but is rare to happen in the high class market such as massage parlors and A Go-Go bar where are well organized with high security. Therefore, the better way for the client to negotiate for sex without condom is to offer higher tip (t'). **Result 5** ($\pi(e^{NCD}, c(I,P,t')), u(w,t') - v(e^{NCD},h,l)$) is the payoffs if the sex worker accepts a higher tip and provides sex without condom, while **Result 6** ($\pi(e^{CD'}, c(I,P,t)), u(w,t) - v(e^{CD'})$) is the payoffs if she does not accept risky sex and finally has safe sex with normal rate tip, or in case that the client still wants to have sex without condom, there will be no sex with her and the client goes back to choose another new sex worker.

**Result 5** will be possible in the case that the amount of money (t') offered to her is significantly high enough to compensate her disutility of becoming HIV infected (h) and losing her job (l), as shown in Equation 5.5, or another case is when a client meets a HIV-positive sex worker.

Given

$$t' > t$$

$$U^{SW}(w,t',e_i^{NCD}) > U^{SW}(w,t,e_i^{CD})$$

$$u(w,t') - v(e_i^{NCD},h,l) > u(w,t) - v(e_i^{CD})$$

$$u(w,t') - u(w,t) > v(e^{NCD},h,l)) - v(e^{CD}) \quad (5.5)$$

Considering the disutility function of becoming HIV, is depending on many socio-economic factors such as sex preference, knowledge of HIV, education, the expected probability of client being HIV, etc.

## 5.6 An Equilibrium analysis in venue-based market with HIV testing policy

Figure 5:2 shows all possible outcomes, now in this part we will use the backward induction to solve for equilibriums. In the market with HIV-testing policy, sex workers (VFSW) are assumed to be highly HIV-free type due to the HIV testing policy, while the HIV-status of each client (CFSW) is unknown. We begin with the case when both client and sex worker are risk averse.

**Case 1**: Both client and sex worker are risk averse.

Considering the backward induction, we begin with the sex worker's decision between accept or reject sex without condom by comparing the payoffs receiving from Result 5 (higher tip with no condom) and Result 6 (normal tip with condom).

If the sex worker is a risk averse type; $u(w,t') - u(w,t) < v(e_i^{NCD},h,l) - v(e_i^{CD})$

So Result 6 dominates Result 5; $u(w,t') - v(e_i^{NCD},h,l) < u(w,t) - v(e_i^{CD})$

On the other hand,

If the sex worker is a risk lover type; $u(w,t') - u(w,t) > v(e_i^{NCD},h,l) - v(e_i^{CD})$

So Result 5 dominates Result 6; $u(w,t') - v(e_i^{NCD},h,l) > u(w,t) - v(e_i^{CD})$

Or, the rare case when

The sex worker is HIV-positive; $u(w,t') - u(w,t) > v(e_i^{NCD}) - v(e_i^{CD})$

So Result 5 dominates Result 6; $u(w,t') - v(e_i^{NCD}) > u(w,t) - v(e_i^{CD})$

According to the high class market service policy, disutility function of becoming HIV, and losing a job ($v(e^{NCD},h,l)$), the risk averse sex worker tends to reject the unprotected sex unless the tip offered by the client is very significantly high. On the other hand the risk lover will accept the tip and provide sex without condom.

At this point, it is very interesting to find the tip rate that causes the sex worker to accept the sex without condom and we will test this in "chapter 6 the empirical study".

Let's back to our equilibrium analysis, after we got Result 6, now is a client's turn. A client will compare his payoffs from Result 6 with Result 2, 3, and 4. It is

indifferent between Result 2 and Result 3 for a risk averse client. Moreover, both Result 2 and 3 is preferred to Result 6 and Result 4, respectively.

Result 2&3 > Result 4 > Result 5

$$\pi(s(\phi^{CD},\gamma),c(I,P,t)) > \pi(s(\phi^{NCD},\gamma),c(I,P,t)) > \pi(s(\phi^{NCD},\gamma),c(I,P,t'))$$

A sex worker is also indifferent between Result 2 and Result 3. However, as mention above, according to the service policy, disutility function of becoming HIV, and disutility losing a job ($v(e^{NCD},h,l)$), there is no incentive for the sex worker to not offer condom at the first stage (no incentive to go to the right hand size of the game with probability ($\Omega$) is nearly to zero). Hence, we can eliminate Result 3, and 4 out of the equilibrium analysis. The theoretical equilibrium in this case is Result 2.

To conclude, in case that both client and sex worker are risk averse, an equilibrium should be sex with condom without negotiation (Result 2) for all risk averse HIV-free client, HIV-positive client, HIV-free sex worker, and HIV-positive sex worker.

**Case 2**: Both client and sex worker are risk lover.

Again begin with a sex worker's decision between accept or reject sex without a condom by comparing the payoffs receiving from Result 5 (higher tip with no condom) and Result 6 (normal tip with condom). In this case, we assume that the tip offered by a client is significantly high which makes a HIV-free risk lover sex worker tend to accept the tip and provide sex without condom unless the equilibrium will be the same as Case 4. In addition, a HIV-positive risk lover would have higher probability to accept a tip for sex without condom than a HIV-free risk lover sex worker.

If sex worker is a risk lover (HIV-free); $u(w,t') - u(w,t) > v(e_i^{NCD},h,l) - v(e_i^{CD})$

If sex worker is a risk lover (HIV-positive); $u(w,t') - u(w,t) > v(e_i^{NCD}) - v(e_i^{CD})$

When; $v(e_i^{NCD},h,l) > v(e_i^{NCD})$

So Result 5 dominates Result 6; $u(w,t') - v(e_i^{NCD},h,l) > u(w,t) - v(e_i^{CD})$

After we got Result 5, now is a client's turn. A client will compare his payoffs from Result 5 with Result 2, and compare his payoffs from Result 3 with Result 4. He

will choose Result 5 rather than Result 2 (for the left hand side) and choose Result 4 rather than Result 3 (for the right hand side).

If a client is a risk lover type; $\pi(s(\phi^{NCD},\gamma),c(I,P,t)) > \pi(s(\phi^{CD},\gamma),c(I,P,t))$

Since; $\phi^{NCD} > \phi^{CD}$

Finally, sex worker compares her payoffs between Result 5 and Result 4. She will definitely choose Result 5 because she receives a higher tip from Result 5.

$$u(w,t') - v(e_i^{NCD},h,l) > u(w,t) - v(e_i^{NCD},h,l)$$

Which means she will offer the condom at the first stage and wait for the risk lover client offers sex without condom in order to receive a higher tip. Hence, the theoretical equilibrium in this case is Result 5.

**Case 3**: A client is a risk averse and a sex worker is a risk lover.

Comparing the payoffs risk lover sex worker receiving from Result 5 (higher tip with no condom) and Result 6 (normal tip with condom), she will accept the tip and provide sex without condom.

The sex worker is a risk love type; $v(e_i^{NCD},h,l) - v(e_i^{CD}) < u(w,t') - u(w,t)$

So Result 5 dominates Result 6; $u(w,t') - v(e_i^{NCD},h,l) > u(w,t) - v(e_i^{CD})$

After we got Result 5, now is a client's turn. A client will compare his payoffs from Result 5 with Result 2, 3, and 4. However, the client is a risk averse type so he will not interest in offering a tip for sex without condom. He is indifferent between Result 2 and Result 3, and both Result 2 and 3 is preferred to Result 6 and Result 4, respectively.

Result 2&3 > Result 6 > Result 4

$$\pi(s(\phi^{CD},\gamma),c(I,P,t)) > \pi(s(\phi^{CD'},\gamma),c(I,P,t)) > \pi(s(\phi^{NCD},\gamma),c(I,P,t))$$

A sex worker is also indifferent between Result 2 and Result 3. However, as mention above, according to the service policy, disutility function of becoming HIV, and disutility losing a job ($v(e^{NCD},h,l)$), there is no incentive for the sex worker to not offer condom at the first stage even she is a risk lover type. Hence, the theoretical equilibrium in this case is Result 2 for all HIV-free client, HIV-positive client, HIV-free sex worker, and HIV-positive sex worker.

**Case 4**: A client is risk lover and a sex worker is risk averse.

Begin with the sex worker's decision between accept or reject sex without a condom by comparing the payoffs receiving from Result 5 (higher tip with no condom) and Result 6 (normal tip with condom). In this case the risk averse sex worker will reject the tip and provide sex with condom.

If the sex worker is a risk averse type; $v(e_i^{NCD}, h, l) - v(e_i^{CD}) > u(w, t') - u(w, t)$

So Result 6 dominates Result 5; $u(w, t') - v(e_i^{NCD}, h, l) < u(w, t) - v(e_i^{CD})$

After we got Result 6, now is a client's turn. A client will compare his payoffs from Result 6 with Result 2, and compare his payoffs from Result 3 with Result 4. This time, he is indifferent between Result 6 and Result 2 (for the left hand side) and he chooses Result 4 rather than Result 3($\phi^{NCD} > \phi^{CD}$).

Finally, sex worker compares her payoffs between Result 2, Result 6, and Result 4. At this stage, we know that she is indifferent between Result 2 and Result 6 but both dominate Result 3. Result 2 and Result 6 are the same because both end up with a condom. The theoretical equilibrium would be Result 2 or Result 6 depending on the client whether to offer or not offer a tip. This equilibrium is a situation when a risk lover client agrees to use condom.

However, there are other two possibilities; first is Result 5 when the amount of tip (t') offered to her is significantly high enough to compensate her disutility of becoming HIV infected (h) and losing her job (l) or she is already HIV-positive. Second is "no sex" when a client insists to have sex without a condom, but a sex worker does not want to provide sex without condom. In some well-organized massage parlors and A go-go bar, an owner allows a sex worker to refuse a client if a client does not want to use a condom, or when a negotiation is failed. Therefore, this case ends up with no sex and a client goes back to choose another sex worker.

Table 5:2 Theoretical equilibriums in venue-based market with HIV testing policy

| **Cases** | **Equilibriums** |
|---|---|
| Risk averse client and risk averse sex worker | **Result 2** ($\pi(s(\phi^{CD},\gamma), c(I,P,t)), u(w,t) - v(e^{CD})$) |
| Risk lover client and risk lover sex worker | **Result 5** ($\pi(s(\phi^{NCD},\gamma), c(I,P,t'), u(w,t') - v(e^{NCD},h,l)$) |
| Risk averse client and risk lover sex worker | **Result 2** ($\pi(s(\phi^{CD},\gamma), c(I,P,t)), u(w,t) - v(e^{CD})$) |
| Risk lover client and risk averse sex worker | **Result 2 or 6** ($\pi(s(\phi^{CD},\gamma), c(I,P,t)), u(w,t) - v(e^{CD})$) or **Result 5** (If the tip is significantly high) ($\pi(s(\phi^{NCD},\gamma), c(I,P,t'), u(w,t') - v(e^{NCD},h,l)$) or No sex and client goes back to choose another sex worker. |

## 5.7 Venue-based and Non-venue-based without HIV testing policy: Double-sides asymmetric information

Last, we will estimate all possible outcomes in case of no HIV testing policy which is the double-sides asymmetric information. This situation is considered as the general case in the market for commercial sex where both client and sex worker do not have each other health information as brothel, street, online market, etc. Therefore, this situation can be any types of client (CFSW and CMTSW) and also any types of sex workers (VFSW, NVFSW, VMTSW, and NVMTSW).

According to Figure 5:1, the client who does not pay the information rent as well as has sex preference for other sub-markets, will enter the commercial sex market without HIV testing policy. The utility function of sex workers in this case presented in an equation 5.21 is quite similar to case of HIV testing policy. The difference is there is no disutility of losing a job because there is no HIV testing policy.

$$U^{SW}(w,t,e_i^j) = u(w,t) - v(e_i^j) \qquad (5.21)$$

While, the utility function of the client is still the same

$$\pi((s(\phi^j,\gamma), c(I,P,t)) \qquad (5.22)$$

When $q_c$ is the probability that client is HIV-free.

$q_{sw}$ is the probability that sex worker is HIV-free.

Before an equilibrium analysis, we need to add two more assumptions for this case.

Assumption 6: Random matching, there is no signaling for safe sex in the case of double-side asymmetric information, so regarding Figure 5:4, four possible types of matching are random to occur. $q_c$ and $q_{sw}$ are unknown but both values are between 0 and 1.

Assumption 7: Simultaneous move, because when there is no condom policy, the decision to play safe (use condom) or risky (not use condom) depends on the utility and the preference of the players (risk averse or risk lover). Both client and sex worker has an equal chance to offer types of commercial sex. If their preferences are matched, both will agree and an equilibrium will occur. On the other hand, if their sex preferences are not matched, they will move to the next stage which is the negotiation stage. Therefore, we design the game in this case to be a traditional simultaneous game presented in Figure 5:6.

Figure 5:6 Simultaneous game in venue-based and non-venue-based without HIV testing policy

| | | Sex worker: Condom | Sex worker: No condom |
|---|---|---|---|
| Client: Condom | | $\pi(s(\phi^{CD},\imath), c(I,P,t))$<br>$u(w,t) - v(e^{CD}))$ | $\pi(s(\phi^{CD},\imath), c(I,P,t))$<br>$u(w,t) - v(e^{NCD},h)$ |
| Client: No condom | | $\pi(s(\phi^{NCD},\imath), c(I,P,t')$<br>$u(w,t) - v(e^{CD})$ | $(\pi(s(\phi^{NCD},\imath), c(I,P,t')$<br>$u(w,t') - v(e^{NCD},h))$ |

## 5.8 **An Equilibrium analysis in venue-based and non-venue-based market without HIV testing policy**

The equilibrium analysis is divided into four cases. The first case is when both client and sex worker are risk averse, the second case is when both are risk lover, the third case is when a client is a risk averse, but a sex worker is a risk lover, and finally the fourth case is when a client is a risk lover but a client is a risk averse.

**Case 1**: Both client and sex worker are risk averse.

A client's best response function,

$BR_C(CD) = CD$; If a sex worker offers condom, a client's best response is Condom. (CD, CD)*

$BR_C(NCD) = CD$; If a sex worker offers no condom, a client's best response is still condom. (CD, NCD)

A sex worker's best response function,

$BR_{SW}(CD) = CD$; If a client offers condom, a sex worker's best response is condom. (CD, CD)*

$BR_{SW}(NCD) = CD$; If a client offers no condom, a sex worker's best response is condom. (NCD, CD)

Nash Equilibrium: (CD, CD)**

**Case 2**: Both client and sex worker are risk lover.

A client's best response function,

$BR_C(CD) = NCD$; If a sex worker offers condom, a client's best response is no condom. (NCD, CD)

$BR_C(NCD) = NCD$; If a sex worker offers no condom, a client's best response is no condom. (NCD, NCD)*

A sex worker's best respond function,

$BR_{SW}(CD) = NCD$; If a client offers condom, a sex worker's best response is no condom. (CD, NCD)

$BR_{SW}(NCD) = NCD$; If a client offers no condom, a sex worker's best response is no condom. (NCD, NCD)*

Nash Equilibrium: (NCD, NCD)**

**Case 3**: A client is risk averse and a sex worker is risk lover.

A client's best response function,

$BR_C(CD) = CD$; If a sex worker offers condom, a client's best response is condom. (CD, CD)*

$BR_C(NCD) = CD$ ; If a sex worker offers no condom, a client's best response is condom. (CD, NCD)

A sex worker's best response function,

$BR_{SW}(CD) = CD$ ; If the client offers condom, the sex worker's best response is condom. (CD, CD)*

$BR_{SW}(NCD) = NCD$ ; If the client offers no condom, the sex worker's best response is no condom. (NCD, NCD)

Nash Equilibrium: (CD, CD)**

**Case 4**: A client is risk lover and a sex worker is risk averse.

A client's best response function,

$BR_C(CD) = NCD$ ; If a sex worker offers condom, a client's best response is no condom. (NCD, CD)*

$BR_C(NCD) = NCD$ ; If a sex worker offers no condom, a client's best response is no condom. (NCD, NCD)

A sex worker's best response function,

$BR_{SW}(CD) = CD$ ; If a client offers condom, a sex worker's best response is condom. (CD, CD)

$BR_{SW}(NCD) = CD$ ; If a client offers no condom, a sex worker's best response is condom. (NCD, CD)*

Nash Equilibrium: (NCD, CD)**

In the fourth case, the equilibrium from the best response analysis is the client offer no condom, but the sex worker offers condom (NCD, CD) which could occur only in theory but not possible in practice. This situation leads them to the next stage, which is the negotiation stage.

Regarding sex without condom (NCD), there are only two ways for a client to negotiate which are offering a higher tip, and threatening with the physical violence. Firstly, according to assumption 3, the client will begin to offer a higher tip to the sex worker. However, it is not easy to make the sex worker to accept an unprotected sex

with higher tip because the sex worker is a risk averse. In order to make the sex worker accepts the sex without a condom, the amount of money (t') offered to her must significantly high enough to compensate her disutility of becoming HIV (h) ( $u(w,t') - u(w,t) > v(e^R(h,l)) - v(e^S)$ ). Secondly, to threaten for the sex without condom, we found that this case is still possible in the market where sex worker has limited bargaining power as the brothel. The sex workers working in the brothel are owned and work under the provision of the brothel owner.

This leads us to the conclusion that in the case that a client is a risk lover and a sex worker is a risk averse, they will move to the negotiation stage. Basically, if the tip offered by the client is not significantly high enough to compensate the sex worker's disutility of becoming HIV infected, the equilibrium will be a safe commercial sex with a condom, or no sex. However, the commercial sex without condom could happen when the client offers the significant higher tip, or in the market where sex worker have no right to refuse the customer.

Table 5:3 shows all equilibriums which indicate the high probability to have a safe commercial sex. We conclude that when both client and sex worker do not have each other HIV information, the possibility to use a condom is higher than not to use a condom.

Table 5:3 Equilibriums for 4 cases in venue-based and non-venue-based without HIV testing policy

| **All 4 Cases in Commercial sex market without HIV testing policy** | **Equilibrium** |
|---|---|
| Risk averse client and Risk averse sex worker | (Condom, Condom) |
| Risk lover client and Risk lover sex worker | (No condom, No condom) |
| Risk averse client and Risk lover sex worker | (Condom, Condom) |
| Risk lover client and Risk averse sex worker | (No condom, Condom)<br>Condom or No condom depended on the negotiation process |

In addition, the actions of both client and sex worker, can be seen as the signaling in the market. Firstly, for the client, if he negotiates or demands for unprotected sex (sex without condom), the sex worker will notice the type of client and then she will know that this client is a risk lover, which means that he may have a preference of sex without condom, he may be an HIV-positive, or he may be both.

Therefore, tip offered by the client can be seen as the signaling indicating that this client is a risk lover. Secondly, for the sex worker, if she accepts the higher tip, the client will notice her type of risk lover which means she prefer money to her health, she may be a HIV-positive, or she may be both.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# 6 An Empirical Study on Thai Commercial Sex Market under Asymmetric Information

In chapter 5, we utilized the idea of asymmetric information as well as game theory to model the commercial sex market. In this chapter, we provide results and analysis of survey by experimental questionnaire on 200 sex workers and 128 clients.

Among 200 sex workers, 100 are female sex workers (FSW) and another 100 are the male and transgender sex workers (MTSW).

Regarding female sex workers (FSW), 68 are venue-based female sex workers (VFSW) who work in A Go-Go bar and 12 of them work in massage parlor which have HIV testing policy, so we combined 80 of them as "VFSW with HIV testing policy". All of these 80 respondents were approached by "The Service Workers in Group (SWING) Foundation" in the area of Silom road and Sukhumvit road, Bangkok, Thailand.

Another 20 are freelance or non-venue-based female sex workers (NVFSW) who work on the street, park, and online and are not subjected to HIV testing policy and we refer to them as "NVFSW without HIV testing policy". All of these 20 respondents were approached by "The Rainbow Sky Association of Thailand" in the online market, and the area of Wachirabenchatat Park, Chatuchak Park, and Lumpini Park, Bangkok, Thailand.

For the 100 MTSW, all of them work in the traditional massage, spa, and sauna and are not subjected to HIV testing policy, and we call them as "VMTSW without HIV testing policy". All of these 100 respondents were approached by "The Rainbow Sky Association of Thailand" in the area of Phaya Thai road, Ladprao road, Nawamin road, Rama 9 road, Bangkapi district, Somdet Phra Chao Tak Sin road, and Lek Si road, Bangkok, Thailand. We combined 100 of VMTSW with another 20 NVFSW and considered 120 of them as sex worker in case of no HIV testing policy or no signaling.

For the client side, we were able to collect data from 142 clients, but there were 13 clients that were not included in the analysis because they did not complete answering the questionnaire or answered one question with two or more answers. Our remaining 129 clients, 68 of the client (32 CFSW and 36 CMTSW) randomization to

answer a simulating situation when signaling is existed (with HIV testing policy) while, 61 of them (25 CFSW and 36 CMTSW) are randomized to simulate a situation when signaling is not existed (without HIV testing policy). This will be explained in detail later.

Out of 129 clients, 50 of them who are CMTSW were approached by the help of "The Rainbow Sky Association of Thailand". During their data collection from the MTSW in the area of Phaya Thai road, Ladprao road, Nawamin road, Rama 9 road, Bangkapi district, Somdet Phra Chao Tak Sin road, and Lek Si road, Bangkok, Thailand, the NGO officers also asked the owner of the traditional massage, sauna and spa to distribute the questionnaire to their clients.

Another 44 were approached by the network of clients. There are some clients who voluntarily supported this study. They distributed the questionnaire through their network and friends. However, since being a client can ruin their reputation and family relation, they requested anonymity.

Finally, last 35 clients were approached with the help of Mr. Chayanon Phucharoen[4] who has a network in Phuket province. He asked a local police to support the questionnaire distribution and the local police assigned the questionnaires to the Pub and Bar guards in order to distribute the questionnaire to the clients.

In addition, during the field survey, we conducted a short interview (10-15 minutes) with 2 VFSW, 2 VMTSW, 2 CMTSW, and 3 NGO officers. Their details are shown as follows;

- Two VFSW in A Go-Go bar where having HIV testing policy: Miss O (alias) and Miss Suzy (alias) from A Go-Go bar, Sukhumvit road, Bangkok, Thailand.
- Two VMTSW from traditional massage and spa without HIV testing policy: Mr. Den (alias) and Mr. Nonnie (alias) from traditional massage and spa, Bangkapi district, Bangkok, Thailand.
- Two CMTSW or MSM clients; Mr. Bob (alias) and Mr. Ja (alias) invited by the Rainbow Sky Association of Thailand.
- One NGO officer from the Rainbow Sky Association of Thailand: Mr. Num

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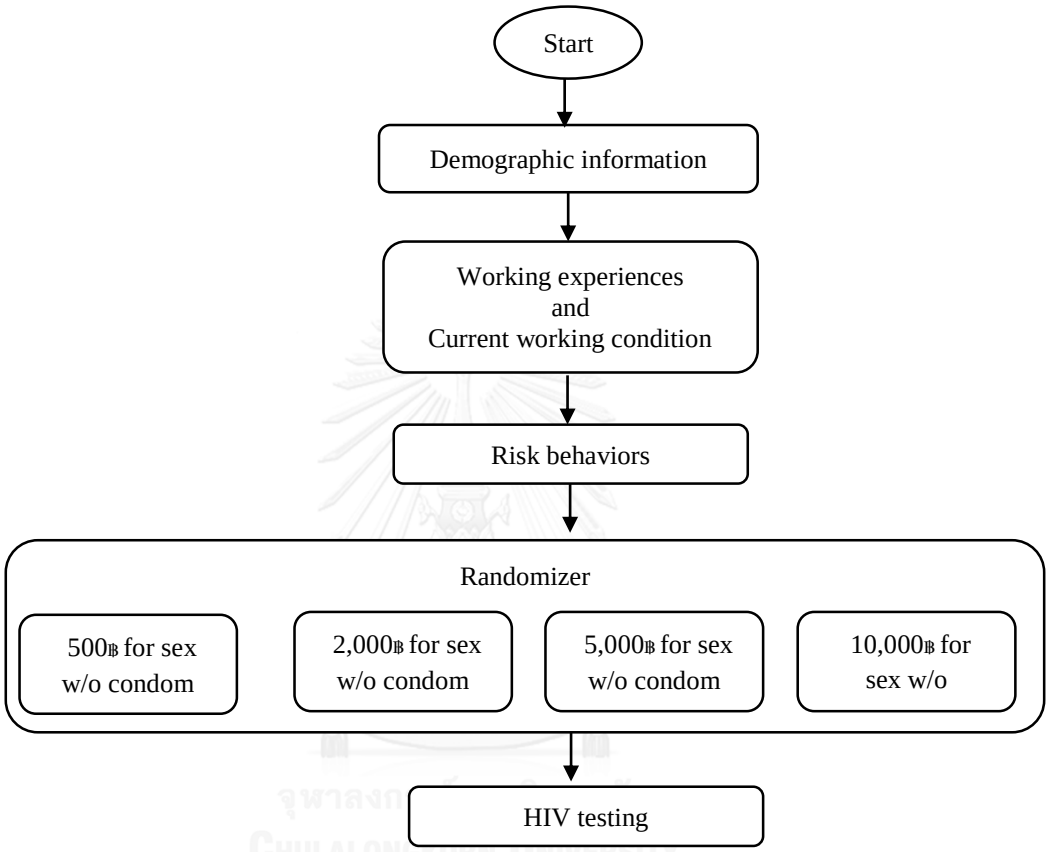
[4] Mr.Chayanon Phucharoen is a tourism business person in Phuket province, Thailand.

- Two NGO officers from the Service Workers in Group (SWING) Foundation: Miss Fah (alias) and Mr. Nat

## 6.1 **Survey description**

Figure 6:1 Sex worker's survey description



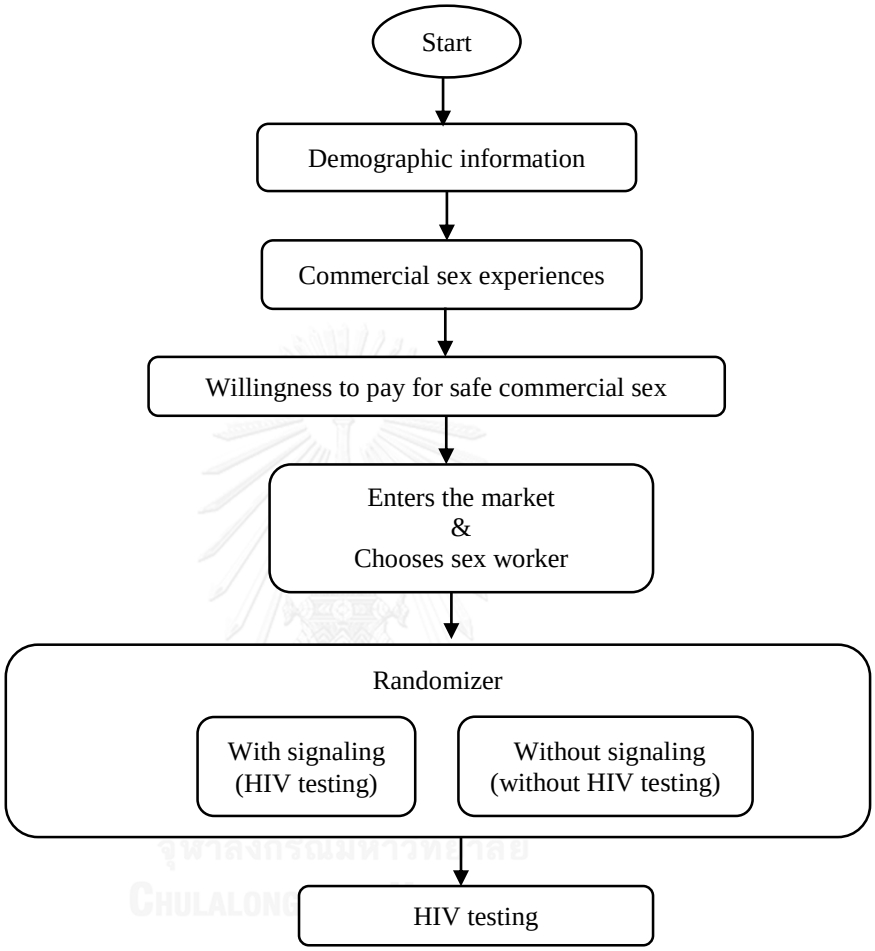

Survey on sex worker

By nature sex workers do not want to waste their time for reading and analyzing the questionnaire. However, they are quite close and trust the NGOs, so NGOs talk to them and ask them all the questions in the questionnaire sequentially during the talking time (See Appendix 3-6 for the detail of the questionnaire).

Firstly, sex workers are asked about their demographic information. Secondly, an NGO officer asks them about their working experiences and also current working condition, for example; income per month, the number of clients per week and last time. Thirdly, sex workers are asked about their risky behaviors during their past services. Fourthly, at this stage, sex workers are asked to make a decision if a client offers a tip

for sex without condom. In addition, four different tips are randomly offered to each sex worker. Finally, they are asked about their last time HIV testing.

Figure 6:2 Client's survey description




Survey on client

The client will answer the question through the questionnaire directly by himself. Firstly, clients are asked about their demographic information. Secondly, they are asked about their commercial sex experiences. Thirdly, they are asked about their willingness to pay for HIV-free sex worker, and their most top three favorite sex work establishments. Fourthly, eight pictures of sex worker are provided and the client chooses one that match with his preferences. Fifthly, after choosing a sex worker, each client is randomized to make decisions about condom use in the situation with signaling (HIV testing), or the situation without signaling (without HIV testing). Finally, they are asked about their HIV testing.

Randomizer

This session gives an explanation why we apply the randomizer in our questionnaire. Regarding sex workers, they are asked to make a decision if a client offers a tip for sex without condom and there are four different tips that randomly offered to each of them. We design to offer four possible tips at once instead of making a continuous offer. If we firstly offer at 500 Baht, then continue to offer more when a sex worker rejects a low rate tip, finally every sex workers tend to wait until we offer the maximum tip rate. Therefore, to avoid this problem, we design to use a randomizer to offer one tip rate to each sex worker, and we also provide them a chance to negotiate for a higher tip if they do not satisfied with the tip.

Regarding client, basically one client can visit more than one type sub-market per month, so we do not know his current preference about the place where he wants to visit. If he visits venue-based market with HIV testing policy, he is informed that a sex worker has a high probability to be HIV-free, on the other hand, if he visits other types of commercial sex market, he does not know any health information about a sex worker so the health information is now double asymmetry. In order to divide our experiment into a treatment group (with HIV testing policy) and a control group (without HIV testing), we use the randomized to randomize our respondents.

## 6.2 **Sex worker's socioeconomic and working profiles**

Table 6.1 describes the sex worker's socioeconomic profiles and Table 6.2 shows their working profiles. From both Tables considering both types of FSW (VFSW and NVFSW), we see that their socioeconomic as well as working profiles follow the similar pattern in their own group. For example, the VFSW with HIV testing policy, have quite similar income, education, family condition, working experience, number of clients, etc. On the other hand, the profiles of VMTSW vary quite a bit and do not seem to have a pattern.

Regarding our interview with an NGO officer who works with MSM at the Rainbow Sky Association of Thailand, he said that basically the MTSW are different from FSW. They have many different profiles and come from many different occupations.

*"Their profiles are quite varied. Some of them play both roles, sometimes as a client and sometimes as a sex worker. If you deeply study this market, you will find a male sex worker who is a student, or labor until a male sex worker who is a superstar, an actor, or a politician"*
(Mr.Num, An NGOs officer, Rainbow Sky Association of Thailand )

From Table 6:1, the average age of all 3 groups are quite similar which are 27.8, 28.8, and 27.9 respectively. The maximum age of FSW is 43 years old and MTSW is 57 years old. While both female and male minimum age is 19 years old. We did not find any sex worker aged less than 18. However, when we analyze their age together with their commercial sex working experience (minimum range of working experience minus current age), we found that 3 of VFSW with HIV testing policy, none of NVFSW without HIV testing policy, and 2 of VMTSW without HIV testing policy, could have a high possibility to become a sex worker before 18 years old.

Regarding education level of sex workers, we found that the majority of all respondents had secondary school education. Interestingly, for the VMTSW, many of them had a bachelor degree with 33% and 1% had education higher than a bachelor degree.

When it comes to family and number of children, we found that many VFSW with HIV testing policy (45%) have children. Interestingly, we also found that among those who have children, there are 13 respondents (16.25%) whose age was between 19 to 25 years old. Among these 13 respondents, 10 of them having commercial sex working experience less than 3 years (with 5 out of 10 having sex working experience less than 1 year). This suggests that the respondents had a child when young and also before they began to work as a sex worker. On the other hand, most for the NVFSW and VMTSW without HIV testing policy, do not have any children with 85% and 92%, respectively.

From Table 6:2, the majority of VFSW with HIV testing policy are full time sex workers with only 10% part time or sideline workers. While, more than 60% of both NVFSW and VMTSW without HIV testing policy are part time. All groups have average 2 clients per day. While the number of clients per week is around 4 clients for the VFSW, 7 clients for the NVFSW, and 10 clients for the VMTSW.

The income of VFSW with HIV testing policy in Table 6:2 is somewhere underestimate. 57.5% of all them indicated that their income per month is around 10,000-20,000 Baht which is lower than our expectation and also lower than the VMTSW (32% having income around 20,000-30,000 Baht). Compared to the former study in Thailand as Archavanitkul and Guest (1994), the income of VFSW with HIV testing policy should be around 20,000-35,000 Baht.

The NGOs officers at "The Service Workers in Group (SWING) Foundation" who was responsible for data collection of this group, said that it is the nature of the VFSW that they always keep their income secret and they will not usually reveal their real monthly income. So when the NGOs officer asked them about their income per month, the answers would be lower than it actually might be. However, we know the price as well as their average client per week so we can estimate their monthly income which comes to be around 25,000 Baht per month.

Even though income of VFSW, NVFSW, and VMTSW could be underestimated, their income are still 2-3 times greater than earnings from other occupations considering similar levels of education[5]. This also consists with former literatures; for example, an income of a sex worker is around 3 times higher than other occupations in Africa (Pickering & Wilkins, 1993), 3-5 times higher in Fiji (Plange, 1990), 2 times higher in Papua New Guinea (Jenkins, 1994). 1.4 times higher in Los Angeles (Lillard et al., 1995), and 6 times higher Malaysia (Nagaraj & Yahya, 1995).

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[5] In Thailand, the minimum wage rate for lower than bachelor degree labor is 300 Baht per day or 7,800 Baht per month. (See Table 6:4)

Table 6:1 Sex worker's socioeconomic profiles

| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
|---|---|---|---|---|---|---|
| | | **Venue-based female sex worker (VFSW)** | **Non-venue-based female sex worker (NVFSW)** | **Venue-base male and transgender sex worker (VMTSW)** | **All** | **%** |
| **1. Number of participants** | | 80 | 20 | 100 | 200 | 100 |
| **2. Types of sex worker** | | A-GoGo Bar, and Massage parlor | Freelance | Traditional massage, Spa, and Sauna | | |
| **3. Age** | Average age | 27.38 | 28.8 | 27.9 | 27.78 | |
| | Median | 26 | 28 | 27 | 27 | |
| | Mode | 20 | 28 | 25 | 24 | |
| | Maximum | 43 | 40 | 57 | 57 | |
| | Minimum | 19 | 22 | 19 | 19 | |
| | Standard Deviation | 6.37 | 4.56 | 6.21 | 6.12 | |
| | Variance | 40.62 | 20.8 | 38.58 | 37.46 | |
| **4. Education** | No education | 6 (7.5%) | 0 (0%) | 7 (7%) | 13 | 6.5 |
| | Primary School | 15 (18.75%) | 3 (15%) | 6 (6%) | 24 | 12 |
| | Secondary School | 48 (60%) | 9 (45%) | 35 (35%) | 92 | 46 |
| | Vocational Certificated | 8 (10%) | 3 (15%) | 18 (18%) | 29 | 14.5 |
| | Bachelor Degree | 2 (2.5%) | 5 (25%) | 33 (33%) | 40 | 20 |
| | Higher than Bachelor Degree | 0 (0%) | 0 (0%) | 1 (1%) | 1 | 0.5 |
| | n/a | 1 (1.25%) | 0 (0%) | 0 (0%) | 0 | 0 |
| **5. Marital status** | Single | 51 (63.75%) | 17 (85%) | 92 (92%) | 160 | 80 |
| | Married | 7 (8.75%) | 1 (5%) | 6 (6%) | 14 | 7 |
| | Divorced | 16 (20%) | 1 (5%) | 1 (1%) | 18 | 9 |
| | Widowed | 6 (7.5%) | 1 (5%) | 1 (1%) | 8 | 4 |
| **6. Number of children** | Age 19-25 have children | 13 (16.25%) | 0 (0%) | 1 (1%) | 14 | 7 |
| | Age 26-43 have children | 22 (27.5%) | 3 (15%) | 7 (7%) | 32 | 16 |
| | n/a have children | 1 (1.25%) | 0 (0%) | 0 (0%) | 1 | 0.5 |
| | Do not have children | 44 (55%) | 17 (85%) | 92 (92%) | 153 | 76.5 |
| | Maximum number of children | 3 | 2 | 2 | 3 | |

| Table 6:2 Sex worker's working profiles | | | | | | |
|---|---|---|---|---|---|---|
| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
| | | **Venue-based female sex worker (VFSW)** | **Non-venue-based female sex worker (NVFSW)** | **Venue-based male and transgender sex worker (VMTSW)** | **All** | **%** |
| **1. Number of participants** | | 80 | 20 | 100 | 200 | 100 |
| **2. Types of sex worker** | | A-GoGo Bar, and Massage parlor | Freelance | Traditional massage, Spa, and Sauna | | |
| **3. Working types** | Full time | 72 (90%) | 6 (30%) | 39 (39%) | 117 | 58.5 |
| | Part time | 8 (10%) | 14 (70%) | 61 (61%) | 83 | 41.5 |
| **4. Working experiences** | Less than 1 year | 23 (28.75%) | 4 (20%) | 27 (27%) | 54 | 27 |
| | More than 1 year but less than 3 years | 33 (41.25%) | 13 (65%) | 44 (44%) | 90 | 45 |
| | More than 3 years but less than 5 years | 19 (23.75%) | 2 (10%) | 22 (22%) | 43 | 21.5 |
| | More than 5 years but less than 10 years | 5 (6.25%) | 1 (5%) | 5 (5%) | 11 | 5.5 |
| | More than 10 years | 0 (0%) | 0 (0%) | 2 (2%) | 2 | 1 |
| **5. Income per month** | Less than 10,000 | 20 (25%) | 8 (40%) | 6 (6%) | 34 | 17 |
| | Between 10,000-20,000 | 46 (57.5%) | 7 (35%) | 28 (28%) | 81 | 40.5 |
| | Between 20,001-30,000 | 12 (15%) | 5 (25%) | 32 (32%) | 49 | 24.5 |
| | Between 30,001 - 50,000 | 1 (1.25%) | 0 (0%) | 26 (26%) | 27 | 13.5 |
| | Between 50,001 - 100,000 | 0 (0%) | 0 (0%) | 7 (7%) | 7 | 3.5 |
| | More than 100,000 | 0 (0%) | 0 (0%) | 1 (1%) | 1 | 0.5 |
| | n/a | 1 (1.25%) | 0 (0%) | 0 (0%) | 1 | 0.5 |
| **6. No. of client last time** | Average | 2.40 | 2.15 | 2.01 | 2.15 | |
| | Median | 2 | 2 | 2 | 2 | |
| | Mode | 1 | 1 | 1 | 1 | |
| | Maximum | 6 | 5 | 5 | 6 | |
| | Minimum | 1 | 1 | 1 | 1 | |
| | Standard Deviation | 1.46 | 1.27 | 1.03 | 1.21 | |

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| Table 6:2 Sex worker's working profiles | | | | | | |
|---|---|---|---|---|---|---|
| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
| | | **Venue-based female sex worker (VFSW)** | **Non-venue-based female sex worker (NVFSW)** | **Venue-based male and transgender sex worker (VMTSW)** | **All** | **%** |
| | Variance | 2.13 | 1.61 | 1.06 | 1.47 | |
| | n/a | 25 | 0 | 0 | 25 | |
| **7. No. of client per week** | | | | | | |
| | Average | 3.82 | 7.5 | 10.08 | 7.4 | |
| | Median | 4 | 5.5 | 10 | 6 | |
| | Mode | 3 | 5 | 10 | 5 | |
| | Maximum | 10 | 20 | 25 | 25 | |
| | Minimum | 1 | 1 | 1 | 1 | |
| | Standard Deviation | 1.75 | 5.44 | 5.40 | 5.48 | |
| | Variance | 3.09 | 29.63 | 29.12 | 30 | |
| | n/a | 15 | 0 | 0 | 15 | |

## 6.3 **Sex worker's risk behaviors**

Table 6:3 summarizes sex worker behaviors related to condom use and also HIV testing. Regarding alcohol or drugs used during the service, both are considered as complementary goods for commercial sex. Using alcohol or drugs during the service will reduce the consciousness of both sex worker and client and this could decrease condom use. According to Table 6:3, a large number of VFSW use alcohol or drugs used during the service while a small number of NVFSW without HIV testing policy use alcohol or drugs. This result did not surprise us because the majority of VFSW is an A Go-Go bar female sex workers who offer commercial sex accompanying drinks, dancing, and also sex show. While, the NVFSW without HIV testing policy are street and park sex worker who use public places as the market and also offer only direct commercial sex. However, many of VMTSW (62%) use alcohol or drugs during the commercial sex service. At first, we did not expect the high level of alcohol or drugs used because all VMTSW are collected from the traditional massage, spa, and sauna shop where offer commercial sex accompanying treatment service. Basically, these places do not offer foods and drink to their customer. After our interview with a VMTSW invited by the Rainbow Sky Association of Thailand, we found that both VMTSW and client sometimes use drugs in order to boost their sexual appetite.

> *"We need drugs to boost our sex drive. For us (the MSM), it is different from male and female relationship. Some of us love to penetrate but some love to be penetrated. Because we cannot choose the client, many times we have to switch our role. Moreover, there are still some of us who are not gay like me. One of my friends, he is a real man, not gay, but he still works in this market and he needs drugs to help during work. There are many different types of drug use for the MSM market. For example, you use Viagra to help erection, you smell Popper (one kind of the volatiles) to drive your sex appetite."* (Mr. Den (alias), massage and spa VMTSW, Bangkapi district, Bangkok)

Considering condom use, firstly, we found that on average more than 70% of all three groups would be the first one who offered a condom to the client, which means that there should be no difference between the two scenarios (with and without HIV testing policy) or between genders. This despite that in the market with HIV testing policy there is an in-house policy that requires sex workers to offer the condom to the client first. The Goodness of fit (Chi-square) statistical test in Table: 6.6 also indicates that the condom offering behavior is the same for all 3 groups, between gender, and this is a small statistical difference between scenarios (significant at 90% confidence interval).

More importantly, we found that there are still some small number of sex workers who had sex without condom with clients (25% of VFSW with HIV testing policy, 15% of NVFSW without HIV testing policy, and 18% of VMTSW without HIV testing policy).

When asked about experiencing a client who did not want to use a condom, we found that more than half of them, especially the VFSW with HIV testing policy (with 5% statistically significantly higher than both NVFSW and VMTSW (Table 6:6)). This information together with their past experience of providing commercial sex without a condom can be analyzed that more than half of sex workers were asked for sex without a condom by clients but there are still that insisted and had sex without condom. This suggests that the sex workers are likely to be a risk averse, while the clients, especially

the group who is given an information that the sex worker is safe (CFSW) “the reverse one side asymmetric information” tend to be a risk taking or risk lover type.

> *“Actually, I don’t like condoms myself, but, I try to always use condoms because it is better for me. I provided sex without condom only with some regular clients whom I trusted. Normally, clients do not want to use condoms. I do not know their reasons, but I know that they have 2-3 tricks not to use them; for example, offering me a higher tip, saying that he want to be my regular client, promising me that he will look after me, or will marry me and will regularly send me money, etc. If I feel that the tip is really high (more than 5,000 Baht) or what he said it is true, maybe I provide sex without a condom but if I do not trust him, I will refuse and ask him to use condom at least for this time. For treats or violence in the A Go-Go bar where I work, I do not think so. Because my bar is a well-established place with many of the guards as well as security camera in front of the room and corridor. My Mama-San (owner) is kind and takes good care of her workers so the client cannot treat us for sex without condom with violence.”* (Miss O (alias), A Go-Go bar sex worker, Sukhumvit road, Bangkok)

> *“As I remember, my first client whom I had sex without condom, was a Westerner. He looked very rich. He said he was healthy and did not want to use a condom. He took me to a clinic. Both of us had a blood test and after that I agreed to provide a sex without condom and he gave me extra money.”* (Miss Suzy (alias), A Go-Go bar sex worker, Sukhumvit road, Bangkok)

Regarding HIV testing, which is important for our analysis to separate into the situation with HIV testing policy and the situation without HIV testing policy. HIV testing policy in the venue-base female market (VFSW) is the only signaling in Thai market that we found consistent with the theoretical framework. The result in Table 6:3 shows us that the VFSW with HIV testing policy have the highest test rate with 92.5% tested, while the NVFSW without HIV testing policy have 65%, and the VMTSW without HIV testing policy have 79%. The Chi-square test in Table 6:6 shows that the

HIV testing behavior for both overall test and between scenarios test are significant at 95% confidence intervals while the test between gender is not significant, which means the testing is different between sex work establishment with HIV testing and sex work establishment without HIV testing, but the HIV testing behavior is indifferent between female and male sex worker.

However, it is important to analyze how reliable this signal is. According to the Table 6:4, among 92.5% of VFSW who ever tested for HIV, only 37.5% had HIV testing in the past three months, which is not significantly higher than the other 2 groups, (20% for NVFSW without HIV testing policy had HIV testing in the past three months ago, and 32% for VMTSW without HIV testing policy had HIV testing in the past three months).

To illustrate, the HIV testing policy is not a formal policy, but it is a kind of in-house policy for some sex work establishments (as A Go-Go bar and massage parlor). Some place requires their worker to have HIV testing every month, or some places every three months. The owners will advertise to their clients that their place requires the sex workers to have HIV testing regularly, and the sex workers have to declare their test result to collect their salary. If she is found to be HIV-positive, she will be asked to leave the establishment.

For our survey, The Service Workers in Group (SWING) Foundation who is responsible for this group data collection, claimed that the A Go-Go bar and the massage parlor where they collected data had HIV testing policy and also was well-known by the client that all of these places required their workers to test for HIV every 3 months. Nevertheless, the result of our survey showed that HIV testing policy was not strictly adhered to.

If this policy is enforced, we believe more than 50% of VFSW with HIV testing policy would have HIV testing in past three months. But from Table 6:3, 50% of them had HIV testing last time more than six months (23.75% for the past six months and 26.25% from one year ago). And still 5% of them had HIV testing more than one year and 7.5% never had HIV testing. For the sex workers who never tested for HIV, most of them were young (less than 25 years old) with working experience less than one year.

This leads us to conclude that HIV-testing is a signaling in Thai commercial sex market that separates the market into two scenarios, but this signaling is not too strong

to guarantee that each VFSW with HIV testing policy has high probability to be HIV-free. Comparing with the theoretical model in chapter 5 (Figure 5:1), $q_{sw}$ is not nearly to 1.

Table 6:3 Sex worker's risk behaviors

| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
|---|---|---|---|---|---|---|
| | | **Venue-based female sex worker (VFSW)** | **Non-venue based female sex worker (NVFSW)** | **Venue-based male and transgender sex worker (VMTSW)** | **All** | **%** |
| **1. Number of participants** | | 80 | 20 | 100 | 200 | 100 |
| **2. Types of sex worker** | | A-GoGo Bar, and Massage parlor | Freelance | Traditional massage, Spa, and Sauna | | |
| **3. Consuming alcohol or drugs during the service** | Ever consumed | 69 (86.25%) | 2 (10%) | 62 (62%) | 133 | 66.5 |
| | Never consumed | 11 (13.75%) | 18 (90%) | 38(38%) | 67 | 33.5 |
| **4. Offering condom** | Always | 64 (80%) | 14 (70%) | 74 (74%) | 152 | 76 |
| | Sometime | 12 (15%) | 3 (15%) | 11 (11%) | 26 | 13 |
| | Never | 4 (5%) | 3 (15%) | 15 (15%) | 22 | 11 |
| **5. Providing commercial sex without condom** | Used to | 20 (25%) | 3 (15%) | 18 (18%) | 41 | 20.5 |
| | Never (Always use condom) | 60 (75%) | 17 (85%) | 82 (82%) | 159 | 79.5 |
| **6. Experiencing a client who did not want to use condoms** | Used to | 67 (83.75%) | 13 (65%) | 71 (71%) | 151 | 75.5 |
| | Never | 13 (16.25%) | 7 (35%) | 29 (29%) | 49 | 24.5 |
| **7. First thought about condom** | To prevent HIV/STDs | 56 (70%) | 10 (50%) | 86 (86%) | 152 | 76 |
| | To prevent pregnancy | 15 (18.75%) | 9 (45%) | 11 (11%) | 35 | 17.5 |
| | To follow the condom use policy | 0 (0%) | 0 (0%) | 1 (1%) | 1 | 0.5 |
| | Other 1: Both prevent HIV&STDs | 9 (11.25%) | 1 (5%) | 2 (2%) | 12 | 6 |
| **8. HIV Testing** | 3 months ago | 30 (37.5%) | 4 (20%) | 32 (32%) | 66 | 33 |
| | 6 months ago | 19 (23.75%) | 6 (30%) | 17 (17%) | 42 | 21 |
| | 1 year ago | 21 (26.25%) | 1 (5%) | 26 (26%) | 48 | 24 |
| | 2-5 years ago | 3 (3.75%) | 2 (10%) | 4 (4%) | 9 | 4.5 |
| | More than 5 years ago | 1 (1.25%) | 0 (0%) | 0 (0%) | 1 | 0.5 |
| | Never | 6 (7.5%) | 7 (35%) | 21 (21%) | 34 | 17 |

## 6.4 **Sex worker's decisions**

Table 6:5 shows sex workers' decisions under different situations. The result in this part relates to the sex workers' decisions in chapter 5 (part 5.4-5.7) where we had all possible outcomes. For the empirical study in this chapter, we designed the questionnaire in order to find the decision of sex workers in the market.

Based on our theoretical game model, the sex worker in both sex worker establishments with and without HIV testing policy have a chance to encounter a client who does not want to use a condom. Therefore, we establish a simulation survey to test decisions when they are asked to provide commercial sex without condom.

We prepared four different sets of questions for the sex workers. These four sets are randomly picked by each sex worker. The sex worker is offered tip at 10,000 Baht for providing commercial sex without a condom for set 1, at 5,000 Baht for set 2, at 2,000 Baht for set 3, and 500 Baht for set 4, respectively.

Regarding Table 6:5, firstly, when they were offered 10,000 Baht, 45% of VFSW with HIV testing policy, 60% of NVFSW without HIV testing policy, and 48% of VMTSW without HIV testing policy, accepted the tip, which means almost half of all respondents who answered the questionnaire set 1 accepted money at 10,000 Baht and agreed to provide commercial sex without condom.

Secondly, when offered 5,000 Baht, 15% of VFSW with HIV testing policy, 0% of NVFSW without HIV testing policy, and 16% of VMTSW without HIV testing policy, accepted the tip. The acceptance rate dramatically dropped when the tip was reduced by half.

Thirdly, when 2,000 Baht was offered, none of FSW accepted the tip. In this case, we can consider that the money value at 2,000 Baht (62.5$) is not worth the female taking the risk. In Thailand, there seems to be an economical difference between the money value of 10,000 Baht (312.5$), 5,000 Baht (156.25$) and 2,000 Baht (62.5$).

In Table 6:4, we used Thailand minimum wage (for a lower than bachelor degree labor) and salary rate (for the bachelor degree labor) in 2014 as the base for a comparison between the values of money. Considering sex worker's income (around 10,000-30,000 Baht), this amount is higher than the income of both types of labors in Thailand. The money value at 2,000 Baht may not high enough to compensate the risk of HIV infection for the FSW. However, the money value more than 5,000 Baht can

double or significantly increase income per month that made some of respondents accept this value and show a willingness to take risks.

Nevertheless, for the VMTSW without HIV testing policy, still 16%, accepted a tip at 2,000 Baht, which is evidence that the male is more risk-taking than the female.

Table 6:4 Minimum wage and salary rate in Thailand 2014

| | **Minimum wage rate for lower than bachelor degree labor** | **Minimum salary for bachelor degree labor** |
|---|---|---|
| **Per day** | 300 Baht | - |
| **Per Month (26 days)** | 7,800 Baht | 15,460 Baht |
| **Source** | Ministry of Labor, Thailand: http://www.mol.go.th/employee/interesting_information/4131 | Ministry of Finance, Thailand: http://www.mof.go.th/home/salary.html |

One of the NGOs who used to be a sex worker told us that VFSW in a high class market receives higher income compare to other types of sex worker so they will not risk for HIV or losing their job by easily accept the sex without condom. Below are part of the conversation between us and Miss Fah (alias), 34 years old NGOs who used to be a VFSW working in a high class massage parlor.

*"I used to be in this job for 6 years and I still have not been infected with HIV."*

Why?

*"… Because I know the way of this job. The owner required me to test for HIV every 3 months and I had sex without condom only with 2 or 3 clients that I know very well or when I was offered tip at 5,000 Baht or more."*

How can you know the client very well?

*"Sometimes the relationship between the sex worker and the client does not end after the service. In case that the client is very satisfied with my service, he will become my regular client. If we exchange our phone number, we can contact each other by mobile phone or internet. I must know him for a long time (2 or 3 years) and if he does not ask for an unprotected sex, I always offer the condom first."* (Miss

Fah (alias), NGO officer who used to be a VFSW working in a high class massage parlor)

Fourthly, when offered 500 Baht, none of them accepted the tip. However, in our questionnaires besides accept or reject, we still have the third choice for them which is "Negotiate". Although no one accepted 500 Baht for sex without condom, one NVFSW without HIV testing policy, negotiate for 10,000 Baht, and also three of VMTSW chose to negotiate for between 4,000-5,000 Baht.

According to the Chi-square test in Table 6:6, there is no difference between three groups, between scenarios, as well as between genders of sex worker when they are offered the tip at 10,000 Baht or 5,000 Baht. A sex worker who values the money, prefers to take risks, or has low disutility of becoming HIV will accept the money, while those who are risk averse, will reject the tip.

Interestingly, when the tip offered is lower than 5,000 Baht, there is no FSW from both types of market accepting tip, while there are still a number of VMTSW accept the tip for not using the condom (16%). This suggests that the group of VMTSW is not only varied, but is also more risk taking than the FSW.

*"From your survey, I agree that many times a client offers us a tip not to use a condom. But I will let you know, besides the tip there are still some ways in this market to have a sex without condom. Basically, the male does not like condoms. And when it becomes male who has sex with male (MSM) commercial sex market or when we have males on both sides, the chance to have sex without condom is doubled. Some of male sex workers voluntarily provide sex without a condom to his client because he likes the client. One of my friends who is very young and low experience, told me that once when he encounter a really handsome, healthy, and good muscles client, he really likes him. He was suddenly careless and then decided not to use a condom with the client. For me, I had a very bad experience once, the client agreed to use a condom but when we had an anal sex, he was behind me and he slipped off the condom. I did not notice." (*Mr. Nonnie (alias), VMTSW in massage and spa, Bangkapi district, Bangkok)

Finally, we combined the data from Table 6:3 and 6:5 to investigate some of their past behaviors (offering condom first, and providing commercial sex without condom) together with the current decision on condom use when a tip is offered. If a sex worker always offers the condom, never provides a commercial sex without condom, and also rejected a tip for sex without condom, they proved their decision consistency and were categorized as taking safe sex as their dominant strategy. We found that the VFSW with HIV testing policy is the highest group in which safe sex is a dominant strategy at 70%, following by the NVFSW without HIV testing policy at 60%, and lastly the VMTSW without HIV testing policy at 58%.


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| Table :5 Sex worker's decisions | | | | | | |
|---|---|---|---|---|---|---|
| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
| | | **Venue-based female sex worker (VFSW)** | **Non-venue-based female sex worker (NVFSW)** | **Venue-based male and transgender sex worker (VMTSW)** | **All** | **%** |
| **1. Number of participants** | | 80 | 20 | 100 | 200 | 100 |
| **2. Types of sex worker** | | A-GoGo Bar, and Massage parlor | Freelance | Traditional massage, Spa, and Sauna | | |
| **3. Tip offered at 10,000 THB for sex without condom** | Accepted | 9 (45%) | 3 (60%) | 12 (48%) | 24 | 48 |
| | Negotiated | 0 (0%) | 0 (0%) | 0 (0%) | 0 | 0 |
| | Rejected | 11 (55%) | 2 (40%) | 13 (52%) | 26 | 52 |
| | Total | 20 | 5 | 25 | 50 | 100 |
| **4. Tip offered at 5,000 THB for sex without condom** | Accepted | 3 (15%) | 0 (0%) | 4 (16%) | 7 | 14 |
| | Negotiated | 0 (0%) | 0 (0%) | 0 (0%) | 0 | 0 |
| | Rejected | 17 (85%) | 5 (100%) | 21 (84%) | 43 | 86 |
| | Total | 20 | 5 | 25 | 50 | 100 |
| **5. Tip offered at 2,000 THB for sex without condom** | Accepted | 0 (0%) | 0 (0%) | 4 (16%) | 4 | 8 |
| | Negotiated | 0 (0%) | 0 (0%) | 0 (0%) | 0 | 0 |
| | Rejected | 20 (100%) | 5 (100%) | 21 (84%) | 46 | 92 |
| | Total | 20 | 5 | 25 | 50 | 100 |
| **6. Tip offered at 500 THB for sex without condom** | Accepted | 0 (0%) | 0 (0%) | 0 (0%) | 0 | 0 |
| | Negotiated for 10,000 THB | 0 (0%) | 1 (20%) | 0 (0%) | 1 | 2 |
| | Negotiated for 5,000 THB | 0 (0%) | 0 (0%) | 1 (4%) | 1 | 2 |
| | Negotiated for 4,000 THB | 0 (0%) | 0 (0%) | 2 (8%) | 2 | 4 |
| | Rejected | 20 (100%) | 4 (80%) | 22 (88%) | 46 | 92 |
| | Total | 20 | 5 | 25 | 50 | 100 |

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| Table :5 Sex worker's decisions | | | | | | |
|---|---|---|---|---|---|---|
| | | **With HIV testing policy** | **Without HIV testing policy** | | | |
| | | **Venue-based female sex worker (VFSW)** | **Non-venue-based female sex worker (NVFSW)** | **Venue-based male and transgender sex worker (VMTSW)** | **All** | **%** |
| **7. Conclusion** | | | | | | |
| | Accepted | 12 (15%) | 3 (15%) | 20 (20%) | 35 | 17.5 |
| | Negotiated | 0 (0%) | 1 (5%) | 3 (3%) | 4 | 2 |
| | Rejected (with high probability to accept) | 5 (6.25%) | 0 (0%) | 1 (1%) | 6 | 3 |
| | Rejected (with still some probability to accept) | 7 (8.75%) | 4 (20%) | 18 (18%) | 29 | 14.5 |
| | Rejected (with safe sex as dominant strategy) | 56 (70%) | 12 (60%) | 58 (58%) | 126 | 63 |
| | Total | 80 | 20 | 100 | 200 | 100 |

Table 6:6 Goodness of fit test on sex worker's behaviors and decisions

| | **Chi-square ($\chi$)**<br>**$H_0$: There is no different between groups of sex worker**<br>**$H_a$: There is a different between groups of sex worker** | | |
|---|---|---|---|
| **Sex worker** | **Overall test** | **Between with HIV testing and without HIV testing test** | **Between gender test** |
| Consuming alcohol or drugs during the service | 43.575 *** | 23.346 *** | 1.818 |
| Offering condom | 5.295 | 5.055 * | 3.630 |
| Providing commercial sex without condom | 1.749 | 1.657 | 0.767 |
| Experiencing a client who did not want to use condoms | 5.230 * | 4.906 ** | 2.189 |
| First thought about condom | 21.977 *** | 7.542 * | 13.793 *** |
| HIV Testing | 18.711 ** | 10.325 ** | 4.911 |
| Tip offered at 10,000 | 0.361 | 0.120 | 0.000 |
| Tip offered at 5,000 | 0.914 | 0.028 | 0.166 |
| Tip offered at 2,000 | 4.348 | 2.899 * | 4.348 ** |
| Tip offered at 500 | 12.261 * | 2.899 * | 4.087 ** |
| Strategy conclusion | 12.598 | 11.915 ** | 6.864 |

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## 6.5 **Client's socioeconomic profiles and commercial sex experiences**

Table 6:7 shows client's socioeconomic profiles and Table 6:8 shows their commercial sex experiences. The information from both Tables show us that unlike the sex worker, the client profiles are varied and do not seem to have a discernible pattern. Regarding Table 6:8 (No.4) sex preferences, client were shown pictures of eight different sex workers (five females and three males) and asked to choose one as a commercial sex service provider of their choice. Their answers help us to separate them into two sex preferences (or two genders) which are a client seeking female sex worker (CFSW) and a client seeking male and transgender sex worker (CMTSW or MSM).

Each client was randomized to answer one of two different sets of questionnaire. The first set is a simulation of the case with signaling or HIV testing policy (the reverse one side asymmetric information) and the second set is a simulation of the case without signaling or without HIV testing policy (the double side asymmetric information).

32 CFSW answered and made their decision in the simulation in a sex work establishment where having HIV testing policy for sex worker as A Go-Go bar or massage parlor.

36 CMTSW answered and made their decision in the simulation in a sex work establishment which has HIV testing policy for sex workers. In addition, it is necessary to indicate that HIV testing policy for male and transgender sex worker (MTSW) does not exist in reality in Thailand because there is no sex work establishment where having HIV testing policy for the VMTSW. Hence, the answers of these 35 CMTSW are hypothetical which is used to test their behavior in case that such a market exists.

Another 25 CFSW answered and made their decision in the case which corresponds to the commercial sex sub-markets where no HIV testing policy for female sex worker (FSW) as online, traditional massage, spa, sauna, street and park.

The last 36 CMTSW answered and made their decision in the case which corresponds to the male and transgender sex worker (MTSW) sub-markets where no HIV testing policy for sex worker especially the traditional massage, spa, and sauna.

From Table 6:7, the average age of all clients is about 35 years old. The maximum age is 61 years old and the minimum age is 20 years old. Regarding the education level, the clients have higher education than the sex workers, with more than

55% of overall with at least a bachelor degree. Interestingly, CFSW also have higher education compared to CMTSW.

Most of the clients are single and have varied amount of income. Around 40% often visit the commercial sex market (once a month or more than). Massage parlor, pub, bar and restaurants, and traditional massage, sauna, and spa are the top three commercial sex sub-market for the CFSW, while traditional massage, sauna, and spa, pub bar and restaurants, and online are the top 3 sub-markets for the CMTSW.


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Table 6:7 Client's socioeconomic profiles

| | | With HIV testing policy | | | | Without HIV testing policy | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** |
| **1. Number of participants** | | 32 | 36 | 67 | | 25 | 36 | 61 | |
| **2. Age** | Average age | 29.75 | 33.31 | 31.61 | | 28.12 | 32.55 | 30.74 | |
| | Median | 28 | 32 | 30 | | 27 | 30 | 28 | |
| | Mode | 28 | 32 | 32 | | 28 | 27 | 28 | |
| | Maximum | 40 | 54 | 54 | | 38 | 61 | 61 | |
| | Minimum | 21 | 20 | 20 | | 21 | 23 | 21 | |
| | Standard Deviation | 4.89 | 8.89 | 7.43 | | 4.37 | 8.42 | 7.34 | |
| | Variance | 23.93 | 79.03 | 55.18 | | 19.11 | 71.05 | 53.93 | |
| **3. Education** | No education | 0 (0%) | 0 (0%) | 0 | 0 | 0 (0%) | 1 (3.03%) | 1 | 1.89 |
| | Primary School | 0 (0%) | 0 (0%) | 0 | 0 | 0 (0%) | 1 (3.03%) | 1 | 1.89 |
| | Secondary School | 3 (9.38%) | 6 (17.14%) | 9 | 13.43 | 1 (4%) | 5 (13.89%) | 6 | 9.84 |
| | Vocational Certificated | 2 (6.25%) | 6 (17.14%) | 8 | 11.94 | 2 (8%) | 4 (11.11%) | 6 | 9.84 |
| | Bachelor Degree | 17 (53.13%) | 21 (60%) | 38 | 56.72 | 12 (48%) | 22 (61.11%) | 34 | 55.74 |
| | Master Degree | 9 (28.13%) | 2 (5.71%) | 11 | 16.42 | 10 (40%) | 2 (5.56%) | 12 | 19.67 |
| | Ph.D. Degree | 1 (3.13%) | 0 (0%) | 1 | 1.49 | 0 (0%) | 1 (2.78%) | 1 | 1.64 |
| **4. Marital status** | Single | 18 (56.25%) | 32 (91.43%) | 50 | 74.63 | 21 (84%) | 32 (88.89%) | 53 | 86.89 |
| | Married | 9 (28.13%) | 4 (11.43%) | 13 | 19.40 | 3 (12%) | 1 (2.78%) | 4 | 6.56 |
| | Divorced | 4 (12.50%) | 0 (0%) | 4 | 5.97 | 1 (4%) | 1 (2.78%) | 2 | 3.28 |
| | Widowed | 1 (3.13%) | 0 (0%) | 1 | 1.49 | 0 (0%) | 2 (5.56%) | 2 | 3.28 |
| **5. Income per month** | Less than 10,000 | 2 (6.25%) | 5 (14.29%) | 7 | 10.45 | 4 (16%) | 2 (5.56%) | 6 | 5.84 |
| | Between 10,000-20,000 | 8 (25%) | 11 (31.43%) | 19 | 28.36 | 8 (32%) | 17 (47.22%) | 25 | 40.98 |
| | Between 20,001-30,000 | 8 (25%) | 9 (25.71%) | 17 | 25.37 | 5 (20%) | 9 (25%) | 14 | 22.95 |
| | Between 30,001 - 50,000 | 6 (18.75%) | 7 (20%) | 13 | 19.40 | 5 (20%) | 6 (16.67%) | 11 | 18.03 |
| | Between 50,001 - 100,000 | 6 (18.75%) | 2 (5.71%) | 8 | 11.94 | 3 (12%) | 2 (5.56%) | 5 | 8.20 |
| | More than 100,000 | 2 (6.25%) | 2 (5.71%) | 4 | 5.97 | 0 (0%) | 0 (0%) | 0 | 0 |

Table 6:8 Client's commercial sex experiences

| | | With HIV testing policy | | | | Without HIV testing policy | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** |
| **1. Number of participants** | | 32 | 36 | 67 | | 25 | 36 | 61 | |
| **2. Visiting frequency** | Every week or more | 0 (0%) | 2 (5.71%) | 2 | 2.99 | 1 (4%) | 0 (0%) | 1 | 1.64 |
| | 2-3 times per week | 1 (3.13%) | 9 (25.71%) | 10 | 14.93 | 1 (4%) | 8 (22.22%) | 9 | 14.75 |
| | Every month | 8 (25%) | 8 (22.86%) | 16 | 23.88 | 2 (8%) | 8 (22.22%) | 10 | 16.39 |
| | 3-6 times per year | 8 (25%) | 7 (20%) | 15 | 22.39 | 7 (28%) | 7 (19.44%) | 14 | 22.95 |
| | 1-2 times per year or less | 15 (46.86%) | 10 (28.57%) | 25 | 37.31 | 14 (56%) | 13 (36.11%) | 27 | 44.26 |
| **3. Sex work establishment** | Rank 1 | Massage parlor | Massage and Spa | Massage and Spa | | Massage parlor | Pub, Bar, Night-club | Pub, Bar, Night-club | |
| | Rank 2 | Pub, Bar, Night-club | Online | Pub, Bar, Night-club | | Pub, Bar, Night-club | Massage and Spa | Massage and Spa | |
| | Rank 3 | Massage and Spa | Pub, Bar, Night-club | Massage parlor | | Massage and Spa | Online | Online | |
| | Rank 4 | Online | Street and Park | Hotel | | Hotel | Street and Park | Massage parlor | |
| | Rank 5 | Hotel | Hotel | Online | | Online | Hotel | Hotel | |
| | Rank 6 | Street and Park | Massage parlor | Street and Park | | Street and Park | Massage and Spa | Street and Park | |
| | Rank 7 | Brothel | Brothel | Brothel | | Brothel | Brothel | Brothel | |
| **4. Sex preference** | Female (High school student) | 5 (15.63%) | 0 (0%) | | | 1 (4%) | 0 (0%) | | |
| | Female (University student) | 8 (5%) | 0 (0%) | | | 8 (32%) | 0 (0%) | | |
| | Female (Pretty and Model) | 13 (40.63%) | 0 (0%) | | | 10 (40%) | 0 (0%) | | |
| | Female (28 years old + good services) | 6 (18.75%) | 0 (0%) | | | 4 (16%) | 0 (0%) | | |
| | Female (High experience) | 0 (0%) | 0 (0%) | | | 2 (8%) | 0 (0%) | | |
| | Male (Sport, Fitness & Healthy) | 0 (0%) | 12 (34.29%) | | | 0 (0%) | 15 (41.67%) | | |
| | Male (Handsome) | 0 (0%) | 11 (31.43%) | | | 0 (0%) | 11 (30.56%) | | |
| | Male (University student) | 0 (0%) | 13 (37.14%) | | | 0 (0%) | 10 (27.78%) | | |

## 6.6 **Client's risk behaviors**

Table 6:9 shows client's behaviors that relate to alcohol, drugs, condom use and also HIV testing. For alcohol or drugs used during receiving commercial sex service, the majority of the client (more than 55% of all groups) consumed alcohol or drugs during the service, and the chi-square test from Table 6:10 indicated that the alcohol or drugs using the behavior of clients are not different between groups, situations, and also genders of the client.

Regarding the condom use, we found that on average more than 50% of all respondents never had commercial sex without condom, which means most visit the commercial sex market with a safe sex strategy.

For the HIV testing experience, the result in Table 6:9 shows us that more than half of all groups used to test for HIV but the CMTSW had higher test rate than the CFSW. The Chi-square test in Table 6:11 showed that the HIV testing behavior between genders are significantly different at 95% confidence interval.

Table 6:9 Client's risk behaviors

| | | **With HIV testing policy** | | | | **Without HIV testing policy** | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** |
| **1. Number of participants** | | 32 | 36 | 67 | | 25 | 36 | 61 | |
| **2. Consuming alcohol or drugs during the service** | Ever consumed | 20 (62.5%) | 24 (68.57%) | 44 | 65.67 | 15 (60%) | 21 (58.33%) | 36 | 59.02 |
| | Never consumed | 12 (37.50%) | 12 (34.29%) | 24 | 35.82 | 10 (40%) | 15 (41.67%) | 25 | 40.98 |
| **3. Having commercial sex without condom** | Used to | 11 (34.38%) | 17 (48.57%) | 28 | 41.79 | 8 (32%) | 11 (30.56%) | 19 | 31.15 |
| | Never (Always use condom) | 21 (65.63%) | 19 (54.29%) | 40 | 59.70 | 17 (68%) | 25 (69.44%) | 42 | 68.85 |
| **4. HIV testing** | Used to | 20 (62.50%) | 30 (85.71%) | 50 | 74.63 | 14 (65%) | 27 (75%) | 41 | 67.21 |
| | Never | 12 (37.50%) | 6 (17.14%) | 18 | 26.87 | 11 (44%) | 9 (25%) | 20 | 32.79 |

## 6.7 **Client's decisions**

Table 6:10 shows client's decisions in the Thai commercial sex market. We established the simulation game to test their decisions in Thai commercial sex market.

According to chapter 5, the beginning of the game is the situation when the client decides to choose the commercial sex sub-market based on their HIV awareness. The theoretical model suggests that if the client is concerned about HIV infection in the commercial sex market, he could pay extra more money around 1,000-3,000 Baht to visit a venue-based where there is an in-house HIV testing policy for sex workers. These 1,000-3,000 Baht represents the price gap between sub-markets in market with HIV testing policy and sub-markets without HIV testing policy (See Table 5:1).

Therefore, we ask the client in the hypothetical question in order to test their willingness to pay for the information rent. Our question is "Basically, you do not have information about the sex workers' health. However, assume that you can pay more for healthy and HIV-free sex worker. Will you pay this amount?"

According to Table 6:10 and 6:11, show that the willingness to pay for sex worker's health information (signaling cost or information rent) varies and is also significantly different among the 4 groups, between scenarios, and also between genders at 99% confidence interval.

Interestingly, while the overall client's decisions also vary, we specifically found that none of CMTSW have a willingness to pay when the information rent is higher than 3,000 Baht. Furthermore, around 25% CMTSW and 17% of CFSW did not have any willingness to pay for this information, respectively.

After the client makes a decision about a signaling cost or an information rent, they will move to the next step. For the next step, each of the client will randomly answer the set of question from either situation with HIV testing policy or situation without HIV testing policy. The result in this part relates to the client's decisions in chapter 5 (part 5.4-5.7). In chapter 5, we had all possible outcomes that could occur in both situations. For the empirical study in this part, we aim to empirically test the decision of the client in the market.

Based on our theoretical game structure, after the client chooses the sex worker, the client in both situations has a chance to decide whether to have commercial sex with or without a condom. If the client decides not to use the condom, he must offer a tip to

the sex worker in order to negotiate for sex without a condom, and the tip rates are 100-500 Baht, 501-2,000 Baht, 2001-5,000 Baht, 5,001-10,000 Baht, and more than 10,000 Baht, respectively.

The clients who were randomized to make a decision in "the venue-based market with HIV testing policy simulation game", were provided information that the sex worker he chose has a high probability to be healthy and HIV-free before he made the decision. While, the clients who were randomized to make a decision in "the venue-based and non-venue-based market without HIV testing policy simulation game" made a decision without knowing the probability of health status of the sex worker he chose. Then, we compared their decision under these two different circumstances.

Regarding Table 6:10, and 6:11, firstly when we provided information that the sex worker whom he chose is safe, 31.25% of the CFSW prefers sex without condom to safe sex by offering different tip rate to sex worker. However, none of them chose to have sex without a condom when this information is absent. This suggests that the CFSW will not take a risk when there is double asymmetric information, but when there is a signaling for safe sex in the market, 31.25% of them may risk by offering some money in order to have sex without condom. Therefore, the HIV testing policy in high class venue-based market (A Go-Go bar and Massage parlor) increases the client's risk behavior and this also consists with the information of sex worker from Table 6:3 (No.6) that VFSW in A Go-Go bar and massage parlor are the most group experiencing the client did not want to use the condom with 83.75%.

Secondly the CMTSW in venue-based market with HIV testing policy, when we provide them with information that the sex worker whom he chose is safe, 27.78% of them prefer sex without condom to safe sex by offering tip to sex worker. This percentage of CMTSW offering condom is not much different from the CFSW and the Chi-square test in Table 6:11 indicates that the offering condom behavior is not different between genders but is different between situations. In case when there is no HIV testing policy, while none of CFSW chose to have commercial sex without condom, 13.89% of CMTSW surprisingly chose to have commercial sex without condom. This leads us to conclude that basically for the group of male who has sex with male (MSM), there are risk behaviors even the information is double asymmetry. However, the risk behavior will increase if there is signaling for safe sex. It is important

to recall that HIV testing policy for the VMTSW market does not exist in Thailand. The result showed in Table 6:10, is the hypothetical simulation in the case of CMTSW compare to the real case of CFSW.

> *"When we answered your questionnaire, we think that the question that asking about our willing to pay for HIV is not real in our market. The MSM commercial sex market is not like the massage parlor or A Go-Go bar. We quite surprised when you told us that there is HIV testing every 3 months in A Go-Go bar and massage parlor. We think that it is not good ethical and also not fair to the female sex worker because the owner and the client will know the health status of the sex worker. The health information should be our secret and it is not supposed to let others know. Normally the condom use in MSM is low. And if the HIV testing policy has existed in the MSM commercial sex market, we think that they will not use condom more."* (Mr. Bob (alias) and Mr. Ja (alias), MSM client, Bangkapi district, Bangkok)

Finally, we used clients past behaviors (used to have commercial sex without condom from Table 6:9, no.3), the current decision on condom use, and decision if familiar with the sex worker to test for consistency on their answers. If a client never had commercial sex without condom, accepted the condom without offering any rate of tip, and still remained using a condom in case of familiar with the sex worker, they proved their decision consistency and were categorized as safer sex as dominant strategy type.

In venue-based market with HIV testing policy, before the client knew that the sex worker he chose is HIV free, after we provided more information about the sex worker he chose also familiar with him, we found that the condom use dropped 9.09% for the CFSW (from 22 respondents to 20 respondents), and 15.38% for the CMTSW (from 26 respondents to 22 respondents). Hence, 59.38% of normal male clients and 38.89% of MSM clients had safe sex as the dominant strategy in the final when combined all of their 3 answers.

In venue-based and non-venue-based market without HIV testing policy, before the client did not know that the sex worker he chose is HIV free or HIV-positive, after

we mentioned that the sex worker he chose also familiar with him, we found that the condom use was dropped 32% for the CFSW (from 25 respondents to 17 respondents), and 9.67% for the CMTSW (from 31 respondents to 28 respondents). Thus, we conclude that 52% of CFSW and 66.67% of CMTSW had safe sex as the dominant strategy in the final when combined all of their 3 answers.

The Chi-square test from Table 6:11 indicated that the dominant strategy of safe commercial sex was not different between gender, but was different between scenarios (significant at 95% confidence interval), which would suggest that the signaling or HIV testing policy deceased the client's probability to have safe sex as the dominant strategy.

There are some CFSW who were randomized to make a decision in the venue-based market with HIV testing policy that is suspected to be an extreme case of the HIV-positive risk lover. We found that 10 clients made a decision to offer a tip for commercial sex without condom, 12 clients used to have commercial sex without condom, 20 clients used to test for HIV. Some of these are from the same respondent but some are the combination between different respondents. When further investigating these 3 variables, we found that among 10 clients who made a decision to offer sex without condom, 9 of them used to have commercial sex without condom before, and 4 of them used to test for HIV. This could be hypothesized that these final 4 of them could be "HIV-positive risk lover client".

Regarding CMTSW who were randomized to make a decision in the venue-based market with HIV testing policy, 10 clients made a decision to offer a tip for commercial sex without condom, 17 clients used to have commercial sex without condom, 30 clients used to test for HIV. When we further looked into these 3 variables, we found that among 10 clients who made a decision to offer sex without condom, 9 used to have commercial sex without condom before, and 6 used to test for HIV. It could be hypothesized that the final 6 could be classified as "HIV-positive risk lover client".

Regarding CFSW who were randomized to make a decision in the venue-based and non-venue-based market without HIV testing policy, none of them made a decision to offer a tip for commercial sex without condom, 8 clients used to have commercial sex without condom, 14 clients used to test for HIV. Since we have no client offering

sex without condom, we investigated only 2 variables, we found that 8 clients used to have commercial sex without condom before, and 4 used to test for HIV. The final 4 of them could be classified as "HIV-positive risk lover client" and also have a high probability to offer sex without condom if he randomly got the questionnaire for the case of venue-base commercial sex market with HIV testing policy.

Lastly, the CMTSW who were randomized to make a decision in the venue-based and non-venue-based market without HIV testing policy, there were 5 clients made a decision to offer a tip for commercial sex without condom, 11 clients had commercial sex without condom, 27 clients tested for HIV. When we deeply investigated these 3 variables, we found that among 5 clients who made a decision to offer sex without condom, all 5 of them used to have commercial sex without condom before, and 3 out of 5 used to test for HIV. Therefore, the final 3 of them should have a high probability to be "the HIV-positive risk lover client".

The evidence that a client offers tip for sex without condom is supported by the case study in U.S. by Raymond, Hughes, and Gomez (2001). They found that 47% of both female U.S. and international sex workers reported that men frequently expected sex without condoms. 50% of U.S. female sex worker and 73% of international female sex worker reported that men would pay more for sex without a condom. Moreover, 45% of U.S. female sex worker and 29% of international female sex worker also added that men became abusive when were insisted that they should use the condom. Some of the respondents said that although there is a rule to wear a condom in sex work establishments, men still try to have sex without condom.

> *"It's regulation to wear a condom at the sauna, but negotiable between parties on the side. Most guys expected blow jobs without a condom."* (One respondent from Raymond et al. (2001), (pp.72))

They still reported that men try to slip-off the condom without them knowing it. Another woman reported that she didn't use condoms regularly when she was offered extra money.

> *"I very rarely had sex using a condom. I'd be one of those liars if I said 'Oh, I always used a condom.' If there was extra money coming in, then the condom would be out the window. I was looking for the extra money."* (One respondent from Raymond et al. (2001), (pp.72))

To conclude, in the venue-based market with HIV testing policy, the level of consistent condom use as a dominant strategy with sex worker is 59.38% for CFSW, and 38.89% for CMTSW. While, the market without HIV testing policy this level is 52% for CFSW, and 66.67% for CMTSW. On average this number is higher than previous two studies in Thailand. Morris et al. (1995) who collected data from brothels in Udon Thani, Saraburi and Bangkok, and found that the level of consistent condom use with sex worker was between 25-30%, and also Celentano et al. (1994) who collected data in 11 sex establishments in Chiang Mai province and found that the consistent condom use in brothels was 70% and in indirect sex commercial sex establishments was 37%.

To clarify, Morris et al. (1995) and (Celentano et al., 1994) collected the data in Thailand early 1990s which was the same period when Thailand offici1990s, whichced "100% condom program" in 1991, while our data was collected in 2014. When comparing between different samples in different periods, we found that consistent condom use with sex worker was improved during 20 years.

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Table 6:10 Client's decisions

| | | With HIV testing policy | | | | Without HIV testing policy | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** |
| **1. Number of participants** | | 32 | 36 | 67 | | 25 | 36 | 61 | |
| **2. Willingness to pay for HIV information** | No | 5 (15.63%) | 13 (37.14%) | 18 | 26.87 | 5 (20%) | 3 (8.33%) | 8 | 13.11 |
| | Yes, if less or equal than 1,000 | 6 (18.75%) | 6 (17.14%) | 12 | 17.91 | 4 (16%) | 11 (30.56%) | 15 | 24.59 |
| | Yes, 1,001-2,000 | 7 (21.88%) | 13 (37.14%) | 20 | 29.85 | 8 (32%) | 6 (16.67%) | 14 | 22.95 |
| | Yes, 2,001-3,000 | 5 (15.63%) | 3 (8.57%) | 8 | 11.94 | 4 (16%) | 16 (44.44%) | 20 | 32.79 |
| | Yes, 3,001-10,000 | 9 (28.13%) | 1 (2.86%) | 10 | 14.93 | 4 (16%) | 0 (0%) | 4 | 6.56 |
| **3. Condom use decision** | Accept condom | 22 (68.75%) | 26 (72.22%) | 48 | 71.46 | 25 (100%) | 31 (86.12%) | 56 | 91.80 |
| | Offer 100-500 for sex without condom | 1 (3.125%) | 3 (8.33%) | 4 | 5.97 | 0 (0%) | 1 (2.78%) | 1 | 1.64 |
| | Offer 501-2000 for sex without condom | 1 (3.125%) | 4 (11.11%) | 5 | 7.46 | 0 (0%) | 1 (2.78%) | 1 | 1.64 |
| | Offer 2001-5000 for sex without condom | 4 (12.5%) | 2 (5.56%) | 7 | 10.45 | 0 (0%) | 2 (5.54%) | 2 | 3.28 |
| | Offer 5001-10000 for sex without condom | 4 (12.5%) | 1 (2.78%) | 4 | 5.97 | 0 (0%) | 1 (2.78%) | 1 | 1.64 |
| | Offer more than 10000 for sex without condom | 0 (0%) | 0 (0%) | 0 | 0 | 0 (0%) | 0 (0%) | 0 | 0.00 |
| **4. Decision if familiar with the sex worker** | Always use condom | 20 (62.50%) | 22 (62.86%) | 42 | 62.69 | 17 (68%) | 28 (77.78%) | 45 | 73.77 |
| | Probably use condom | 2 (6.25%) | 11 (31.43%) | 13 | 19.40 | 4 (16%) | 5 (13.89%) | 9 | 14.75 |
| | Probably ask for sex without condom | 1 (3.13%) | 2 (5.71%) | 3 | 4.48 | 3 (12%) | 1 2.78%) | 4 | 6.56 |
| | Remain ask for sex without condom | 9 (28.13%) | 1 (2.86%) | 10 | 14.93 | 1 (4%) | 2 (5.56%) | 3 | 4.92 |
| **5. Conclusion** | Accepted Condom with dominant strategy | 19 (59.38%) | 14 (38.89%) | 33 | 48.53 | 13 (52%) | 24 (66.67%) | 37 | 60.65 |

| Table 6:10 Client's decisions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **With HIV testing policy** | | | | **Without HIV testing policy** | | | |
| | | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** | **Client seeking female sex worker (CFSW)** | **Client seeking male and transgender sex worker (CMTSW)** | **All** | **%** |
| | Accepted Condom | 3 (9.37%) | 12 (33.33%) | 15 | 22.05 | 12 (48%) | 7 (19.45%) | 19 | 31.14 |
| | Negotiate for sex without condom | 10 (31.25%) | 10 (27.78%) | 20 | 29.42 | 0 (0%) | 5 (13.88%) | 5 | 8.21 |
| | Total | 32 | 36 | 68 | 100 | 25 | 36 | 61 | 100 |

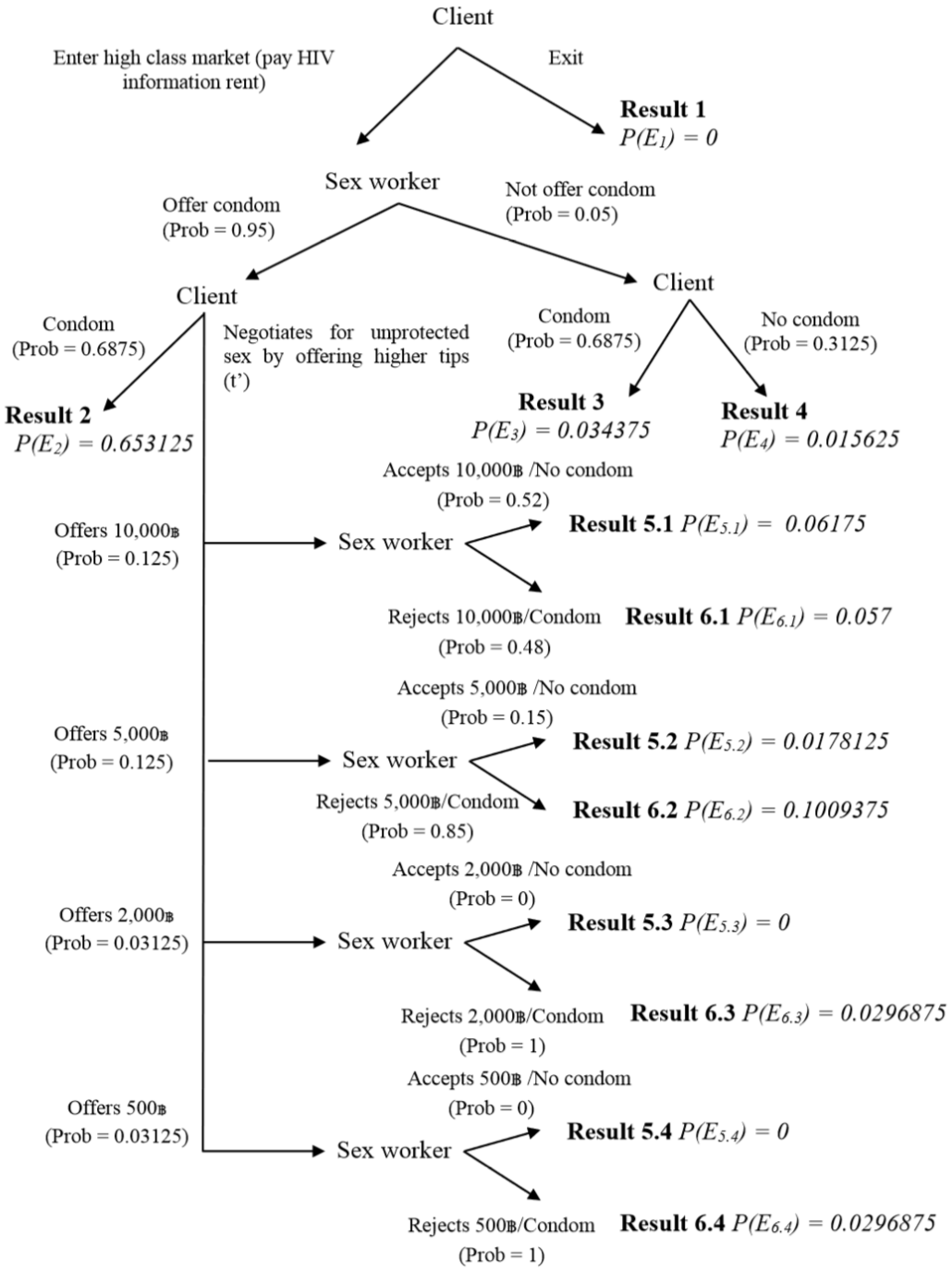
Table 6:11 Goodness of fit test on client's behaviors and decisions

| | **Chi-square ($\chi$)**<br>**$H_0$: There is no different between groups of sex worker**<br>**$H_a$: There is a different between groups of sex worker** | | |
|---|---|---|---|
| **Client** | **Overall test** | **Between with HIV testing and without HIV testing test** | **Between gender test** |
| Consuming alcohol or drugs during the service | 1.376 | 1.332 | 0.004 |
| Having commercial sex without condom | 2.534 | 1.314 | 2.298 |
| HIV testing | 7.173 * | 0.867 | 5.668 ** |
| Willingness to pay for HIV information | 60.774 *** | 31.090 *** | 35.457 *** |
| Condom use decision | 12.062 | 8.690 * | 1.226 |
| Decision if familiar with sex worker | 21.777 *** | 4.070 | 7.880 ** |
| Dominant Strategy conclusion | 16.409 ** | 6.552 ** | 0.420 |

## 6.8 **The empirical equilibrium analysis in venue-based market with HIV testing**

The empirical data from Table 6:1 to 6:11 are used to estimate the probability of all possible outcomes in the case with and without HIV testing policy for both female sex worker market, and male and transgender sex worker market. The empirical results are shown in Figure 6:3 to 6:6.

Figure 6:3 Empirical result in for the VFSW market with HIV testing policy



The situation in venue-based market with HIV testing policy was illustrated by a sequential game because the VSW in the high class market are usually required to offer a condom to the client first as the policy. Then the client will respond with two options which are accepting the condom, and offering a higher tip for sex without condom. If the client offers a tip for sex without a condom, the sex worker needs to decide whether to accept or reject the tip.

We used the experimental questionnaires along with the well-established connection between NGO and sex workers to test for sex worker's decision in two markets. The first market is VFSW which is the real and current representative of venue-based female commercial sex market with HIV testing policy in Thailand, and the second market is the VMTSW in traditional massage, spa, and sauna which is the hypothetical situation of an existence of HIV testing policy in Thai male sex worker market.

Figure 6:3 showed the probability of each possible outcome in the VFSW market. It is necessary to note that due to the HIV testing policy the client is informed that the sex worker has a high probability to be HIV-free.

At the first stage, the probability that VFSW will offer the condom is 0.95 which is the highest when compared with the other 3 types of sex worker. This also indicated that the VFSW in A Go-Go bar and massage parlor follow the condom policy. At the second stage, after be offered the condom by the VFSW, the probability that the CFSW will accept the condom is 0.6875 which finally lead to the probability that both will end up with safe commercial sex (P ($E_2$)) at 0.653125. While, there is still probability at 0.3125 that the client will offer (four possible) tip for sex without condom. The final stage is for sex worker to decide whether to accept a tip or not. We found that some VFSW will accept the tip for sex without condom only when she is offered more or equal than 5,000 Baht. Therefore the probability that there will be a commercial sex without condom when tip offered at 10,000 Baht (P($E_{5.1}$)) and 5,000 Baht (P($E_{5.2}$)) are 0.06175 and 0.0178125, respectively.

Figure 6:4 Empirical result for the hypothetical VMTSW market with HIV testing policy

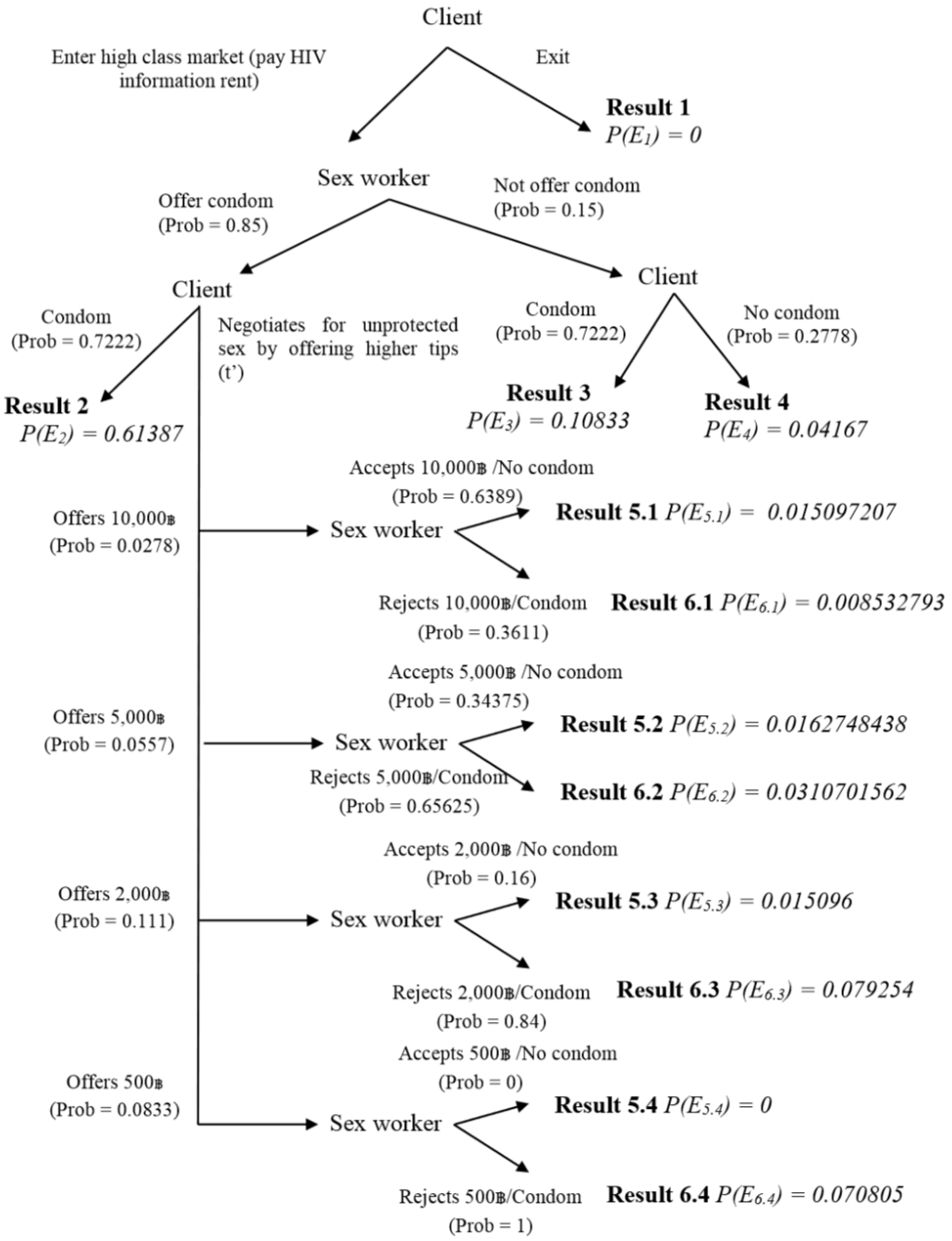



Figure 6:4 showed the probability of each possible outcome in the hypothetical VMTSW market with HIV testing policy. Note that there is no HIV testing policy in the male sex worker market at present. Figure 6:4 is the hypothetical result indicating probability of all outcomes in case that the market is existed in Thailand.

At the first stage, the probability that the VMTSW will offer the condom is 0.85. At the second stage, after be offered the condom by the sex worker, the probability that the CMTSW will accept the condom is 0.7222 which finally lead to the probability that both will end up with safe commercial sex (P ($E_2$)) at 0.61387. While, there is still probability at 0.2778 that the CMTSW will offer 4 possible tip rates for sex without condom. The final stage is for VMTSW to decide whether to accept a tip or not. At present we still do not have HIV testing policy in male and transgender sex worker market, so we used the answer of VMTSW without HIV testing policy as the proxy of this case.

We found that the acceptance rate is higher than the female sex worker. Some of them accepted tip at 2,000 Baht, and some negotiated for more when were offered at 500 Baht. In the case that they negotiated for example 5,000 Baht, we added them into the same group that accepted the tip at 5,000 Baht. Therefore, after recalculating all probabilities, we found that the probability that there will be a commercial sex without a condom when tip offered at 10,000 Baht (P ($E_{5.1}$)), 5,000 Baht (P ($E_{5.2}$)), and 2,000 Baht (P ($E_{5.3}$)) are 0.015097207, 0.0162748438 and 0.015096, respectively.

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## 6.9 The empirical equilibrium analysis in venue-based and non-venue-based market without HIV testing policy

Figure 6:5 Empirical results for NVFSW market without HIV testing policy

Simultaneous game

Sex worker

| Client | Condom (Prob = 0.85) | No condom (0.15) |
|---|---|---|
| Condom (Prob = 1) | $P(E_1) = 0.85$ | $P(E_2) = 0.15$ |
| No condom (Prob = 0) | $P(E_3) = 0$ | $P(E_4) = 0$ |

The situation without HIV testing policy can be illustrated by a simultaneous game because the NVFSW in other sub-markets as freelance, online, street, and park are not required to offer a condom to the client first. Then the decision to use a condom comes up simultaneously from both client and sex worker.

Again, we divided the market into two markets. The first market is a non-venue-based female sex worker (NVFSW) in street, park, and online which is the real and current representative of Thai commercial sex market without HIV testing policy, and the second market is the venue-based male and transgender sex worker (VMTSW) in traditional massage, spa, and sauna which is the real and current representative of Thai MSM commercial sex market without HIV testing policy.

Figure 6:3 shows the probability of each possible outcome in NVFSW market. It is necessary to note that without a HIV testing policy there is double-side asymmetric information in this scenario.

Regarding the NVFSW, the probability that she will offer a condom is 0.85. While the CFSW, when he is not informed that the sex worker he chose is safe, he always uses a condom with probability equals to 1. Therefore the probability that both agree to use a condom (P ($E_1$)) is 0.85. The probability that sex worker does not offer condom, but the client wants to use a condom (P ($E_2$)) is 0.15 which also leads to the commercial sex with condom because the sex worker wants money from client, she must rely on the client. In this case, we can conclude that there is 100% commercial sex with condom.

Figure 6:6 Empirical result for the VMTSW (MSM) commercial sex market without HIV testing policy

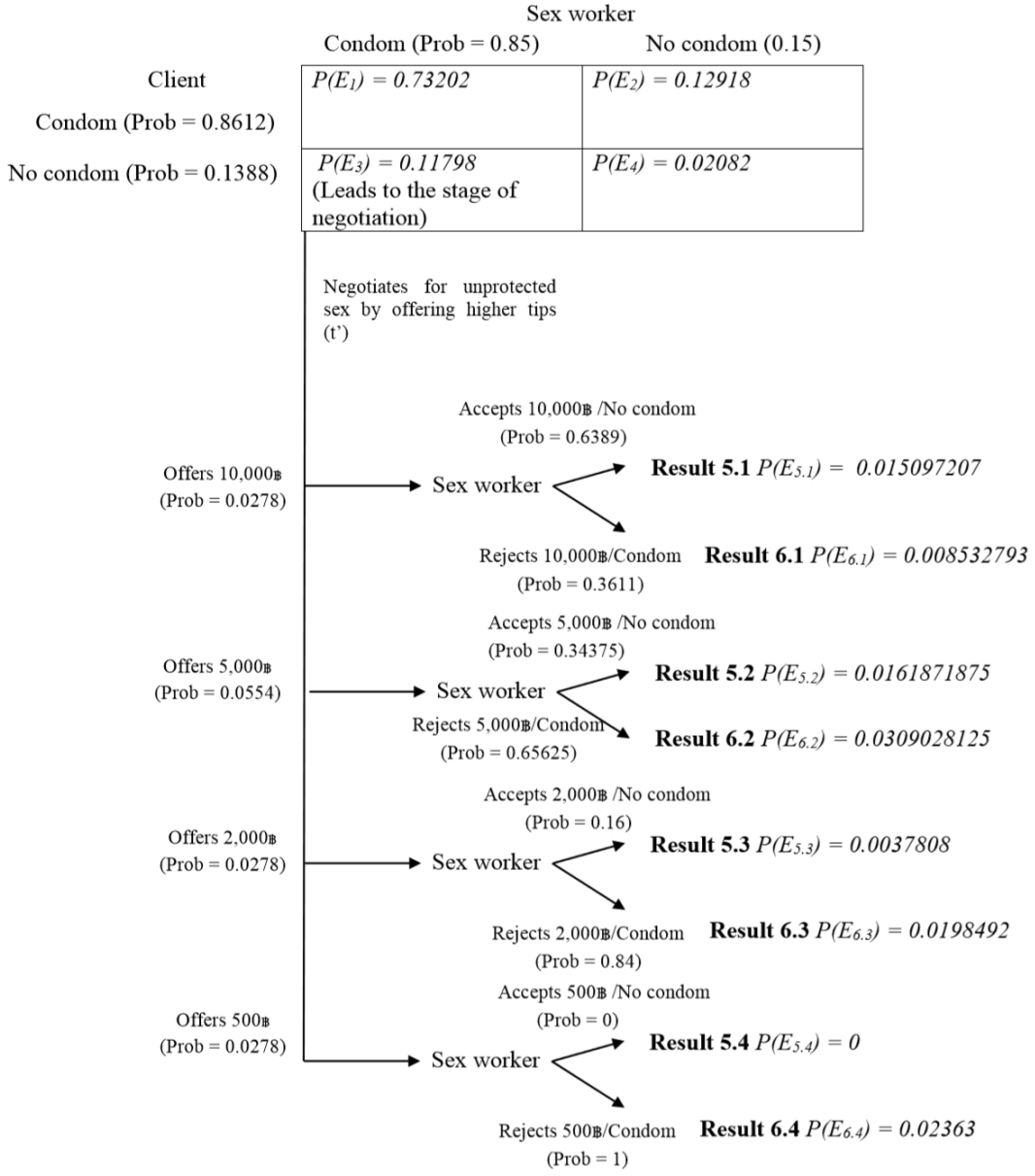


Figure 6:6 shows the probability of each possible outcome in VMTSW market. Regarding the VMTSW, the probability that the sex worker will offer a condom is 0.85. While the CMTSW, even though there is no information that the sex worker he chose is safe, some of them surprisingly negotiate for sex without condom with probability equals to 0.1388. Therefore, the probability that both agree to use a condom (P ($E_1$)) is

0.73202. The probability that sex worker does not offer condom, but the client wants to use a condom (P ($E_2$)) is 0.15 which also leads to the commercial sex with condom.

The probability that both agree to have sex without condom (P ($E_4$)) is 0.02082. Finally, the probability that sex worker offers a condom but the client wants to have sex without a condom (P($E_3$)) is 0.11798. This situation leads them to the next stage which is the negotiation stage.

Since there is still probability of 0.1388 that the client will offer 4 possible tip rates for sex without condom. The final stage is for sex worker to decide whether to accept a tip or not. The acceptance rate in this scenario is the same as we used in Figure 6:4. Therefore, after recalculating all probabilities, we found that the probability that there will be sex without a condom when tip offered at 10,000 Baht (P ($E_{5.1}$)) 5,000 Baht (P ($E_{5.2}$)) and 2,000 Baht (P ($E_{5.3}$)) are 0.015097207, 0.0162748438 and 0.015096, respectively.

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# 7 Conclusions and Policy Implications

## 7.1 Conclusions

The market for commercial sex in Thailand is illegal and can be categorized into sub-markets based on demand and supply (Chapter 4). This thesis uses microeconomic game theoretical framework to capture the situation in the Thai commercial sex market (Chapter 5) and then tests empirically the decision of both client and sex worker by using an experimental questionnaire (Chapter 6). The key findings are summarized as follows;

### 7.1.1 The HIV testing policy is the signaling that causes two separating equilibriums in Thai commercial market

If the client demands a HIV-free sex worker, he needs to pay at high price (Signaling cost or Information rent). We found that in Thailand the HIV testing policy is the signaling that causes two separating equilibriums. This policy is an in-house policy of the high price commercial sex sub-market introduced by the owner of sex work establishment. The objective is to guarantee safety to the client. This policy requires a sex worker to test for HIV every three months or every agreed period. The sex workers need to bring their testing result to exchange for the salary in every agreed period. If the sex worker is found as HIV-positive, she will be asked to leave and will not be hired by the owner. In Thailand, regarding the venue-based female sex worker (VFSW) market, this policy is usually found in a massage parlor, A Go-Go bar, and some luxury sex work establishments, but there is not found in the male and transgender sex worker (MTSW) market.

### 7.1.2 The signaling is not strong.

The HIV testing policy is only signaling in the Thai commercial sex market, but not strong enough to guarantee that 100% of venue-based female sex workers (VFSW) are tested frequently. This thesis shows that only 37.5% of female sex workers in A Go-Go bars and massage parlors where advertises HIV testing policy, tested for HIV last time in the past three months. Therefore, the client seeking female sex worker (CFSW)

should be more careful and risk averse when visiting A Go-Go bars or massage parlors, even though the places advertising that they have a HIV testing policy.

**7.1.3 HIV testing policy increase sex worker preference of using condom but decrease client preference of using condom.**

We found that the HIV testing policy increased venue-based female sex worker (VFSW)'s preference of using condom. They firstly offer condom at probability equal to 0.95, they will not accept sex without condom if the tip is less than 5,000 Baht, and 70% of them have sex with a condom as the dominant strategy. These lead them to be the most risk averse type compared to the non-venue-based female sex worker (NVFSW), and the venue-based male and transgender sex worker (VMTSW).

While the HIV testing policy increases condom use in sex workers, it decreases condom use in clients for both client seeking female sex worker (CFSW), and client seeking male and transgender sex worker (CMTSW). When the sex worker has a high probability to be HIV-free, both types of client become more risk taking.

**7.1.4 The group of male who has sex with male (MSM) is the most risk taking for both client and sex worker.**

Regarding the client side, when the information is double asymmetry, none of the client seeking female sex worker (CFSW) has a willingness to negotiate for sex without condom. However, 13.88% of the client seeking male and transgender sex worker (CMTSW) surprisingly negotiate for sex without condom even though they do not know the health information of sex worker. This could be concluded that asymmetric information does not fully affect condom use decision of CMTSW or the MSM.

Regarding the sex worker side, we found that the venue-based male and transgender sex workers (VMTSW) in traditional massage, sauna, and spa, is the most risk taking group. They firstly offer condom at 0.85 probability, they still accept sex without condom if a tip is less than 5,000 Baht, some of them accept a tip for sex without condom between 2,000-10,000 Baht and negotiate for more if be offered at 500 Baht, and 58% of them have sex with a condom as the dominant strategy which is the lowest group compared to VFSW and NVFSW.

In conclusion, HIV testing policy is the only signaling in Thai commercial sex market which creates two separating equilibriums. A Go-Go bar and massage parlor always advertise to their clients that all of their sex workers are tested and checked by the medical doctor regularly so this signaling is believed to be strong by the perception of clients. However, this thesis empirically proved from the survey that only 37.5% of them had HIV testing in the past three months. The HIV testing policy increases female sex worker's preference for sex with a condom, but reduces client's preference for sex with a condom. Our experimental survey shows that the risk rate of sex without condom per one time commercial sex is 9.5% in the venue-based female sex worker market with HIV testing policy, 8.8% in the hypothetical venue-based male and transgender sex worker market with HIV testing policy, 0% in the non-venue-based female sex worker market without HIV testing policy, and 6.7% in the venue-based male and transgender sex worker market without HIV testing policy. Lastly, the group of male who has sex with male (MSM) including both client and sex worker are the most risk taking group.

## 7.2 **Recommendations**

According to our key findings, this thesis suggests some recommendation as follows;

### **7.2.1 Use 100% condom**

This thesis proved that the signaling or HIV testing policy in Thai venue-based commercial sex market is not strong. Although, the policy is tightened, there is a test time lag. A sex worker provides a commercial sex to many clients per day so she faces a risk of HIV infection many times in one day. Therefore, using a condom all the time is the best way to prevent HIV transmission in the commercial sex market.

- Persuade clients to know the limitation of HIV testing policy and persuade them to use condom all the time, it is important to notify clients the limitations of HIV testing policy and suggests them that condom implies safe commercial sex rather than HIV testing policy.
- Increase sex worker's disutility of becoming HIV, in our model $v(e^{NCD}, h)$ is the disutility of becoming HIV. If this $v(e^{NCD}, h)$ is significantly high,

the sex worker has a high probability to reject a tip for sex without condom. Therefore, it is necessary to increase sex worker's HIV knowledge by informing them the bad effects of HIV, and training them to deal with a client who does not want to use a condom. These activities can be initiated by cooperation with the NGO.

- Increase ethical issue, we remove ethic out of our model because if a person concerns about the other, she/he will not maximize her/his utility. A person considering ethical issues tends to use condom because a condom protects her/himself as well as her/his partner. Therefore, to make a public recognition that spreading the virus is not different from causing other people to death because HIV/AIDS is currently still an incurable disease. This could increase both sex worker and client usage of condoms.

### 7.2.2 Strengthen sex worker bargaining power

Developing a good relationship between sex work establishment owner and the sex worker could be used as another way to strengthen sex worker bargaining power. Regarding our interview, one sex worker reported that her owner is kind and always take a good care of all sex workers. This leads them to have high bargaining power and also prevents them from the violence.

In addition, we also found that the violence against sex worker could happen in other commercial sex sub-markets as the brothel where sex worker has no right to refuse the client, but it is rarely to happen in the high class market where having a professional management. In some high class venue-based commercial sex markets, a sex worker can refuse a client who does not want to use a condom or a client can change a sex worker if the negotiation for sex without condom is failed. This could be related to the issue of legalization of commercial sex market and the legalization is expected to reduce the violence against sex workers.

### 7.2.3 Offer sex without a condom is a signal of risk lover and HIV-positive

Due to the limitations of HIV testing policy, this policy is not a strong signal of safe commercial sex. In spite of HIV testing policy, an offering a sex without condom behavior can be considered as a better signaling in the commercial sex market.

Considering the irrational behavior issue, for the client, to offer a tip for sex without condom is an irrational decision, but if there is a guarantee, a strong signal, or believe that the sex worker is safe, the decision to have sex without condoms would become a rational behavior. However, the current signaling (HIV testing policy) is not strong, so all rational clients should use the condom, which lead the market for sex without condom to have only the irrational client and sex worker.

To offer sex without condom under asymmetric information problem can be seen as a signal that this kind of client is an irrational client (risk lover) with high probability to be HIV-positive. Therefore, if this signal is perceived by the sex worker, the sex worker should reject any tip rates for sex without condom and persuades him to use a condom.

### 7.2.4 Further study is needed for the group of MSM

This study concluded that the group of MSM is the most risk behavior group in Thai commercial sex market. We found that asymmetric information does not fully affect clients seeking male and transgender sex worker, and male and transgender sex workers accept a tip for sex without condom even the tip rate is less than 5,000 Baht. Regarding our interview, we also found that, for example; (1) it is easy to slip off the condom when having an anal sex, (2) many of them need drugs as the sex drive, and (3) they prefer irregular partner. Switching the sexual partners will increase the rate of HIV infection. Therefore, the both qualitative and quantitative analysis of this group are required for further study in order to better understanding their behaviors.

## 7.3 Advantages and disadvantages of legalization commercial sex market

Regarding policy implication, we discuss about the issue of legalization of commercial sex market in the case of Thailand. We begin with some previous literatures

studied on the impact of legalization of commercial sex market on different issues in different countries.

Firstly, the impact of legalization of commercial sex market on human right, it is believed that legalization could reduce the violence against sex workers. In the country where commercial sex is illegal as Namibia, the study of Hubbard and Zimba (2003) presented that 72% of 148 sex workers who were interviewed, reported being abused. Approximately 16% reported abuse by intimate partners, 18% by clients, and 9% at by the police.

World Health Organization (2005b) reported that legalization could support sex worker to form a formal group or connection in the society in order to increase their bargaining power, protect themselves as well as communicate with the policy makers and public. 'For example in Argentina the public workers have formed their own unions and joined with existing labor unions to demand better working conditions including health, safety, contractual rights and decriminalization of sex work.'(World Health Organization, 2005b) (pp.4) On another perspectives, Raymond, DCunha, Dzuhayatin, Hynes, and Rodriguez (2002) interviewed 186 sex workers in 5 countries (Indonesia, the Philippines, Thailand, Venezuela and the United States) and indicated that whether the sex work establishments were legal or illegal, the owner would protect the clients rather than the sex workers. Moreover, Raymond (2004) still added that legalization of commercial sex market demolished the social and ethical barriers and leaded the society treated the sex worker as sexual merchandise.

Secondly, the impact of legalization of commercial sex market on trafficking in humans, it was hypothesized that the legalization of commercial sex market could eliminate sex trafficking. In fact, studies of countries where the commercial sex market or prostitution has been legalized have documented the opposite because trafficking for commercial sex is another economic activity driven by profit incentive. By economic theory, the scale effect of legalization is the market expansion following by an increase in human trafficking, while the substitution effect reduced demand for trafficking by favoring the legal local sex workers. A study of Cho, Dreher, and Neumayer (2013) used the cross-sectional data of 150 countries to investigate the impact of legalization commercial sex market on human trafficking. Their empirical result showed that the scale effect dominated the substitution effect which was also supported by the cases of

Sweden, Denmark, and Germany, where having a large degree of human trafficking after their commercial sex market were legalized. Dutting (2000), Salt (2000) and Siegel (2009) who focused the case of Netherland the first European legal prostitution country, indicated in the same way that many sex workers in the brothels of the Netherlands were trafficked from other countries such as East Europe, and non-EU countries. Similar to Jakobsson and Kotsadam (2013) who used the order logit regression to estimate this relationship in 161 countries from 1996 to 2003. They found that trafficking of persons for commercial sexual exploitation is less prevalent in the illegal commercial sex countries, and most prevalent in legal commercial sex countries. However, when focus on the case study of Sweden and Norway, where introduced the strictly prostitution laws, they found that strictly prostitution legislation reduced the amount of trafficking in these two countries. Finally, supported by the conclusion of Lee and Persson (2013) who used the theoretical analysis to proof that to introduce strictly regulated, and intensely monitored brothels in combination with severe criminal penalties on client who buy sex on public place were the optimal policy where order to minimize trafficking.

Thirdly, the impact of legalization of commercial sex market on the market expansion, many literatures indicated in the same way that the legalization of commercial sex market increased the commercial sex activities and expanded the market. In Netherland, Daley (2001) stated that after legalization in 2000, the sex industry increased 25% in the last decade and became 5% of Dutch economy in 2001. In Australia, Sullivan and Jeffreys (2001) pointed out that Legalization of prostitution in the State of Victoria not only caused all commercial sex sub-market developed in much more profitable ways than before legalization but the commercial sex market also integrated itself as a part of the tourism as casino. Additionally, Kuzma (2013) concluded that legalizing commercial sex market increased the demand for prostitution and a consequent expansion of the prostitution market.

Finally, the impact of legalization of commercial sex market on risk of STDs infection, it is hypothesized that legalizing or regulating the commercial sex market will increase the condom use and lower disease. We found that many literatures focused on the legalization and tariffing, but less of them focused on the risk of STDs/HIV in the market after legalization. P. J. Gertler and Shah (2011) compared the effect of

regulation between street market and brothel market by using the data of 3,000 Ecuadorian female sex workers collected in 2003. They used the police raids as the proxy of enforcement in the street market and the licensure law as the proxy of enforcement in the brothel market, respectively. They found that the enforcement on the street market improved public health outcomes, while the enforcement on brothel market aggravated public health outcomes. The police raid increased the fixed cost of working in the street relative to the less risky brothel sector, which significantly shifted sex workers from the risky street into the less risky brothels. Moreover, it increased street prices, and followed by the reduction of the clients. Because in Ecuador the street sector had the highest disease rate and the lowest levels of condom use, the significantly changed in the street market benefited the overall public health. On the other hand, induced unlicensed sex workers in brothels into the riskier street sector. Finally, they suggested that for the effective enforcement in brothel market, it is needed to be complemented with the police raid in the street.

After analyzing the result from chapter 6, understanding some of the sex worker habits, and reviewing some former literatures, this part we provide advantages and disadvantages between legal and illegal commercial sex market for the case of Thailand.

The commercial sex market in Thailand used to operate legally and taxed by the government. At that time, there was only one direct sex work establishment which was the brothel or the prostitution house. However, 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 the commercial sex 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, A Go-Go bar, night club, pub etc.

Regarding the legalization issue, we separate Thai commercial sex market into another two types which are the illegal market (brothels, street, park, and online) and the semi-legal market (massage parlor, traditional massage, spa, and A Go-Go bar).

Firstly the illegal market, the transactions in these markets are possible due to the difficulty to reach the sex worker, and the non-strictness of the law. To illustrate, it

is difficult for the police to catch the sex worker standing in the street or park even though the police really knows that she/he is a sex worker and he/she is waiting or finding the client. If the police attempts to catch this sex worker, the sex worker will protect her/himself that she/he is waiting for friends and it is impolite to blame someone as a sex worker in Thailand. Moreover, in case of being caught, the law punishes only the sex worker and the penalty of prostitution is imprisonment for one month or a fine not exceeding 1,000 Baht (32.25$) and afterward the sex worker is still able to return to do a sex work.

There are disadvantage and advantage when there is no regulation for the illegal markets as brothel, street, park, and online market. For the disadvantage, the illegal situation increases many risk factors in the market such as having below 18 age of both sex worker and client, alcohol, drugs, violence, no condom policy, no HIV testing policy, no safety guarantee, no cleanness guarantee, and also no ethical concern. On the other hand, the advantage of the illegal market is the double side asymmetric information. Our empirical result indicated that even there are risk behaviors for both client and sex worker, the client's decision to use condom in the situation without HIV testing policy is higher than the situation with HIV testing policy. We found 100% condom use for the client seeking female sex worker (CFSW) and 88% for the client seeking male and transgender sex worker (CMTSW). Therefore, we conclude that an absence of sex worker's health information can increase safer sex strategy (using condoms) in the risk averse or the rational client.

Secondly the semi-legal market, we used the high class venue-based market as A Go-Go bar and massage parlor as the representative of the semi-legal market and these two markets are also considered as the market with HIV testing policy in our theoretical model. The reason why this A Go-Go bar and massage parlor are called semi-legal market is that there are both legal part and illegal part in one same business as shown in Table 7:1. Additionally, without commercial sex, these two businesses are legal and taxed by the Thai Excise Department with 10% per income tax rate.

Table 7:1 The semi-legal commercial sex market

| **Types of semi-legal market** | **Fronting business (Legal)** | **Covered business (Illegal)** |
|---|---|---|
| A Go-Go bar | Food and drink, music, and entertainment | Commercials sex, and sex show |
| Massage parlor | Therapeutic massage, bathing services, and health spa | Commercial sex |

In Thailand, a client who enters A Go-Go bar has a demand for commercial sex accompanying food, drink, and entertainment, and a client who enters the massage parlor has a demand for commercial sex accompanying treatment service.

There are advantage and disadvantage of the semi-legal commercial sex market as A Go-Go bar and massage parlor. For the advantage, many of risk behaviors can be controlled by the regulation; for example: the owner issued the monthly HIV testing policy for every sex workers in order to guarantee safety to the client, the sex workers are protected by the labor law, violence, drugs, underage hiring is illegal and difficult to occur, and lastly every transactions or operations in the establishment must be legal except the commercial sex which is difficult to verify when both client and sex worker are alone in the private room.

On the contrary, for the disadvantage, our empirical result in Table 6:10 (no. 3) shows that the probability to offer a tip for sex without condom is higher for both CFSW and CTSW compare to the case without HIV testing. This indicates that when the asymmetric information is reduced by signaling (HIV testing policy), both types of client tend to increase their risk behavior.

## 7.4 **Advantage and disadvantage of the sample**

To approach the sample by using the support of the Non-Governmental Organizations (NGOs) officers made our data collection be considered as "the convenience sampling". This caused us to have a trade-off between "generalizations of the sample" and "reliability of the sample".

We recognize that our sample is not perfectly representative of the entire population, the results of our study present only behaviors of our respondents collected by the researcher, NGO officers, and the client's connection. This could be considered as the limitation of the study.

Although both client and sex worker are readily available in the market, it is quite difficult to gain access to both groups. Because both of them are restricted by the domestic law and also required a lengthy process to gain their trustfulness. Firstly, the domestic law, this situation causes neither sex worker nor client to accept their true status, which is a non-cooperative in data collection. Secondly, even if we surpass the problem of non-cooperative in data collection and are able to construct a random sampling by ourselves, both sex workers and clients will not truly answer the questionnaire. Their answers tend to protect themselves because they do not trust us.

Therefore, using the convenience sampling with the support of the NGOs leaded us to solve these two barriers and have the reliable sample. Although the result cannot speak out of the whole population, it can be considered as some empirical evidence from the group of reliable data. Additionally, this method also helps us to remove the problem of statistical type I and type II error.

Finally from our experimental data collection, we can conclude that, the result of this thesis is the comparison between microeconomic theoretical model and empirical evidence from a reliable group of convenience sample.

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จุฬาลงกรณ์มหาวิทยาลัย
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# APPENDIX



จุฬาลงกรณ์มหาวิทยาลัย
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**1 Definitions of HIV and AIDS**

- AIDS (Acquired Immunodeficiency Syndrome) is one of the dangerous diseases that destroys the immune system and leaves the infected patient vulnerable to other infectious diseases and finally causes the patient to death especially in the early state. AIDS is caused by the virus named HIV (the Human Immunodeficiency Virus). At the first stage of receiving HIV, the patient still does not have any symptoms of infection, but the patient will have symptoms and suffering when AIDS and other related illness start to appear. To conclude, the difference between HIV and AIDS is, HIV is the actual virus and AIDS is a condition that the patient gets because of the virus.
- There are 5 main ways for HIV epidemic which are sexual relation, contaminated blood transfer, hypodermic needles, from mother to child during the period of pregnancy, and from mother to child by lactation.
- CD4 cells (Cluster of Differentiation 4) are white blood cells that are essential part of human immune system while HIV is the virus that reduces CD4 cells in the human body. Basically, the patient whose CD4 is lower than 200 cells per microliter in an HIV-positive individual is diagnosed as AIDS.

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**.2 Chronology of Global HIV/AIDS, pre-1970s to 2012**

| Timelines | Events |
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| Pre 1970s | • Researcher estimated that between 1884 and 1924 a form of simian immunodeficiency virus (SIV), transferred to humans in central Africa. The mutated virus became the first human immunodeficiency virus (HIV). |
| 1959 | • The first known case of human who died from HIV occurred in the Congo. |
| 1966 | • HIV probably entered Haiti around 1966. |
| 1970s | • HIV probably entered the United States around 1970. |
| 1981 | • AIDS was detected in California and New York, the first case found in the group of gay men, and later found in the group of injecting drug users.<br>• 1981 was generally referred as the beginning of HIV/AIDS epidemic.<br>• July 3, 1981, New York Times published its first article on HIV/AIDS which named "Rare Cancer Seen in 41 Homosexuals".<br>• First known case found in the United Kingdom. |
| 1982 | • HIV/AIDS spread in several European countries.<br>• First known case found in Brazil and Canada.<br>• The name "AIDS" – Acquired Immune Deficiency Syndrome – is created.<br>• On December 10, a baby in California becomes ill in the first known case of infant receiving AIDS via a blood transfusion. |
| 1983 | • First known case found in Australia.<br>• There were around three thousand AIDS cases reported in the USA and one thousand died.<br>• The World Health Organization (WHO) holds the first AIDS meeting in order to assess the impact of global AIDS epidemic. |
| 1984 | • Scientists finally identified that HIV (initially called HTLV-III or LAV) is the virus causing AIDS.<br>• The world's first needle exchange program is set up in Amsterdam, Netherlands.<br>• AIDS became widespread in Africa.<br>• First known case found in Thailand. |
| 1985 | • First known case found in China, and then AIDS has been seen in all regions around the world.<br>• U.S. Department of Health and Human Services (DHHS), and the World Health Organization (WHO) hosted the 1st International AIDS conference in Atlanta. |
| 1986 | • U.S. president Ronald Regan first mentioned the word "AIDS" in public.<br>• There were more than 38,000 cases of AIDS reported from 85 countries. |

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| | • The 2nd International AIDS conference was held in Paris, France. |
| 1987 | • Zidovudine or AZT is the first drug approved for treating AIDS.<br>• U.S. Food and Drug Administration (FDA) approved the first human testing of candidate vaccine against HIV.<br>• The 3rd International AIDS conference was held in Washington D.C., USA.<br>• Cha-on Suesom, a factory worker who became infected with HIV by a blood transfusion in Thailand allowed his story and identity to be published via the media which helped Thailand to increase HIV/AIDS public awareness |
| 1988 | • 1 December was declared as World AIDS day.<br>• A national AIDS education campaign was conducted by the U.S. government by mailing 107 million copies of a booklet titled "Understanding AIDS" to all American households.<br>• The 4th International AIDS conference () was held in Stockholm, Sweden. |
| 1989 | • The number of AIDS patient reported in U.S. reached 100,000.<br>• The 5th International AIDS conference (The Scientifics and Social Challenge for AIDS) was held in Montreal, Canada.<br>• "100 percent condom programme" was initiated in Thailand. |
| 1990 | • Around 8 million people in the world were HIV infected.<br>• U.S. Food and Drug Administration (FDA) approved use of zidovudine (AZT) for pediatric AIDS.<br>• The 6th International AIDS conference (AIDS in the Nineties: From Science to Policy) was held in San Francisco, CA.<br>• The 1st National conference on Women and AIDS was held in Washington D.C. |
| 1991 | • November 7, Ervin "Magic" Johnson, an American basketball star announced that he had HIV-positive and retired from his career.<br>• The 7th International AIDS conference (Science Challenging AIDS) was held in Florence, Italy.<br>• Prime Minister of Thailand, Anand Panyarachun launched Asia's most extensive HIV prevention program. Therefore, HIV prevention and control became a national priority at the highest level. |
| 1992 | • In U.S., AIDS became the number one cause of death for men whose age between 25 and 44.<br>• The 8th International AIDS conference (A World United Against AIDS) was held in Amsterdam, Netherlands. |
| 1993 | • U.S. president Bill Clinton established White House Office of National AIDS Policy (ONAP).<br>• U.S. president Bill Clinton signed HIV immigration exclusion policy into law. |

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| | • AZT appeared to be no benefit for the early state of HIV infection.<br>• "Philadelphia" the movie which has a story about a lawyer with AIDS starring by Tom Hanks and Denzel Washington became the first major Hollywood movie on AIDS.<br>• "Angels in America", Tony Kushner's play about AIDS, won the Tony Award for Best Play and the 1993 Pulitzer Prize for Drama.<br>• The 9th International AIDS conference was held in Berlin, Germany.<br>• Thailand began a massive public information campaign on AIDS. Anti-AIDS messages broadcasted every hour on the country's 488 radio stations and six television networks. Moreover, every school was required to teach AIDS education in classes. |
| 1994 | • AZT is shown to reduce the risk of HIV transmission from mother to child and the infant HIV infections began to fall in developed countries.<br>• The 10th International AIDS conference (The Global Challenge of AIDS: Together for the Future) was held in Yokohama, Japan. |
| 1995 | • U.S. president Bill Clinton established Presidential Advisory Council on HIV/AIDS<br>• The first White House conference on HIV/AIDS<br>• The first National HIV Testing Day was launched by the National Association of People With AIDS (NAPWA).<br>• By the end of the year, the number of HIV/AIDS patient in U.S. reached 500,000.<br>• The U.S. Food and Drug Administration (FDA) approved the first protease inhibitor. This ushered in a new era of highly active antiretroviral therapy (HAART). |
| 1996 | • The number of new AIDS cases diagnosed in the U.S. declined for the first time since the beginning of the epidemic.<br>• The 11th International AIDS conference (One World One Hope) was held in Vancouver, Canada. |
| 1997 | • AIDS deaths began to decline in developed countries, due to the effective of new drugs (HAART). While, in other developing countries, only a small group could access the treatment for HIV.<br>• HAART became the new standard of HIV care.<br>• U.S. president Bill Clintons announced the goal of finding an effective vaccine within 10 year and the established of Dale and Betty Bumpers Vaccine Research center.<br>• Around 22 million people in the world were HIV infected. |
| 1998 | • U.S. department of Health and Human Services issued the first national treatment guidelines for the use of antiretroviral therapy in adults with HIV. |

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| | • The 12th International AIDS conference (Bridging the Gap) was held in Geneva, Switzerland. |
| 1999 | • First human vaccine trial in developing country was begun in Thailand by VaxGen, a San Francisco-based biotechnology company. |
| 2000 | • U.S. president Bill Clinton declared to assist developing countries in importing and producing generic form of HIV treatment.<br>• Both U.S. and UN Security council declared HIV/AIDS a security thread.<br>• The 13th International AIDS conference (Breaking the Silence) was held in Durban, South Africa.<br>• HAART (Highly Active Antiretroviral Therapy) together with antiretroviral drugs (ARVs) began to treat HIV patient in Thailand.<br>• Thai government started a national system to monitor its mother-to-child transmission of HIV programme. |
| 2001 | • The World Trade Organization (WTO) announced the Doha Declaration, which affirm the right of developing countries to buy or manufacture genetic medications in order to confront HIV/AIDS in the country. |
| 2002 | • HIV was the leading cause of death in people whose age between 15 and 59, worldwide.<br>• U.S. announced a framework that would allow poor countries unable to produce pharmaceuticals to gain greater access to drugs needed to combat HIV/AIDS, malaria, and other public health crises.<br>• An increasing evidence of side effect and drug resistance in HAART.<br>• The 14th International AIDS conference (Knowledge and Commitment) was held in Barcelona, Spain. |
| 2003 | • AIDS drugs became more affordable for developing countries.<br>• VaxGen, a San Francisco-based biotechnology company, announced that its AIDSVAX vaccine trial was ineffective since it failed to reduce overall HIV infection rates among those who were vaccinated.<br>• U.S. president George W. Bush announced PEPFAR, the President Emergency Plan for AIDS Relief. |
| 2004 | • The 15th International AIDS conference (Access for All) was held in Bangkok, Thailand.<br>• The Global Fund to Fight AIDS, Tuberculosis, and Malaria hosted the first “Partnership forum” in Bangkok, Thailand; 400 delegates participated. |
| 2005 | • The World Economic Forum annual meeting in Davos, Switzerland considered on the issue of HIV/AIDS in Africa and other hard hit regions of the world. |

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| | • The first Annual National Asian and Pacific Islander HIV/AIDS awareness day in U.S. |
| 2006 | • The first Annual National Women and Girls HIV/AIDS awareness day in U.S.<br>• The first Annual National Native HIV/AIDS awareness day in U.S.<br>• The 16th International AIDS conference (Time to Deliver) was held in Toronto, Canada. |
| 2007 | • Around 33 million people in the world were HIV infected.<br>• The U.S. Centers for Disease Control and Prevention (CDC) reported that since 1981 over 565,000 people in U.S. died from AIDS |
| 2008 | • PEPFAR is reauthorized, committing $48 billion for the next five years.<br>• The first Annual Gay Men's HIV/AIDS awareness day in U.S.<br>• The 17th International AIDS conference (Universal Action Now) was held in Mexico City, Mexico. |
| 2009 | • U.S. president Barack Obama launched a six-year with $48 billion, the Global Health Initiative (GHI) in order to develop a comprehensive approach to addressing global health in low- and middle-income countries along with PEPFAR as a core component.<br>• U.S. president Barack Obama announced the removal of the travel ban that prevents HIV-positive people from entering the US.<br>• The first Annual Caribbean American HIV/AIDS awareness day in U.S. |
| 2010 | • The U.S. Government officially removed the HIV travel and immigration ban.<br>• Obama administration released first comprehensive National HIV/AIDS strategy.<br>• The 18th International AIDS conference (Right Here Right Now) was held in Vienna, Austria. |
| 2011 | • 30 years since first AIDS case had been reported.<br>• Secretary of State Hillary Clinton announced the U.S. goal of creating an AIDS-free generation. |
| 2012 | • U.S. FDA approved "OraQuick In-Home Test" which is the first over-the-counter home-use rapid HIV test kit by using oral fluid.<br>• The 19th International AIDS conference (AIDS 2012) was held in Washington DC, US. |

Source:AVERT: International HIV and AIDS charity, http://www.avert.org/aids-timeline.htm
The Kaiser Family foundation, http://www.kff.org/hivaids/timeline/hivtimeline.cfm
AIDS.gov: the U.S. Department of Health & Human Services, http://aids.gov/hiv-aids-basics/hiv-aids-101/aids-timeline/

**.3 Chronology of Thai commercial market**

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.

1350-1767 UNFPA (2007) reported that during the Ayutthaya period (1350-1767) prostitution was legal and taxed by the Government (called the road maintenance tax) and most of the sex work establishments were settled in the area of Chinese community, the customer were both Thai and foreigners especially Chinese men. Although prostitution was legal, sex workers did not have the same equality as the common citizens and their social status were lower than the slave (Mahidol University, Institute for Population and Social Research, 1994: 6; and Raksorn, 2002: 7). (เด่น, 2545; มหาวิทยาลัยมหิดล, 2537) According to the Ayutthaya law in 1351, prostitute was one type of the 24 persons who could not be the witness at the court. (Raksorn, 2002) (เด่น, 2545).

1687 One of the earliest available historical sources is the journal of French ambassador Simon de La Loubère who had a diplomatic mission in Siam[6] during 1687 to 1688. His journal mentioned that there were around 600 female sex workers working in the brothels as well as harems in the capital of Ayutthaya, these women came from different levels of society. Some of them were the misbehavior daughters and wives of the noblemen who were punished and sold into sexual service market Mahidol University Institute for Population and Social Research, 1994). (มหาวิทยาลัยมหิดล, 2537).

1782 At the beginning of the Rattanakosin period, when the capital city was changed from Ayutthaya to Bangkok, the number of sex workers still increased as the number of Chinese immigrant increase. At that time, Sampeng[7] was the well-known commercial sex market in Bangkok.

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6 Siam used to be the official name of the country until it was change to Thailand in 23 June 1939.

7 Sampeng is the name of Chinese community located in the China town.

Most of the sex workers were Chinese while Thai sex workers usually changed their name to Chinese names for convenience (UNFPA, 2007).

1851-1868 During the reign of King Rama IV, which was the beginnings of the imperial or colonial era, a large number of Western foreigners came to Bangkok. The commercial sex market still expanded and then moved to Bang Rak in order to serve the Western customers. The sex workers then changed their name to European name for convenience as well (UNFPA, 2007).

1905 After King Rama V declared the abolition of Siamese slavery, the number of the sex work establishments as well as prostitutes in Siam was increased since many former female slaves voluntarily became sex workers for earning their living (UNFPA, 2007).

1908 When there was an outbreak of the venereal disease in the country, the Contagious Disease Prevention Act was issued in 1908 in order to control sexually transmitted diseases as well as to organize the prostitution houses. Under this law, both the sex work establishments and sex workers had to be registered, the girls whose age under 15 were not allowed to become a sex worker, and the registered sex work establishments were required to hang a lantern at the front door as a sign of a sex service place. The lantern could be used in many colors, but at first the government displayed the green lantern as an example, so most of the sex work establishment followed by using the light green color. Hence, it was generally known that "The Green Lantern house" mean a legal place of prostitution (Raksorn, 2002; Mattariganond, 2004; and UNFPA, 2007) (UNFPA, 2007; เด่น, 2545; ดารารัตน์, 2547).

1927 During the reign of King Rama VII, the government issued the Trafficking in Women and Girls Act in 1927 since many illegal sex work establishments did not register and pay tax to the government. Moreover, many of northern and foreign girls were lured to become a sex worker, some of them serving in the domestic market while some were sent to the foreign market (Rawungpan and Pornsiripong, 1996) (นิตยา & เสาวภา, 2539).

1930 The number of sex workers in Thailand continued to increase gradually. The report from the National League in 1930 indicated that there were 151 brothels in Bangkok, where 126 owned by Chinese, 22 places owned by Thais and 3 places owned by Vietnamese (Mahidol University, Institute for Population and Social Research, 1994; and UNFPA, 2007) (UNFPA, 2007; มหาวิทยาลัยมหิดล, 2537).

1936 3 years after Thailand became democracy; the government canceled the polygyny law and established the husband of one wife law. This leaded the number of sex workers increased since the many concubines chose to become a sex worker for a living (Mahidol University, Institute for Population and Social Research, 1994: 10) (มหาวิทยาลัยมหิดล, 2537)

1954 After World War II, due to the concerning of human dignity, crimes and the spread of sexual transmitted diseases, the United Nation passed a resolution to abolish prostitution. Thailand as a member of the United Nation followed this resolution by issuing the cancellation of the registration of prostitutes (Rawungpan and Pornsiripong, 1996; and UNFPA, 2007) (UNFPA, 2007; นิตยา & เสาวภา, 2539).

1960 Thailand declared the Prostitution Suppression Act in order to illegalize market for commercial sex. This leaded the sex work establishments and prostitutes were no longer legally accepted in the country. However, this Act did not punish the male clients. (Rawungpan and Pornsiripong, 1996; and UNFPA, 2007) (UNFPA, 2007; นิตยา & เสาวภา, 2539).

1962 It seemed that the Prostitution Suppression Act in 1960 should help Thailand to reduce the sex workers in the country, but the opportunity for entertaining business and sex services rose again in 1962 during the era of Viet Nam War when Thailand agreed to let the American servicemen (GIs) to settle their army base in the Northeast of the country which technically rose the demand for commercial sex in Thailand.

1966 Thailand issued the 1966 Entertainment Places Act to operate and support the entertaining business due to the arrival of American troops. In the market for commercial sex, its structure was significantly changed

after the Prostitution Suppression Act in 1960. After the sex work establishments as prostitution houses or the brothels were illegal, the market transformed itself to become an indirect service of entertaining places such as tea houses (China town), massage parlors, pub, bar, dance club, etc. During this period "a rented wife" was a popular form of prostitution (UNFPA, 2007). After the end of Viet Nam War, some of the rented wives were brought back to the U.S., but many were left behind and forced to continue the sex service job in Thailand. (Mahidol University Institute for Population and Social Research, 1994; and Tangthanaseth, 2011) (มหาวิทยาลัยมหิดล, 2537; รัตนาภรณ์, 2554).

1970-1980 After the Viet Nam War, the tourism sector became an important economic sector of the Thai economy. The promotion and investment of tourism in Thai government supported the growth of entertaining place business and finally turned some small town as Pattaya, Hua-Hin and small province as Phuket to become the most popular entertaining place with many numbers of young beautiful girls from different regions to be employed as entertainers and sex workers for tourists until now.

1982-present After 1982, Thai government began to strict on the Prostitution Suppression Act which leaded the commercial sex business to more carefully concealed under other businesses as it appear today (Rawungpan and Pornsiripong, 1996; and Tangthanaseth, 2011) (นิตยา & เสาวภา, 2539; รัตนาภรณ์, 2554).

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**.4 Guideline for further empirical study**

**To reach sex worker and client**

According to our data collecting experience, we suggest that both sex worker and client are a very sensitive group and quite difficult to reach. To study in this field not only financial supports is needed, but understanding the nature of the sample is also important. An ability to reach them as well as study some of their socioeconomic profiles, behaviors, and also decisions could be considered as one important contribution of the study. In this conclusion chapter, we give our data collecting experiences including some limitations, and problems encountered during the field study. We hope that our suggestions could be useful for the further study attempting to study about the issue of sex worker.

Regarding the sex worker, in Thailand being a sex worker is not only illegal, but also be discriminated by Thai society, so no one will easily accept that she/he is a sex worker. For example, firstly the venue-based sex worker as A Go-Go bar, massage parlor, or traditional massage, sauna and spa, none of the worker, including the owner will accept that their place has a commercial sex because all of these places are indirect market covered by other fronting businesses and they had to protect themselves from the police. The sex worker will not admit that she/he is a sex worker and the owner will state that the place is only a business for food, drink and music (for A Go-Go bar), or a business for treatment service (for massage parlor, and traditional massage, sauna and spa). One of the massage parlor where we used to make an undercover survey had eight sex workers sitting in the glass room with a sexually attractive costume. All of them were wearing a price tag and waiting for the client to pick. While, the front receptionist introduced us some basic information as age, sex work experiences, how good of each sex worker sexual service, there was a conflicting sign hanged on the top of the glass room indicating that prostitution is prohibited. Secondly, the non-venue-based sex worker who uses public places as the market, this sex worker need to be careful of the police. Moreover, regarding to the nature of their working, time is quite important for them. Wasting their time means wasting the opportunity to find a client. Therefore, they will not easily cooperate with the researcher and answer the questionnaire except they receive some money or trust this person.

Therefore, we suggest that researchers should contact sex workers with the help of the Non-Governmental Organizations (NGOs). There are some NGOs in Thailand working in this field. For this study, we received the supports from two NGOs which are “The Service Workers in Group (SWING) Foundation” and “The Rainbow Sky Association of Thailand”. The Service Workers in Group (SWING) Foundation is the organization working directly with both female and male sex workers in Thailand, and the Rainbow Sky Association of Thailand is the organization working with male and transgender sex worker and the group of male who have sex with male (MSM or gay) in Thailand.

There are 3 reasons indicating why these NGOs are an expert in this field and can support researcher to reach the data an information of sex worker.

- First is zoning. Each NGO has a zoning agreement that leads them to focus on their responsible zone. Therefore, the NGO knows the number of sex workers in their area and can estimate the number of samples that they are able to reach under the financial and time constraint.
- Second is sharing some similarities and unofficial organization. Since the market for commercial sex in Thailand is illegal, the government organization cannot reach them. This could be seen as the conflict of interest. However, the NGO is a non-governmental organization. So they can establish trust and relationship with the sex worker as well as the owner of sex work establishment. They work closely with the sex worker. Some of them used to be a sex worker. Some of them share some similarity to the sex worker; for example, the many of NGO staffs who work with the male sex workers is an MSM (gay).
- Third is trustfulness and special collecting techniques. According to our observation during the NGO data collection, we observed that sex workers quite trust the NGO officers and they have a willingness to tell the truth without any hiding. It seems that there are close, understand, and respect each other. They treat each other like a brother, sister, or friend. In addition, they still have their own language or special vocabulary that no one will understand. Therefore, if researchers aim to collect the data directly from the sex worker, sex workers may give the answer protecting themselves. But with the NGO, sex worker will have a courage to tell the truth or NGO may have some techniques to reach the

true answer. For example, the way that the NGO officers collected the data for this study is to talk to them informally and the questions in the questionnaire were asked consequently during their conversation.

For the client, collecting the data from the sex worker is difficult, but collecting the data from the client is more difficult. There are many clients of the commercial sex market but no one will admit that he is a client or used to visit this market. If a man admits that he is a client, he will risk losing his reputation and also his family relation. Basically, a client will admit only to his commercial sex group of friends or some of his close and trustworthy friends. Even the NGO said that the client is out of their hands.

This study used two methods to approach the client, firstly by the help of NGO, although the NGO cannot approach the client directly, they can ask the owners of sex work establishment to distribute the questionnaire to their clients. Additionally, using this way the researcher needs to give some rewards or incentives to the sex work establishment owner. Secondly, by the help of the client, there are some clients who are voluntarily supporting this study. They distributed the questionnaire through their network and connection.

**Sex worker's habits**

To collect data from sex workers, the researcher needs to understand the nature and the habit of them. This factor is useful for further research in the stage of questionnaire design. There are five important habits of sex worker suggested by this study.

- First, dignity, although sex work is discriminated by Thai society, the sex worker does like people to discriminate them, or call them as sex workers or prostitutes. The researcher needs to be more careful when designing the questionnaire or during the interview. The language used must be polite and not to stigmatize them.
- Second, time value type, to collect the data from a sex worker, the researcher together with the NGO need to visit them at their place during their working time. A sex worker is another type of service person so the time is very important for them. Wasting their time means wasting their opportunities to find

the clients. To let them answering the question from the questionnaire, not only respondent gifts or compensated money must be prepared, but also the questionnaire should not too long.

- Third, non-complicate thinking type, both NGOs suggested us in the same way that sex worker does not like to think or analyzing too much. Hence, not only the questionnaire should not too long, but also the questions should be clear, polite, and easy to understand. The NGO told us that once they used to support one organization for collecting information from sex workers. That time the length of the questionnaire was too long (more than 20 pages). At the beginning the sex worker cooperated and answered with the truth, but after answering around 20 questions many of them perfunctorily answered the rest of all.
- Forth, molesting behavior, because sex workers use their body to provide a service to their client, many of them have molested behavior. The NGO warned us during the first time of data collection, that the sex worker may attempt to touch your body such as a hand or leg. In this case, the recommendation from the NGO is to let them do and avoid to express any dislike feelings because the sex worker just tries to be friendly.
- Fifth, suspicious behavior, since sex work is illegal, the sex worker is always careful. The reason why they allowed us to collect their information because they trust the NGO. For the questionnaire the sex worker may not happy to give us their real name. Hence, we did not ask their name in our questionnaire and also invite them to use the alias during the interview including the client.

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

## .5 Questionnaire for sex worker (Thai version)

### Set 1

ข้อมูลสำหรับผู้ให้ข้อมูลในการวิจัย

เอกสารชี้แจงผู้เข้าร่วมการวิจัย

**ชื่อโครงการวิจัย:** *การศึกษาการแพร่กระจายของเชื้อ HIV ด้านการแพทย์กับนัย สำหรับเมืองวิธีวิจัยทางเศรษฐศาสตร์*

**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมนิกุล

**สังกัด:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

**เบอร์โทรศัพท์:** 087 456 5929

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**ประเภทของผู้ให้ข้อมูล:** ผู้ให้บริการ

**ผู้ให้ข้อมูล:**

ขอเรียนเชิญท่านเข้าร่วมในการวิจัยครั้งนี้ ก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย ท่านจำเป็นจะต้องทำความเข้าใจถึงวัตถุประสงค์ของการวิจัยครั้งนี้ และขั้นตอนต่างๆ ที่เกี่ยวข้องกับการวิจัย ดังนั้นท่านจึงควรใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนให้ได้ตลอดเวลา

โครงการวิจัยนี้เป็นการเก็บข้อมูลโดยการแบบสอบถามเพียงครั้งเดียว งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง "ความไม่สมมาตรของข้อมูลในตลาดขนบริการทางเพศ กรณีการแพร่กระจายของเชื้อ HIV และการให้ถุงยางอนามัย"

วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ด้านการแพทย์กับนัยในตลาดขนบริการทางเพศ ด้วยทฤษฎีความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในครั้งนี้ หมายถึงการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มหนึ่งคือ หญิงและชายที่ขายบริการทางเพศ ทั้งที่ขายบริการ อย่างชัดระ และผู้ในกลุ่มประกอบการ จำนวนประมาณ 150-200 คน และกลุ่มที่สอง ลูกค้าของผู้ใช้บริการในตลาดขนบริการทางเพศ จำนวนประมาณ 100-150 คน โดยการวิจัยนี้จะมีผู้ที่ร่วมในการวิจัยทั้งหมด 300 คน โดยกลุ่มตัวอย่างดังกล่าวจะถูกคัดเลือกในประเภทของกลุ่มผู้เข้าร่วม

ท่านโครงการจะมีการอธิบายให้ท่านมีส่วนร่วมในโครงการในฐานะเป็นกลุ่มเป้าหมายในการศึกษาโครงการนี้จะไม่มีการแทรกแซงจากข้อมูลและความเห็นส่วนตัวของท่านในขณะตอบแบบสอบถาม *โดยการแบบสอบถามนี้ไม่มีการให้ทานระบุชื่อ และการตอบของท่าน*

ระยะเวลาในการทำแบบสอบถามนี้ใช้เวลาประมาณ 10-15 นาที สำหรับการสัมภาษณ์เก็บแบบสอบถาม ทางผู้วิจัยได้ประสานงานร่วมกับหน่วยงานที่เกี่ยวข้องกับสตรีบริการทางเพศ ทั้งหน่วยงานของรัฐ แกนประชาสังคมไทย และ มูลนิธิเพื่อสตรีและเด็ก ในการสัมภาษณ์ครั้งนี้ ทางผู้วิจัยได้ประสานงานกับองค์กรพัฒนาเอกชน (NGO) ที่มีการทำงานเกี่ยวข้องกับสตรีบริการทางเพศ และเป็นที่รู้จักเป็นอย่างดี ตัวอย่าง โดยทั้งสองหน่วยงานจะเป็นผู้ประสานงานกับผู้ให้ข้อมูลในการสัมภาษณ์ และเป็นผู้ให้ความช่วยเหลือในระหว่างการเก็บแบบสอบถาม

สำหรับผู้ที่ปฏิบัติงานวิจัยภาคสนามนั้นได้ 2 วิธี ได้แก่ 1. ทางเจ้าหน้าที่ NGO จะเป็นผู้ประสานงานกับการเปิดให้บริการทางเพศของแต่ละหน่วยงานตามปกติ และ 2. ผู้ช่วยผู้ปฏิบัติการในตลาดขนบริการทางเพศที่ผู้วิจัยได้ทำการคัดเลือกมาแล้ว จากนั้นจะให้ความช่วยเหลือในการแนะนำผู้ช่วยให้รู้จักกับผู้ให้ข้อมูลที่มีประสบการณ์ในการทำงานในตลาดขนบริการทางเพศ ซึ่งในการวิจัยครั้งนี้ ผู้ช่วยจะมีหน้าที่ในการ

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



ข้อแนะนำ สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. เพศ

O ชาย O หญิง

2. อายุ (โปรดกรอกตัวเลข) ..... ปี

3. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O สูงกว่าปริญญาตรี

4. ภูมิลำเนาของท่าน

O กรุงเทพฯ

O อื่นๆ (โปรดระบุจังหวัด).....

O ชาวต่างชาติ (โปรดระบุสัญชาติของท่าน).....

5. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

6. จำนวนบุตรของท่าน

O ไม่มีบุตร O มีบุตร (โปรดกรอกจำนวนบุตร)..... คน

7. ท่านทำงานนี้เต็มเวลาหรือชั่วคราว

O เต็มเวลา/งานประจำ (Full time) O ชั่วคราว (Part time)

8. ท่านทำงานนี้มานานหรือยัง

O น้อยกว่า 1 ปี

O 1 ปีแต่ไม่เกิน 3 ปี

O 3 ปีแต่ไม่เกิน 5 ปี

O 5 ปีแต่ไม่เกิน 10 ปี

O 10 ปีขึ้นไป

9. รายได้เฉลี่ยต่อเดือนของท่านจากการทำงานนี้

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน



10. เมื่อวานนี้ หรือ ครั้งล่าสุดที่ท่านทำงาน ท่านได้ให้บริการแก่ลูกค้ากี่คน

(โปรดกรอกตัวเลข).....คน

11. จำนวนผู้มาใช้บริการ หรือ ลูกค้า ที่ท่านให้บริการเฉลี่ยต่อสัปดาห์

(โปรดกรอกตัวเลข) ประมาณ.....คน/สัปดาห์

12. ท่านเคยบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**ระหว่างการให้บริการหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย

13. ในการให้บริการลูกค้าของท่าน มีการ**ใช้ถุงยาง**หรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

14. โดยปกติท่านเป็นผู้บอกลูกค้า ให้ใช้ถุงยางอนามัยก่อนหรือไม่

O บอกทุกครั้ง O บอกเป็นบางครั้ง O ไม่เคยบอกเลย

15. ถ้าลูกค้าต่อรองกับท่านว่าจะไม่ใช้ถุงยางอนามัย **โดยจะมอบเงินให้ท่านเพิ่มอีก 500 บาท** ท่านคิดอย่างไร

O ฉันไม่ยอมรับเงิน

O ฉันยอมรับเงิน

O ฉันขอต่อรองราคาที่จำนวน ..... บาท (โปรดระบุตัวเลข)

16. ที่ผ่านมาเคยมีลูกค้าต่อรองขอไม่ใช้ถุงยางกับท่านเหมือนข้อ 15 หรือไม่

O เคย O ไม่เคย

17. สิ่งแรกที่ท่านคิด เมื่อนึกถึงการใช้ถุงยางอนามัย

O ใช้เพื่อป้องกันการตั้งครรภ์

O ใช้เพื่อป้องกันการติดต่อโรคทางเพศสัมพันธ์

O ใช้ตามนโยบายหรือโฆษณาที่ชักชวนให้ใช้

O อื่นๆ (โปรดระบุ).....

18. ท่านตรวจสุขภาพหรือได้รับการรักษาจากแพทย์/พยาบาล บ่อยแค่ไหน

O ไม่เคยตรวจเลย

O นานๆตรวจที (หลายปีตรวจที)

O ตรวจเป็นประจำ ทุกๆ (โปรดระบุ เช่น ทุกสัปดาห์, ทุกเดือน, ทุกสามเดือน, ทุกปี ฯลฯ) .....

19. ท่านเคยตรวจ HIV หรือไม่

O เคยตรวจเมื่อ 3 เดือนที่แล้ว

O เคยตรวจเมื่อ 6 เดือนที่แล้ว

O เคยตรวจเมื่อ 1 ปีที่แล้ว

O เคยตรวจเมื่อ 2-5 ปีที่แล้ว

O เคยตรวจเมื่อนานกว่า 5 ปีที่แล้ว

O ไม่เคยตรวจเลย



ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

Set 2

**ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย**

**เอกสารชี้แจงผู้เข้าร่วมการวิจัย**

**ชื่อโครงการวิจัย:** *การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์*
**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมรักษ์
**ที่อยู่:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
**เบอร์โทรศัพท์:** 087 456 5929
**อีเมล์:** peera@hotmail.com
**ประเภทกลุ่มตัวอย่าง:** ผู้ให้บริการ
**คำชี้แนะ:**

ขอเรียนเชิญท่านเข้าร่วมในการวิจัยก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย ก่อนที่ท่านจะตัดสินใจเข้าร่วมนั้นทางโครงการขออนุญาตทำการชี้แจงเบื้องต้นถึงสาเหตุจำเป็นที่ต้องดำเนินโครงการและสิ่งใดที่จำเป็นบ้างในการดำเนินการวิจัยครั้งนี้ กรุณาใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

โครงการวิจัยนี้เป็นการเก็บข้อมูลโดยผ่านแบบสอบถามเพียงครั้งเดียว งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง "ความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ การแพร่ระบาดของเชื้อ HIV และการใช้ถุงยางอนามัย"

วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ในตลาดขายบริการทางเพศ ด้วยทฤษฎีความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในเป้าหมายของการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มที่หนึ่ง หญิงและชายที่ขายบริการทางเพศ ทั้งที่ขายบริการ อย่างอิสระ และอยู่ในสถานประกอบการ จำนวนประมาณ 150-200 คน และกลุ่มที่สอง ลูกค้าชายที่ใช้บริการในตลาดขายบริการทางเพศ จำนวนประมาณ 100-150 คน โดยการวิจัยนี้มุ่งหวังที่จะมีผู้มีส่วนร่วมในการวิจัยทั้งหมด 300 คน โดยกลุ่มตัวอย่างดังกล่าวถูกจัดอยู่ในประเภทของกลุ่มผู้เปราะบาง

ทางโครงการยินดีให้ท่านมีส่วนร่วมในโครงการในฐานะเป็นกลุ่มเป้าหมายในการศึกษาโครงการนี้จะไม่สร้างความยุ่งยาก ข้อเสีย และ ความเสี่ยงให้แก่ท่านในอนาคต *โดยทางแบบสอบถามไม่มีการให้ท่านระบุชื่อ และนามสกุลของท่าน*

ระยะเวลาในการทำแบบสอบถามนี้ใช้เวลาประมาณ 10-15 นาที สำหรับการลงพื้นที่เก็บแบบสอบถาม ทางผู้วิจัยได้รับความช่วยเหลือจากสมาคมฟ้าสีรุ้ง แห่งประเทศไทย และ มูลนิธิเพื่อนพนักงานบริการสวิง ทั้งสองหน่วยงานเป็นองค์กรนอกภาครัฐ (NGO) ที่มีความชำนาญทำงานอยู่ใกล้ชิด และเป็นที่ไว้วางใจของกลุ่มตัวอย่าง โดยทั้งสองหน่วยงานจะเป็นคนกลางช่วยประสานกับกลุ่มตัวอย่าง รวมทั้งให้ความช่วยเหลือในระหว่างการเก็บแบบสอบถาม

สำหรับผู้ใช้บริการมีวิธีการเข้าถึงได้ 2 วิธี ได้แก่ 1. ทางเจ้าหน้าที่ NGO จะเป็นผู้ประสานแก่ทางร้านที่มีการเปิดให้บริการทางเพศชนิดแอบแฝงช่วยแจกแบบสอบถามแก่ลูกค้า และ 2. มีลูกค้าผู้ใช้บริการในตลาดขายบริการทางเพศกลุ่มหนึ่ง อาสาที่จะให้ความช่วยเหลือนำแบบสอบถามไปแจกแก่กลุ่มเครือข่ายโดยเกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องเป็นผู้ที่มีอุปสงค์ต่อตลาดขายบริการทางเพศ รวมทั้งมีประสบการณ์เคยไปใช้บริการหรือยังคงไปใช้บริการตลาดขายบริการทางเพศอยู่

ในขณะที่ผู้ขายบริการทางเพศมีวิธีการเข้าถึงโดยเจ้าหน้าที่ NGO จะเป็นผู้ดำเนินการลงพื้นที่และเก็บแบบสอบถามกับกลุ่มผู้ขายบริการทางเพศที่อยู่ในพื้นที่การดูแลของ NGO เกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องหญิงหรือชายที่ทำงานให้บริการมีเพศสัมพันธ์กับผู้อื่น โดยได้รับเงินเป็นการแลกเปลี่ยนหรือผลตอบแทน

โครงการวิจัยนี้จะไม่ก่อให้เกิดความไม่สบายใจ ความเสี่ยง หรือผลกระทบใดๆทั้งสิ้น ในกรณีที่ท่านรู้สึกอึดอัดไม่สบายใจหรือเครียดกับบางคำถามท่านสามารถปฏิเสธที่จะเข้าร่วมหรือถอนตัวจากการวิจัยได้ทุกขณะโดยไม่ต้องให้เหตุผลและไม่สูญเสียประโยชน์ใดๆ หากท่านมีข้อสงสัยให้สอบถามเพิ่มเติมได้โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลา

ทางโครงการจะเก็บข้อมูลของท่านเป็นความลับอย่างยิ่ง ข้อมูลของท่านจะถูกนำไปใช้เพื่องานวิจัยเท่านั้นและจะไม่เปิดเผยต่อบุคคลภายนอก *ข้อมูลทุกประเภทเกี่ยวข้องกับผู้ที่มีส่วนร่วม เมื่อเสร็จสิ้นการวิจัยแล้วจะทำลาย*

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



ข้อแนะนำ สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. เพศ

O ชาย O หญิง

2. อายุ (โปรดกรอกตัวเลข) ..... ปี

3. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O สูงกว่าปริญญาตรี

4. ภูมิลำเนาของท่าน

O กรุงเทพฯ

O อื่นๆ (โปรดระบุจังหวัด).....

O ชาวต่างชาติ (โปรดระบุสัญชาติของท่าน).....

5. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

6. จำนวนบุตรของท่าน

O ไม่มีบุตร O มีบุตร (โปรดกรอกจำนวนบุตร)..... คน

7. ท่านทำงานนี้เต็มเวลาหรือชั่วคราว

O เต็มเวลา/งานประจำ (Full time) O ชั่วคราว (Part time)

8. ท่านทำงานนี้มานานหรือยัง

O น้อยกว่า 1 ปี

O 1 ปีแต่ไม่เกิน 3 ปี

O 3 ปีแต่ไม่เกิน 5 ปี

O 5 ปีแต่ไม่เกิน 10 ปี

O 10 ปีขึ้นไป

9. รายได้เฉลี่ยต่อเดือนของท่านจากการทำงานนี้

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน



10. เมื่อวานนี้ หรือ ครั้งล่าสุดที่ท่านทำงาน ท่านได้ให้บริการแก่ลูกค้ากี่คน

(โปรดกรอกตัวเลข).....คน

11. จำนวนผู้มาใช้บริการ หรือ ลูกค้า ที่ท่านให้บริการเฉลี่ยต่อสัปดาห์

(โปรดกรอกตัวเลข) ประมาณ.....คน/สัปดาห์

12. ท่านเคยบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**ระหว่างการให้บริการหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย

13. ในการให้บริการลูกค้าของท่าน มีการ**ใช้ถุงยาง**หรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

14. โดยปกติท่านเป็นผู้บอกลูกค้า ให้ใช้ถุงยางอนามัยก่อนหรือไม่

O บอกทุกครั้ง O บอกเป็นบางครั้ง O ไม่เคยบอกเลย

15. ถ้าลูกค้าต่อรองกับท่านว่าจะไม่ใช้ถุงยางอนามัย **โดยจะมอบเงินให้ท่านเพิ่มอีก 2,000 บาท** ท่านคิดอย่างไร

O ฉันไม่ยอมรับเงิน

O ฉันยอมรับเงิน

O ฉันขอต่อรองราคาที่จำนวน ..... บาท (โปรดระบุตัวเลข)

16. ที่ผ่านมาเคยมีลูกค้าต่อรองขอไม่ใช้ถุงยางกับท่านเหมือนข้อ 15 หรือไม่

O เคย O ไม่เคย

17. สิ่งแรกที่ท่านคิด เมื่อนึกถึงการใช้ถุงยางอนามัย

O ใช้เพื่อป้องกันการตั้งครรภ์

O ใช้เพื่อป้องกันการติดต่อโรคทางเพศสัมพันธ์

O ใช้ตามนโยบายหรือโฆษณาที่ชักชวนให้ใช้

O อื่นๆ (โปรดระบุ).....

18. ท่านตรวจสุขภาพหรือได้รับการรักษาจากแพทย์/พยาบาล บ่อยแค่ไหน

O ไม่เคยตรวจเลย

O นานๆตรวจที (หลายปีตรวจที)

O ตรวจเป็นประจำ ทุกๆ (โปรดระบุ เช่น ทุกสัปดาห์, ทุกเดือน, ทุกสามเดือน, ทุกปี ฯลฯ) .....

19. ท่านเคยตรวจ HIV หรือไม่

O เคยตรวจเมื่อ 3 เดือนที่แล้ว

O เคยตรวจเมื่อ 6 เดือนที่แล้ว

O เคยตรวจเมื่อ 1 ปีที่แล้ว

O เคยตรวจเมื่อ 2-5 ปีที่แล้ว

O เคยตรวจเมื่อนานกว่า 5 ปีที่แล้ว

O ไม่เคยตรวจเลย



ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

Set 3

**ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย**

**เอกสารชี้แจงผู้เข้าร่วมการวิจัย**

**ชื่อโครงการวิจัย:** *การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์*
**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมรักษ์
**ที่อยู่:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
**เบอร์โทรศัพท์:** 087 456 5929
**อีเมล์:** peera@hotmail.com
**ประเภทกลุ่มตัวอย่าง:** ผู้ให้บริการ
**คำชี้แนะ:**

ขอเรียนเชิญท่านเข้าร่วมในการวิจัยก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย ก่อนที่ท่านจะตัดสินใจเข้าร่วมนั้นทางโครงการขออนุญาตทำการชี้แจงเบื้องต้นถึงสาเหตุจำเป็นที่ต้องดำเนินโครงการและสิ่งใดที่จำเป็นบ้างในการดำเนินการวิจัยครั้งนี้ กรุณาใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

โครงการวิจัยนี้เป็นการเก็บข้อมูลโดยผ่านแบบสอบถามเพียงครั้งเดียว งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง "ความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ การแพร่ระบาดของเชื้อ HIV และการใช้ถุงยางอนามัย"

วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ในตลาดขายบริการทางเพศ ด้วยทฤษฎีความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในเป้าหมายของการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มที่หนึ่ง หญิงและชายที่ขายบริการทางเพศ ทั้งที่ขายบริการ อย่างอิสระ และอยู่ในสถานประกอบการ จำนวนประมาณ 150-200 คน และกลุ่มที่สอง ลูกค้าชายที่ใช้บริการในตลาดขายบริการทางเพศ จำนวนประมาณ 100-150 คน โดยการวิจัยนี้มุ่งหวังที่จะมีผู้มีส่วนร่วมในการวิจัยทั้งหมด 300 คน โดยกลุ่มตัวอย่างดังกล่าวถูกจัดอยู่ในประเภทของกลุ่มผู้เปราะบาง

ทางโครงการยินดีให้ท่านมีส่วนร่วมในโครงการในฐานะเป็นกลุ่มเป้าหมายในการศึกษาโครงการนี้จะไม่สร้างความยุ่งยาก ข้อเสีย และ ความเสี่ยงให้แก่ท่านในอนาคต *โดยทางแบบสอบถามไม่มีการให้ท่านระบุชื่อ และนามสกุลของท่าน*

ระยะเวลาในการทำแบบสอบถามนี้ใช้เวลาประมาณ 10-15 นาที สำหรับการลงพื้นที่เก็บแบบสอบถาม ทางผู้วิจัยได้รับความช่วยเหลือจากสมาคมฟ้าสีรุ้ง แห่งประเทศไทย และ มูลนิธิเพื่อนพนักงานบริการสวิง ทั้งสองหน่วยงานเป็นองค์กรนอกภาครัฐ (NGO) ที่มีความชำนาญทำงานอยู่ใกล้ชิด และเป็นที่ไว้วางใจของกลุ่มตัวอย่าง โดยทั้งสองหน่วยงานจะเป็นคนกลางช่วยประสานกับกลุ่มตัวอย่าง รวมทั้งให้ความช่วยเหลือในระหว่างการเก็บแบบสอบถาม

สำหรับผู้ใช้บริการมีวิธีการเข้าถึงได้ 2 วิธี ได้แก่ 1. ทางเจ้าหน้าที่ NGO จะเป็นผู้ประสานแก่ทางร้านที่มีการเปิดให้บริการทางเพศชนิดแอบแฝงช่วยแจกแบบสอบถามแก่ลูกค้า และ 2. มีลูกค้าผู้ใช้บริการในตลาดขายบริการทางเพศกลุ่มหนึ่ง อาสาที่จะให้ความช่วยเหลือนำแบบสอบถามไปแจกแก่กลุ่มเครือข่ายโดยเกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องเป็นผู้ที่มีอุปสงค์ต่อตลาดขายบริการทางเพศ รวมทั้งมีประสบการณ์เคยไปใช้บริการหรือยังคงไปใช้บริการตลาดขายบริการทางเพศอยู่

ในขณะที่ผู้ขายบริการทางเพศมีวิธีการเข้าถึงโดยเจ้าหน้าที่ NGO จะเป็นผู้ดำเนินการลงพื้นที่และเก็บแบบสอบถามกับกลุ่มผู้ขายบริการทางเพศที่อยู่ในพื้นที่การดูแลของ NGO เกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องหญิงหรือชายที่ทำงานให้บริการมีเพศสัมพันธ์กับผู้อื่น โดยได้รับเงินเป็นการแลกเปลี่ยนหรือผลตอบแทน

โครงการวิจัยนี้จะไม่ก่อให้เกิดความไม่สบายใจ ความเสี่ยง หรือผลกระทบใดๆทั้งสิ้น ในกรณีที่ท่านรู้สึกอึดอัดไม่สบายใจหรือเครียดกับบางคำถามท่านสามารถปฏิเสธที่จะเข้าร่วมหรือถอนตัวจากการวิจัยได้ทุกขณะโดยไม่ต้องให้เหตุผลและไม่สูญเสียประโยชน์ใดๆ หากท่านมีข้อสงสัยให้สอบถามเพิ่มเติมได้โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลา

ทางโครงการจะเก็บข้อมูลของท่านเป็นความลับอย่างยิ่ง ข้อมูลของท่านจะถูกนำไปใช้เพื่องานวิจัยเท่านั้นและจะไม่เปิดเผยต่อบุคคลภายนอก *ข้อมูลทุกประเภทเกี่ยวข้องกับผู้ที่มีส่วนร่วม เมื่อเสร็จสิ้นการวิจัยแล้วจะทำลาย*

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



ข้อแนะนำ สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. เพศ

O ชาย O หญิง

2. อายุ (โปรดกรอกตัวเลข) ..... ปี

3. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O สูงกว่าปริญญาตรี

4. ภูมิลำเนาของท่าน

O กรุงเทพฯ

O อื่นๆ (โปรดระบุจังหวัด).....

O ชาวต่างชาติ (โปรดระบุสัญชาติของท่าน).....

5. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

6. จำนวนบุตรของท่าน

O ไม่มีบุตร O มีบุตร (โปรดกรอกจำนวนบุตร)..... คน

7. ท่านทำงานนี้เต็มเวลาหรือชั่วคราว

O เต็มเวลา/งานประจำ (Full time) O ชั่วคราว (Part time)

8. ท่านทำงานนี้มานานหรือยัง

O น้อยกว่า 1 ปี

O 1 ปีแต่ไม่เกิน 3 ปี

O 3 ปีแต่ไม่เกิน 5 ปี

O 5 ปีแต่ไม่เกิน 10 ปี

O 10 ปีขึ้นไป

9. รายได้เฉลี่ยต่อเดือนของท่านจากการทำงานนี้

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน



10. เมื่อวานนี้ หรือ ครั้งล่าสุดที่ท่านทำงาน ท่านได้ให้บริการแก่ลูกค้ากี่คน

(โปรดกรอกตัวเลข).....คน

11. จำนวนผู้มาใช้บริการ หรือ ลูกค้า ที่ท่านให้บริการเฉลี่ยต่อสัปดาห์

(โปรดกรอกตัวเลข) ประมาณ.....คน/สัปดาห์

12. ท่านเคยบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**ระหว่างการให้บริการหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย

13. ในการให้บริการลูกค้าของท่าน มีการ**ใช้ถุงยาง**หรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

14. โดยปกติท่านเป็นผู้บอกลูกค้า ให้ใช้ถุงยางอนามัยก่อนหรือไม่

O บอกทุกครั้ง O บอกเป็นบางครั้ง O ไม่เคยบอกเลย

15. ถ้าลูกค้าต่อรองกับท่านว่าจะไม่ใช้ถุงยางอนามัย **โดยจะมอบเงินให้ท่านเพิ่มอีก 5,000 บาท** ท่านคิดอย่างไร

O ฉันไม่ยอมรับเงิน

O ฉันยอมรับเงิน

O ฉันขอต่อรองราคาที่จำนวน ..... บาท (โปรดระบุตัวเลข)

16. ที่ผ่านมาเคยมีลูกค้าต่อรองขอไม่ใช้ถุงยางกับท่านเหมือนข้อ 15 หรือไม่

O เคย O ไม่เคย

17. สิ่งแรกที่ท่านคิด เมื่อนึกถึงการใช้ถุงยางอนามัย

O ใช้เพื่อป้องกันการตั้งครรภ์

O ใช้เพื่อป้องกันการติดต่อโรคทางเพศสัมพันธ์

O ใช้ตามนโยบายหรือโฆษณาที่ชักชวนให้ใช้

O อื่นๆ (โปรดระบุ).....

18. ท่านตรวจสุขภาพหรือได้รับการรักษาจากแพทย์/พยาบาล บ่อยแค่ไหน

O ไม่เคยตรวจเลย

O นานๆตรวจที (หลายปีตรวจที)

O ตรวจเป็นประจำ ทุกๆ (โปรดระบุ เช่น ทุกสัปดาห์, ทุกเดือน, ทุกสามเดือน, ทุกปี ฯลฯ) .....

19. ท่านเคยตรวจ HIV หรือไม่

O เคยตรวจเมื่อ 3 เดือนที่แล้ว

O เคยตรวจเมื่อ 6 เดือนที่แล้ว

O เคยตรวจเมื่อ 1 ปีที่แล้ว

O เคยตรวจเมื่อ 2-5 ปีที่แล้ว

O เคยตรวจเมื่อนานกว่า 5 ปีที่แล้ว

O ไม่เคยตรวจเลย



ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

Set 4

**ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย**

**เอกสารชี้แจงผู้เข้าร่วมการวิจัย**

**ชื่อโครงการวิจัย:** *การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์*
**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมรักษ์
**ที่อยู่:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
**เบอร์โทรศัพท์:** 087 456 5929
**อีเมล์:** peera@hotmail.com
**ประเภทกลุ่มตัวอย่าง:** ผู้ให้บริการ
**คำชี้แนะ:**

ขอเรียนเชิญท่านเข้าร่วมในการวิจัยก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย ก่อนที่ท่านจะตัดสินใจเข้าร่วมนั้นทางโครงการขออนุญาตทำการชี้แจงเบื้องต้นถึงสาเหตุจำเป็นที่ต้องดำเนินโครงการและสิ่งใดที่จำเป็นบ้างในการดำเนินการวิจัยครั้งนี้ กรุณาใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

โครงการวิจัยนี้เป็นการเก็บข้อมูลโดยผ่านแบบสอบถามเพียงครั้งเดียว งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง "ความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ การแพร่ระบาดของเชื้อ HIV และการใช้ถุงยางอนามัย"

วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ในตลาดขายบริการทางเพศ ด้วยทฤษฎีความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในเป้าหมายของการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มที่หนึ่ง หญิงและชายที่ขายบริการทางเพศ ทั้งที่ขายบริการ อย่างอิสระ และอยู่ในสถานประกอบการ จำนวนประมาณ 150-200 คน และกลุ่มที่สอง ลูกค้าชายที่ใช้บริการในตลาดขายบริการทางเพศ จำนวนประมาณ 100-150 คน โดยการวิจัยนี้มุ่งหวังที่จะมีผู้มีส่วนร่วมในการวิจัยทั้งหมด 300 คน โดยกลุ่มตัวอย่างดังกล่าวถูกจัดอยู่ในประเภทของกลุ่มผู้เปราะบาง

ทางโครงการยินดีให้ท่านมีส่วนร่วมในโครงการในฐานะเป็นกลุ่มเป้าหมายในการศึกษาโครงการนี้จะไม่สร้างความยุ่งยาก ข้อเสีย และ ความเสี่ยงให้แก่ท่านในอนาคต *โดยทางแบบสอบถามไม่มีการให้ท่านระบุชื่อ และนามสกุลของท่าน*

ระยะเวลาในการทำแบบสอบถามนี้ใช้เวลาประมาณ 10-15 นาที สำหรับการลงพื้นที่เก็บแบบสอบถาม ทางผู้วิจัยได้รับความช่วยเหลือจากสมาคมฟ้าสีรุ้ง แห่งประเทศไทย และ มูลนิธิเพื่อนพนักงานบริการสวิง ทั้งสองหน่วยงานเป็นองค์กรนอกภาครัฐ (NGO) ที่มีความชำนาญทำงานอยู่ใกล้ชิด และเป็นที่ไว้วางใจของกลุ่มตัวอย่าง โดยทั้งสองหน่วยงานจะเป็นคนกลางช่วยประสานกับกลุ่มตัวอย่าง รวมทั้งให้ความช่วยเหลือในระหว่างการเก็บแบบสอบถาม

สำหรับผู้ใช้บริการมีวิธีการเข้าถึงได้ 2 วิธี ได้แก่ 1. ทางเจ้าหน้าที่ NGO จะเป็นผู้ประสานแก่ทางร้านที่มีการเปิดให้บริการทางเพศชนิดแอบแฝงช่วยแจกแบบสอบถามแก่ลูกค้า และ 2. มีลูกค้าผู้ใช้บริการในตลาดขายบริการทางเพศกลุ่มหนึ่ง อาสาที่จะให้ความช่วยเหลือนำแบบสอบถามไปแจกแก่กลุ่มเครือข่ายโดยเกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องเป็นผู้ที่มีอุปสงค์ต่อตลาดขายบริการทางเพศ รวมทั้งมีประสบการณ์เคยไปใช้บริการหรือยังคงไปใช้บริการตลาดขายบริการทางเพศอยู่

ในขณะที่ผู้ขายบริการทางเพศมีวิธีการเข้าถึงโดยเจ้าหน้าที่ NGO จะเป็นผู้ดำเนินการลงพื้นที่และเก็บแบบสอบถามกับกลุ่มผู้ขายบริการทางเพศที่อยู่ในพื้นที่การดูแลของ NGO เกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องหญิงหรือชายที่ทำงานให้บริการมีเพศสัมพันธ์กับผู้อื่น โดยได้รับเงินเป็นการแลกเปลี่ยนหรือผลตอบแทน

โครงการวิจัยนี้จะไม่ก่อให้เกิดความไม่สบายใจ ความเสี่ยง หรือผลกระทบใดๆทั้งสิ้น ในกรณีที่ท่านรู้สึกอึดอัดไม่สบายใจหรือเครียดกับบางคำถามท่านสามารถปฏิเสธที่จะเข้าร่วมหรือถอนตัวจากการวิจัยได้ทุกขณะโดยไม่ต้องให้เหตุผลและไม่สูญเสียประโยชน์ใดๆ หากท่านมีข้อสงสัยให้สอบถามเพิ่มเติมได้โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลา

ทางโครงการจะเก็บข้อมูลของท่านเป็นความลับอย่างยิ่ง ข้อมูลของท่านจะถูกนำไปใช้เพื่องานวิจัยเท่านั้นและจะไม่เปิดเผยต่อบุคคลภายนอก *ข้อมูลทุกประเภทเกี่ยวข้องกับผู้ที่มีส่วนร่วม เมื่อเสร็จสิ้นการวิจัยแล้วจะทำลาย*

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



ข้อแนะนำ สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. เพศ

O ชาย O หญิง

2. อายุ (โปรดกรอกตัวเลข) ..... ปี

3. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O สูงกว่าปริญญาตรี

4. ภูมิลำเนาของท่าน

O กรุงเทพฯ

O อื่นๆ (โปรดระบุจังหวัด).....

O ชาวต่างชาติ (โปรดระบุสัญชาติของท่าน).....

5. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

6. จำนวนบุตรของท่าน

O ไม่มีบุตร O มีบุตร (โปรดกรอกจำนวนบุตร)..... คน

7. ท่านทำงานนี้เต็มเวลาหรือชั่วคราว

O เต็มเวลา/งานประจำ (Full time) O ชั่วคราว (Part time)

8. ท่านทำงานนี้มานานหรือยัง

O น้อยกว่า 1 ปี

O 1 ปีแต่ไม่เกิน 3 ปี

O 3 ปีแต่ไม่เกิน 5 ปี

O 5 ปีแต่ไม่เกิน 10 ปี

O 10 ปีขึ้นไป

9. รายได้เฉลี่ยต่อเดือนของท่านจากการทำงานนี้

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน



10. เมื่อวานนี้ หรือ ครั้งล่าสุดที่ท่านทำงาน ท่านได้ให้บริการแก่ลูกค้ากี่คน

(โปรดกรอกตัวเลข).....คน

11. จำนวนผู้มาใช้บริการ หรือ ลูกค้า ที่ท่านให้บริการเฉลี่ยต่อสัปดาห์

(โปรดกรอกตัวเลข) ประมาณ.....คน/สัปดาห์

12. ท่านเคยบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**ระหว่างการให้บริการหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย

13. ในการให้บริการลูกค้าของท่าน มีการ**ใช้ถุงยาง**หรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

14. โดยปกติท่านเป็นผู้บอกลูกค้า ให้ใช้ถุงยางอนามัยก่อนหรือไม่

O บอกทุกครั้ง O บอกเป็นบางครั้ง O ไม่เคยบอกเลย

15. ถ้าลูกค้าต่อรองกับท่านว่าจะไม่ใช้ถุงยางอนามัย **โดยจะมอบเงินให้ท่านเพิ่มอีก 10,000 บาท** ท่านคิดอย่างไร

O ฉันไม่ยอมรับเงิน

O ฉันยอมรับเงิน

O ฉันขอต่อรองราคาที่จำนวน ..... บาท (โปรดระบุตัวเลข)

16. ที่ผ่านมาเคยมีลูกค้าต่อรองขอไม่ใช้ถุงยางกับท่านเหมือนข้อ 15 หรือไม่

O เคย O ไม่เคย

17. สิ่งแรกที่ท่านคิด เมื่อนึกถึงการใช้ถุงยางอนามัย

O ใช้เพื่อป้องกันการตั้งครรภ์

O ใช้เพื่อป้องกันการติดต่อโรคทางเพศสัมพันธ์

O ใช้ตามนโยบายหรือโฆษณาที่ชักชวนให้ใช้

O อื่นๆ (โปรดระบุ).....

18. ท่านตรวจสุขภาพหรือได้รับการรักษาจากแพทย์/พยาบาล บ่อยแค่ไหน

O ไม่เคยตรวจเลย

O นานๆตรวจที (หลายปีตรวจที)

O ตรวจเป็นประจำ ทุกๆ (โปรดระบุ เช่น ทุกสัปดาห์, ทุกเดือน, ทุกสามเดือน, ทุกปี ฯลฯ) .....

19. ท่านเคยตรวจ HIV หรือไม่

O เคยตรวจเมื่อ 3 เดือนที่แล้ว

O เคยตรวจเมื่อ 6 เดือนที่แล้ว

O เคยตรวจเมื่อ 1 ปีที่แล้ว

O เคยตรวจเมื่อ 2-5 ปีที่แล้ว

O เคยตรวจเมื่อนานกว่า 5 ปีที่แล้ว

O ไม่เคยตรวจเลย



ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

## .6 Questionnaire for client (Thai version)

### Set 1

**ชื่อผู้ตอบแบบสัมภาษณ์และที่อยู่ที่สามารถติดต่อได้**

**ชื่อผู้ให้สัมภาษณ์:** *การศึกษาการแพร่ระบาดของเชื้อ HIV ด้านการแพทย์และสังคม ผู้ป่วยเป็นศูนย์กลาง*

**ผู้สัมภาษณ์:** นายพีระ ตั้งธรรมวัฒน์

**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมวัฒน์

**ที่อยู่:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

**เบอร์โทรศัพท์:** 087 456 5929

**อีเมล์:** peerat@hotmail.com

**ประเภทแบบสัมภาษณ์:** ผู้ป่วยนอก

**หมายเหตุ:**

ขอชี้แจงให้ท่านทราบว่าในปัจจุบันนี้ได้มีการแพร่ระบาดของเชื้อ HIV ค่อนข้างมาก ซึ่งเป็นที่น่าวิตกกังวลเป็นอย่างยิ่งว่าในอนาคตอันใกล้นี้ จำนวนผู้ติดเชื้อ HIV จะเพิ่มขึ้นอย่างรวดเร็วมากขึ้นเรื่อยๆ ดังนั้นจึงมีความจำเป็นอย่างยิ่งที่จะต้องมีการศึกษาถึงสาเหตุของการแพร่ระบาดของเชื้อ HIV ในปัจจุบันนี้ เพื่อที่จะได้ทราบถึงสาเหตุที่แท้จริงของการแพร่ระบาดของเชื้อ HIV ในปัจจุบันนี้ ซึ่งจะเป็นประโยชน์อย่างยิ่งต่อการวางแผนป้องกันและควบคุมการแพร่ระบาดของเชื้อ HIV ในอนาคตต่อไป

ในการนี้ ผู้ศึกษาจึงใคร่ขอความร่วมมือจากท่านในการตอบแบบสัมภาษณ์ในครั้งนี้ ซึ่งผู้ศึกษาขอรับรองว่าข้อมูลที่ได้จากท่านจะถูกเก็บเป็นความลับ และจะนำไปใช้ประโยชน์ในการศึกษาเท่านั้น ไม่มีผลกระทบใดๆ ต่อตัวท่านทั้งสิ้น ผู้ศึกษาขอขอบพระคุณท่านเป็นอย่างสูงมา ณ โอกาสนี้ด้วย

โครงการวิจัยนี้ เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาเศรษฐศาสตรมหาบัณฑิต สาขาเศรษฐศาสตร์ธุรกิจ คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ปีการศึกษา 2550 ซึ่งมีหัวข้อวิทยานิพนธ์ว่า "ความไม่สมมาตรของข้อมูลข่าวสารกับการแพร่ระบาดของเชื้อ HIV ในประเทศไทย" ซึ่งมีหัวข้อย่อยที่ต้องการศึกษาดังนี้

วัตถุประสงค์ของการวิจัยนี้ คือ ศึกษาพฤติกรรมการติดเชื้อ HIV ด้านการแพทย์และสังคม ภายใต้สภาวะความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในที่นี้หมายถึงการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มที่หนึ่ง หญิงและชายที่ติดเชื้อ HIV ที่เข้ารับการรักษาที่ศูนย์บริการสาธารณสุขกรุงเทพมหานคร ตั้งแต่ปี พ.ศ. 2545 ถึง พ.ศ. 2550 และกลุ่มที่สอง ผู้ที่ไม่ติดเชื้อ HIV ที่เข้ารับการตรวจเลือดเพื่อหาเชื้อ HIV ที่ศูนย์บริการสาธารณสุขกรุงเทพมหานคร ตั้งแต่ปี พ.ศ. 2545 ถึง พ.ศ. 2550 โดยใช้วิธีการสุ่มตัวอย่างแบบง่าย (Simple Random Sampling) ในการเลือกตัวอย่างประชากรทั้งสองกลุ่ม ซึ่งผู้ศึกษาได้ทำการเก็บข้อมูลจากผู้ป่วยที่ติดเชื้อ HIV ในกลุ่มที่หนึ่ง จำนวน 300 ตัวอย่าง และกลุ่มที่สอง ผู้ที่ไม่ติดเชื้อ HIV จำนวน 300 ตัวอย่าง ในการวิเคราะห์ข้อมูลในครั้งนี้ ผู้ศึกษาได้ใช้แบบจำลองทางเศรษฐมิติ ในการวิเคราะห์ข้อมูลที่ได้จากการสัมภาษณ์ ซึ่ง

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



ข้อแนะนำ สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. อายุ (โปรดกรอกตัวเลข) ..... ปี

2. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O ปริญญาโท

O ปริญญาเอก

3. สัญชาติ

O ไทย

O ชาวต่างชาติ

4. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

5. รายได้เฉลี่ยต่อเดือนของท่าน

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน

6. ท่านมาใช้บริการ/เที่ยวยังสถานที่ที่มีการขายบริการทางเพศบ่อยแค่ไหน

O มากกว่าสัปดาห์ละครั้ง/ทุกสัปดาห์

O มากกว่าเดือนละครั้งแต่ไม่ถึงกับทุกสัปดาห์ (เดือนละ 2-3 ครั้ง)

O ทุกเดือน

O ประมาณปีละ 3-6 ครั้ง

O ปีละครั้งหรือน้อยกว่านั้น

7. ปกติเวลาท่านเที่ยวหรือไปใช้บริการยังสถานที่ที่มีการขายบริการทางเพศ ท่านบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**บ่อยหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย



ข้อแนะนำ สำหรับข้อ 8-13 เป็นเพียงสถานการณ์ที่ถูกสมมติขึ้น ทางเราเพียงต้องการข้อมูลทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน

8. ถ้าต้องการพนักงานบริการที่มีความปลอดภัยและสุขภาพดี แล้วต้องจ่ายเงินเพิ่ม ท่านจะยอมจ่ายเงินเพิ่มหรือไม่

O ไม่จ่าย

O จ่ายถ้าราคาไม่แพงเกิน 1,000 บาท

O จ่ายถ้าราคายังคงอยู่ในช่วง 1,001 ถึง 2,000 บาท

O จ่ายถ้าราคายังคงอยู่ในช่วง 2,001 ถึง 3,000 บาท

O จ่ายถ้าราคาจะสูงกว่า 3,000 บาท แต่ไม่เกิน 10,000 บาท

9. ท่านชอบเที่ยวหรือใช้บริการที่ใดมากที่สุด โปรดเลือก 3 ลำดับ ตั้งแต่ลำดับที่ 1 ถึง ลำดับที่ 3

| ลำดับ | สถานที่ |
|---|---|
| | อะโกโก้บาร์, เบียร์บาร์, ผับ, คาราโอเกะ, ไนท์คลับ, ดิสโกเธค, หรือภัตตคารและร้านอาหาร |
| | โรงแรม บังกะโล เกสต์เฮาส์ (ที่มีขายบริการทางเพศ) |
| | พื้นที่สาธารณะ (ตัวอย่างเช่น ริมถนน สวนสาธารณะ) |
| | Online, Internet, Facebook, หรือ ทางโทรศัพท์ |
| | อาบอบนวด |
| | นวดแผนโบราณ, นวดสปา, สปา, หรือ ซาวน่า |
| | สำนักค้าประเวณี (ซ่อง) |

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....C1/.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....



10. ท่านจะเลือกใครเป็นผู้ให้บริการแก่ท่าน

| | | |
|---|---|---|
| <br>O เบอร์ 1 (Sideline)<br>อายุ 17 ปี เพิ่งทำงานเดือนแรก | <br>O เบอร์ 2 (Sideline)<br>อายุ 21 ปี นักศึกษา | <br>O เบอร์ 3 (Sideline)<br>อายุ 24 ปี พริ๊ตตี้ |
| <br>O เบอร์ 4 (Full time)<br>อายุ 28 ปี บริการดีมาก | <br>O เบอร์ 5 (Full time)<br>อายุ 35 ปี ทำงานมานาน | |
| <br>O เบอร์ 6<br>อายุ 28 ปี หุ่นดี หล่อล่ำ ดูแลสุขภาพ | <br>O เบอร์ 7<br>อายุ 37 ปี คมเข้ม ภูมิฐาน | <br>O เบอร์ 8<br>อายุ 22 ปี นักศึกษา สำอางค์ |

11. ที่ผ่านมา ท่านใช้ถุงยางกับพนักงานบริการหรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

12. ถ้าพนักงานในรูปที่ท่านเลือก **สุขภาพดีและปลอดภัยจาก HIV สูงมาก** ท่านจะใช้ถุงยางหรือไม่

O ใช้ถุงยาง

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 100-500 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 501-2,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 2,001-5,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 5,001-10,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่มสูงกว่า 10,000 บาท

13. ถ้าท่านรู้จักหรือคุ้นเคยกับคนในรูปที่ท่านเลือก ท่านจะตัดสินใจอย่างไร

O ฉันยังคงใช้ถุงยางแน่นอน

O ฉันอาจจะใช้ถุงยาง

O ฉันอาจจะต่อรองให้ไม่ใช้ถุงยาง

O ฉันยังคงไม่ใช้ถุงยางแน่นอน

14. ท่านเคยเข้าตรวจ HIV และโรคติดต่อทางเพศสัมพันธ์หรือไม่

O เคย O ไม่เคย

ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

Set 2

**ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย**

**เอกสารชี้แจงผู้เข้าร่วมการวิจัย**

**ชื่อโครงการวิจัย:** *การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์*
**หัวหน้าโครงการ:** นายพีระ ตั้งธรรมรักษ์
**ที่อยู่:** คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
**เบอร์โทรศัพท์:** 087 456 5929
**อีเมล์:** peera@hotmail.com
**ประเภทกลุ่มตัวอย่าง:** ผู้ใช้บริการ
**คำชี้แนะ:**

ขอเรียนเชิญท่านเข้าร่วมในการวิจัยก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย ก่อนที่ท่านจะตัดสินใจเข้าร่วมนั้นทางโครงการขออนุญาตทำการชี้แจงเบื้องต้นถึงสาเหตุจำเป็นที่ต้องดำเนินโครงการและสิ่งใดที่จำเป็นบ้างในการดำเนินการวิจัยครั้งนี้ กรุณาใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

โครงการวิจัยนี้เป็นการเก็บข้อมูลโดยผ่านแบบสอบถามเพียงครั้งเดียว งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง "ความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ การแพร่ระบาดของเชื้อ HIV และการใช้ถุงยางอนามัย"

วัตถุประสงค์ของการวิจัยนี้เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ในตลาดขายบริการทางเพศ ด้วยทฤษฎีความไม่สมมาตรของข้อมูล (Asymmetric Information) ซึ่งเป็นหนึ่งในทฤษฎีที่สำคัญของวิชาเศรษฐศาสตร์จุลภาค (Microeconomics)

กลุ่มประชากรในเป้าหมายของการวิจัยนี้ แบ่งออกเป็น 2 กลุ่มหลัก ได้แก่ กลุ่มที่หนึ่ง หญิงและชายที่ขายบริการทางเพศ ทั้งที่ขายบริการ อย่างอิสระ และอยู่ในสถานประกอบการ จำนวนประมาณ 150-200 คน และกลุ่มที่สอง ลูกค้าชายที่ใช้บริการในตลาดขายบริการทางเพศ จำนวนประมาณ 100-150 คน โดยการวิจัยนี้มุ่งหวังที่จะมีผู้มีส่วนร่วมในการวิจัยทั้งหมด 300 คน โดยกลุ่มตัวอย่างดังกล่าวถูกจัดอยู่ในประเภทของกลุ่มผู้เปราะบาง

ทางโครงการยินดีให้ท่านมีส่วนร่วมในโครงการในฐานะเป็นกลุ่มเป้าหมายในการศึกษาโครงการนี้จะไม่สร้างความยุ่งยาก ข้อเสีย และ ความเสี่ยงให้แก่ท่านในอนาคต *โดยทางแบบสอบถามไม่มีการให้ท่านระบุชื่อ และนามสกุลของท่าน*

ระยะเวลาในการทำแบบสอบถามนี้ใช้เวลาประมาณ 10-15 นาที สำหรับการลงพื้นที่เก็บแบบสอบถาม ทางผู้วิจัยได้รับความช่วยเหลือจากสมาคมฟ้าสีรุ้ง แห่งประเทศไทย และ มูลนิธิเพื่อนพนักงานบริการสวิง ทั้งสองหน่วยงานเป็นองค์กรนอกภาครัฐ (NGO) ที่มีความชำนาญทำงานอยู่ใกล้ชิด และเป็นที่ไว้วางใจของกลุ่มตัวอย่าง โดยทั้งสองหน่วยงานจะเป็นคนกลางช่วยประสานกับกลุ่มตัวอย่าง รวมทั้งให้ความช่วยเหลือในระหว่างการเก็บแบบสอบถาม

สำหรับผู้ใช้บริการมีวิธีการเข้าถึงได้ 2 วิธี ได้แก่ 1. ทางเจ้าหน้าที่ NGO จะเป็นผู้ประสานแก่ทางร้านที่มีการเปิดให้บริการทางเพศชนิดแอบแฝงช่วยแจกแบบสอบถามแก่ลูกค้า และ 2. มีลูกค้าผู้ใช้บริการในตลาดขายบริการทางเพศกลุ่มหนึ่ง อาสาที่จะให้ความช่วยเหลือนำพแบบสอบถามไปแจกแก่กลุ่มเครือข่ายโดยเกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องเป็นผู้ที่มีอุปสงค์ต่อตลาดขายบริการทางเพศ รวมทั้งมีประสบการณ์เคยไปใช้บริการหรือยังคงไปใช้บริการตลาดขายบริการทางเพศอยู่

ในขณะที่ผู้ขายบริการทางเพศมีวิธีการเข้าถึงโดยเจ้าหน้าที่ NGO จะเป็นผู้ดำเนินการลงพื้นที่และเก็บแบบสอบถามกับกลุ่มผู้ขายบริการทางเพศที่อยู่ในพื้นที่การดูแลของ NGO เกณฑ์การคัดเข้าคัดออก คือ ผู้ตอบแบบสอบถามต้องหญิงหรือชายที่ทำงานให้บริการมีเพศสัมพันธ์กับผู้อื่น โดยได้รับเงินเป็นการแลกเปลี่ยนหรือผลตอบแทน

โครงการวิจัยนี้จะไม่ก่อให้เกิดความไม่สบายใจ ความเสี่ยง หรือผลกระทบใดๆทั้งสิ้น ในกรณีที่ท่านรู้สึกอึดอัดไม่สบายใจหรือเครียดกับบางคำถามท่านสามารถปฏิเสธที่จะเข้าร่วมหรือถอนตัวจากการวิจัยได้ทุกขณะโดยไม่ต้องให้เหตุผลและไม่สูญเสียประโยชน์ใดๆ หากท่านมีข้อสงสัยให้สอบถามเพิ่มเติมได้โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลา

ทางโครงการจะเก็บข้อมูลของท่านเป็นความลับอย่างยิ่ง ข้อมูลของท่านจะถูกนำไปใช้เพื่องานวิจัยเท่านั้น และจะไม่เปิดเผยต่อบุคคลภายนอก *ข้อมูลทุกประเภทเกี่ยวข้องกับผู้ที่มีส่วนร่วม เมื่อเสร็จสิ้นการวิจัยแล้วจะทำลาย*

**โครงการวิจัยเรื่อง การศึกษาการแพร่ระบาดของเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ด้วยระเบียบวิธีวิจัยทางเศรษฐศาสตร์**

ขอเรียนเชิญท่านเข้าร่วมในการตอบแบบสอบถามก่อนที่ท่านจะตัดสินใจเข้าร่วมตอบแบบสอบถาม มีความจำเป็นที่จะชี้แจ้งให้ท่านทราบว่า งานวิจัยนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการติดเชื้อ HIV ผ่านการมีเพศสัมพันธ์ ข้อมูลที่ท่านได้ให้ความกรุณาตอบกับเราจะถูกนำไปใช้ให้เกิดประโยชน์ในการหาแนวทางการแก้ปัญหาการแพร่ระบาดของเชื้อ HIV รวมทั้งเพื่อช่วยพัฒนาคุณภาพชีวิตของทั้งผู้ป่วยและผู้ให้บริการ

ในการตอบแบบสอบถามชุดนี้ ทางเราไม่มีการสอบถามถึง ชื่อ ที่อยู่ และสถานที่ติดต่อของท่าน ทางเราเพียงต้องการข้อมูลพื้นฐานบางส่วน ประกอบกับทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน ข้อมูลจากการตอบแบบสอบถามของท่านจะถูกเก็บเป็นความลับ และขอขอบพระคุณเป็นอย่างสูง สำหรับความกรุณาและการสละเวลาเพื่อตอบแบบสอบถาม



<u>ข้อแนะนำ</u> สำหรับการตอบคำถามทุกข้อ โปรดเลือกคำตอบเพียงคำตอบเดียว

1. อายุ (โปรดกรอกตัวเลข) ..... ปี

2. ท่านจบการศึกษาสูงสุดระดับใด

O ไม่ได้ศึกษา O ประถมศึกษา

O มัธยมศึกษา O ปวช./ปวส.

O ปริญญาตรีหรือเทียบเท่า O ปริญญาโท

O ปริญญาเอก

3. สัญชาติ

O ไทย

O ชาวต่างชาติ

4. สถานภาพ

O โสด O สมรส

O หย่าร้าง O เป็นหม้าย

5. รายได้เฉลี่ยต่อเดือนของท่าน

O น้อยกว่า 10,000 บาทต่อเดือน

O ระหว่าง 10,000 - 20,000 บาทต่อเดือน

O ระหว่าง 20,001 - 30,000 บาทต่อเดือน

O ระหว่าง 30,001 - 50,000 บาทต่อเดือน

O ระหว่าง 50,001 - 100,000 บาทต่อเดือน

O มากกว่า 100,000 บาทต่อเดือน

6. ท่านมาใช้บริการ/เที่ยวยังสถานที่ที่มีการขายบริการทางเพศบ่อยแค่ไหน

O มากกว่าสัปดาห์ละครั้ง/ทุกสัปดาห์

O มากกว่าเดือนละครั้งแต่ไม่ถึงกับทุกสัปดาห์ (เดือนละ 2-3 ครั้ง)

O ทุกเดือน

O ประมาณปีละ 3-6 ครั้ง

O ปีละครั้งหรือน้อยกว่านั้น

7. ปกติเวลาท่านเที่ยวหรือไปใช้บริการยังสถานที่ที่มีการขายบริการทางเพศ ท่านบริโภค**เครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์หรือสารเสพย์ติด**บ่อยหรือไม่

O เป็นประจำ (บ่อยๆ) O บางครั้ง O แค่ 1-2 ครั้ง O ไม่เคย



ข้อแนะนำ สำหรับข้อ 8-13 เป็นเพียงสถานการณ์ที่ถูกสมมติขึ้น ทางเราเพียงต้องการข้อมูลทัศนคติและการตัดสินใจภายใต้สถานการณ์ต่างๆของท่าน

8. ถ้าต้องการพนักงานบริการที่มีความปลอดภัยและสุขภาพดี แล้วต้องจ่ายเงินเพิ่ม ท่านจะยอมจ่ายเงินเพิ่มหรือไม่

O ไม่จ่าย

O จ่ายถ้าราคาไม่แพงเกิน 1,000 บาท

O จ่ายถ้าราคายังคงอยู่ในช่วง 1,001 ถึง 2,000 บาท

O จ่ายถ้าราคายังคงอยู่ในช่วง 2,001 ถึง 3,000 บาท

O จ่ายถ้าราคาจะสูงกว่า 3,000 บาท แต่ไม่เกิน 10,000 บาท

9. ท่านชอบเที่ยวหรือใช้บริการที่ใดมากที่สุด โปรดเลือก 3 ลำดับ ตั้งแต่ลำดับที่ 1 ถึง ลำดับที่ 3

| ลำดับ | สถานที่ |
|---|---|
| | อะโกโก้บาร์, เบียร์บาร์, ผับ, คาราโอเกะ, ไนท์คลับ, ดิสโกเธค, หรือภัตตคารและร้านอาหาร |
| | โรงแรม บังกะโล เกสต์เฮาส์ (ที่มีขายบริการทางเพศ) |
| | พื้นที่สาธารณะ (ตัวอย่างเช่น ริมถนน สวนสาธารณะ) |
| | Online, Internet, Facebook, หรือ ทางโทรศัพท์ |
| | อาบอบนวด |
| | นวดแผนโบราณ, นวดสปา, สปา, หรือ ซาวน่า |
| | สำนักค้าประเวณี (ซ่อง) |

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....C2/.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....



10. ท่านจะเลือกใครเป็นผู้ให้บริการแก่ท่าน

| | | |
|---|---|---|
| <br>O เบอร์ 1 (Sideline)<br>อายุ 17 ปี เพิ่งทำงานเดือนแรก | <br>O เบอร์ 2 (Sideline)<br>อายุ 21 ปี นักศึกษา | <br>O เบอร์ 3 (Sideline)<br>อายุ 24 ปี พริ๊ตตี้ |
| <br>O เบอร์ 4 (Full time)<br>อายุ 28 ปี บริการดีมาก | <br>O เบอร์ 5 (Full time)<br>อายุ 35 ปี ทำงานมานาน | |
| <br>O เบอร์ 6<br>อายุ 28 ปี หุ่นดี หล่อล่ำ ดูแลสุขภาพ | <br>O เบอร์ 7<br>อายุ 37 ปี คมเข้ม ภูมิฐาน | <br>O เบอร์ 8<br>อายุ 22 ปี นักศึกษา สำอางค์ |

11. ที่ผ่านมา ท่านใช้ถุงยางกับพนักงานบริการหรือไม่

O ใช้ทุกครั้ง O ใช้บ่อยแต่มีบ้างที่ไม่ใช้ O นานๆใช้ที O ไม่เคย

12. โดยปกติแล้วท่านบอกพนักงานบริการว่า จะใช้ถุงยางก่อนหรือไม่

O บอกทุกครั้ง

O บอกเป็นบางครั้ง/บางครั้งพนักงานก็เสนอก่อน

O ไม่เคยบอกเลย

13. ถ้าพนักงานในรูปที่ท่านเลือกได้ชวนให้ท่านใช้ถุงยางอนามัย ท่านจะตัดสินใจอย่างไร

O ใช้ถุงยาง

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 100-500 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 501-2,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 2,001-5,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่ม 5,001-10,000 บาท

O ลองขอไม่ใช้ถุงยางโดยอาจจะเสนอให้ทิปเพิ่มสูงกว่า 10,000 บาท



14. ถ้าท่านรู้จักหรือคุ้นเคยกับคนในรูปที่ท่านเลือก ท่านจะตัดสินใจอย่างไร

O ฉันยังคงใช้ถุงยางแน่นอน

O ฉันอาจจะใช้ถุงยาง

O ฉันอาจจะต่อรองให้ไม่ใช้ถุงยาง

O ฉันยังคงไม่ใช้ถุงยางแน่นอน

15. ท่านเคยเข้าตรวจ HIV และโรคติดต่อทางเพศสัมพันธ์หรือไม่

O เคย O ไม่เคย

ขอขอบพระคุณท่านเป็นอย่างสูงที่ให้ความกรุณาสละเวลาตอบแบบสอบถาม

## .7 Translated questionnaire for sex worker (English version)

### Set 1

Instruction For every question please choose only one answer

1. Gender

O Male O Female

2. Age (Please put the number) ..... years old

3. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Higher than Bachelor Degree

4. Your birth place

O Bangkok

O Other provinces (Please Specify).....

O Foreigners (Please Specify).....

5. Marital status

O Single O Married

O Divorced O Widowed

6. Do you have any children?

O No O Yes (Please put the number) .....

7. Your working type in commercial sex business

O Full time O Part time

8. How long have you been in this business?

O Less than 1 year

O More than 1 year but less than 3 year

O More than 3 year but Less than 5 years

O More than 5 years but less than 10 years

O More than 10 years

9. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

10. How many clients you have for your last time working (yesterday)?

(Please put the number)..... Clients

11. Your average client per week is

(Please put the number)..... Clients per week

12. Do you consume alcohol or drugs when you provide service?

O Always O Sometimes O Just 1-2 times O Never

13. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

14. Are you the first one to offer condom use?

O Yes, I always offer the condom.

O Yes, I or sometimes the client offers the condom.

O No, I never but I wait for the client to offer the condom.



15. If the client asks for unsafe sex (sex without condom or protection) by **offering you 500 Baht**, will you accept?

O No, I will not accept.

O Yes, I will.

O Yes, I will but I want more than 500 Baht. (Please put the number in Baht that you want) ..... Baht

16. Have you ever experienced a client who did not want to use condom (as question number 15) before?

O Yes O No

17. Your first thought when thinking about using a condom

O To prevent pregnancy

O To prevent HIV/STDs

O To follow the condom use policy

O Other (Please specify) .....

18. How often do you receive a medical examination by a doctor or a health service person?

O Never

O Infrequent (More than 1-3 years)

O Every (Please specify; for example: every 3 weeks, every week, every month, every year, etc.) .....

19. When is the last time you test for HIV?

O 3 months ago

O 6 months ago

O 1 year ago

O 2-5 years ago

O More than 5 years ago

O Never

Thank you very much

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

**Set 2**

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแรงงาน.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


Instruction For every question please choose only one answer

1. Gender

O Male O Female

2. Age (Please put the number) ..... years old

3. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Higher than Bachelor Degree

4. Your birth place

O Bangkok

O Other provinces (Please Specify).....

O Foreigners (Please Specify).....

5. Marital status

O Single O Married

O Divorced O Widowed

6. Do you have any children?

O No O Yes (Please put the number) .....

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแรงงาน.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


7. Your working type in commercial sex business

O Full time O Part time

8. How long have you been in this business?

O Less than 1 year

O More than 1 year but less than 3 year

O More than 3 year but Less than 5 years

O More than 5 years but less than 10 years

O More than 10 years

9. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

10. How many clients you have for your last time working (yesterday)?

(Please put the number)..... Clients

11. Your average client per week is

(Please put the number)..... Clients per week

12. Do you consume alcohol or drugs when you provide service?

O Always O Sometimes O Just 1-2 times O Never

13. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

14. Are you the first one to offer condom use?

O Yes, I always offer the condom.

O Yes, I or sometimes the client offers the condom.

O No, I never but I wait for the client to offer the condom.



15. If the client asks for unsafe sex (sex without condom or protection) by **offering you 2,000 Baht**, will you accept?

O No, I will not accept.

O Yes, I will.

O Yes, I will but I want more than 2,000 Baht. (Please put the number in Baht that you want) ..... Baht

16. Have you ever experienced a client who did not want to use condom (as question number 15) before?

O Yes O No

17. Your first thought when thinking about using a condom

O To prevent pregnancy

O To prevent HIV/STDs

O To follow the condom use policy

O Other (Please specify) .....

18. How often do you receive a medical examination by a doctor or a health service person?

O Never

O Infrequent (More than 1-3 years)

O Every (Please specify; for example: every 3 weeks, every week, every month, every year, etc.) .....

19. When is the last time you test for HIV?

O 3 months ago

O 6 months ago

O 1 year ago

O 2-5 years ago

O More than 5 years ago

O Never

Thank you very much

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

**Set 3**

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแรงง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


Instruction For every question please choose only one answer

1. Gender

O Male O Female

2. Age (Please put the number) ..... years old

3. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Higher than Bachelor Degree

4. Your birth place

O Bangkok

O Other provinces (Please Specify).....

O Foreigners (Please Specify).....

5. Marital status

O Single O Married

O Divorced O Widowed

6. Do you have any children?

O No O Yes (Please put the number) .....

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแรงง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


7. Your working type in commercial sex business

O Full time O Part time

8. How long have you been in this business?

O Less than 1 year

O More than 1 year but less than 3 year

O More than 3 year but Less than 5 years

O More than 5 years but less than 10 years

O More than 10 years

9. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

10. How many clients you have for your last time working (yesterday)?

(Please put the number)..... Clients

11. Your average client per week is

(Please put the number)..... Clients per week

12. Do you consume alcohol or drugs when you provide service?

O Always O Sometimes O Just 1-2 times O Never

13. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

14. Are you the first one to offer condom use?

O Yes, I always offer the condom.

O Yes, I or sometimes the client offers the condom.

O No, I never but I wait for the client to offer the condom.



15. If the client asks for unsafe sex (sex without condom or protection) by **offering you 5,000 Baht**, will you accept?

O No, I will not accept.

O Yes, I will.

O Yes, I will but I want more than 5,000 Baht. (Please put the number in Baht that you want) ..... Baht

16. Have you ever experienced a client who did not want to use condom (as question number 15) before?

O Yes O No

17. Your first thought when thinking about using a condom

O To prevent pregnancy

O To prevent HIV/STDs

O To follow the condom use policy

O Other (Please specify) .....

18. How often do you receive a medical examination by a doctor or a health service person?

O Never

O Infrequent (More than 1-3 years)

O Every (Please specify; for example: every 3 weeks, every week, every month, every year, etc.) .....

19. When is the last time you test for HIV?

O 3 months ago

O 6 months ago

O 1 year ago

O 2-5 years ago

O More than 5 years ago

O Never

Thank you very much

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Chulalongkorn University

**Set 4**

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


Instruction For every question please choose only one answer

1. Gender

O Male O Female

2. Age (Please put the number) ..... years old

3. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Higher than Bachelor Degree

4. Your birth place

O Bangkok

O Other provinces (Please Specify).....

O Foreigners (Please Specify).....

5. Marital status

O Single O Married

O Divorced O Widowed

6. Do you have any children?

O No O Yes (Please put the number) .....

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


7. Your working type in commercial sex business

O Full time O Part time

8. How long have you been in this business?

O Less than 1 year

O More than 1 year but less than 3 year

O More than 3 year but Less than 5 years

O More than 5 years but less than 10 years

O More than 10 years

9. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

10. How many clients you have for your last time working (yesterday)?

(Please put the number)..... Clients

11. Your average client per week is

(Please put the number)..... Clients per week

12. Do you consume alcohol or drugs when you provide service?

O Always O Sometimes O Just 1-2 times O Never

13. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

14. Are you the first one to offer condom use?

O Yes, I always offer the condom.

O Yes, I or sometimes the client offers the condom.

O No, I never but I wait for the client to offer the condom.



15. If the client asks for unsafe sex (sex without condom or protection) by **offering you 10,000 Baht**, will you accept?

O No, I will not accept.

O Yes, I will.

O Yes, I will but I want more than 10,000 Baht. (Please put the number in Baht that you want) ..... Baht

16. Have you ever experienced a client who did not want to use condom (as question number 15) before?

O Yes O No

17. Your first thought when thinking about using a condom

O To prevent pregnancy

O To prevent HIV/STDs

O To follow the condom use policy

O Other (Please specify) .....

18. How often do you receive a medical examination by a doctor or a health service person?

O Never

O Infrequent (More than 1-3 years)

O Every (Please specify; for example: every 3 weeks, every week, every month, every year, etc.) .....

19. When is the last time you test for HIV?

O 3 months ago

O 6 months ago

O 1 year ago

O 2-5 years ago

O More than 5 years ago

O Never

Thank you very much

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

## .8 Translated questionnaire for client (English version)

### Set 1



Instruction For every question please choose only one answer

1. Age (Please put the number) ..... years old

2. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Master Degree

O Ph.D. Degree

3. Nationality

O Thai

O Foreigners (Please Specify).....

4. Marital status

O Single O Married

O Divorced O Widowed



5. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

6. How often do you visit commercial sex market?

O More than 1 time per week/every week

O More than 1 time per month but not every week (2-3 times per week)

O Every month

O 3-6 per year

O 1 time per year or less

7. Do you consume alcohol or drugs when you receive service?

O Always O Sometimes O Just 1-2 times O Never

Instruction Question 8-13 are the assuming situation. We would like to know your decision under our given situation

8. Assuming that you do not have information about the sex worker's health. However, you can buy information about of sex worker's HIV status. Will you pay this amount?

O No I won't pay.

O Yes, if the price is less or equal than 1000 Baht.

O Yes if the price is between 1001 and 2000 Baht.

O Yes if the price is between 2001 and 3000 Baht.

O Yes I can pay more than 3000 Baht but not more than 10,000 Baht for this information.

9. If you visit the commercial sex markets, where will you visit? Please rank the most 3 places that you like from 1 to 3.

| Rank | Places |
|---|---|
| | Pub, Night-club, Bar, Discotheque, and Restaurant |
| | Hotel, Bungalow, and Guest house |
| | Street and Park |
| | Online, Internet, Facebook, or Call-girl |
| | Massage parlor |
| | Traditional massage and spa, and Sauna |
| | Brothel |



10. Which one will you choose to be your service provider?

| | | |
|---|---|---|
| O No. 1 (Sideline) Age 17, high school student | O No. 2 (Sideline) Age 21, university student | O No. 3 (Sideline) Age 24, Pretty and Model |
| O No. 4 (Full time) Age 28, Very good service | O No 5 (Full time) Age 35, high experiences | |
| O No. 6 Age 28, Fitness & Healthy | O No. 7 Age 37, Handsome | O No. 8 Age 22, university student |

11. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

12. Given that your service provider is **healthy and highly probability safe from HIV** and she/he offers you to use a condom before beginning the service. How will you respond?

O I will accept the condom/sex protection.

O I will ask for unprotected sex by offering a higher tips (between 100-500 Baht).

O I will ask for unprotected sex by offering a higher tips (between 500-2000 Baht).

O I will ask for unprotected sex by offering a higher tips (between 2000-5000 Baht).

O I will ask for unprotected sex by offering a higher tips (between 5000-10,000 Baht).

O I will ask for unprotected sex by offering a higher tips (more than 10,000 Baht).



13. If you are familiar with this sex worker, how will your respond?

O I will always use the condom.

O I will probably use the condom.

O I will probably ask for the unprotected sex by offering a higher tips.

O I will remain to ask for the unprotected sex by offering a higher tips.

14. Have you ever test for HIV?

O Yes O No

**Set 2**

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....C2/.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


Instruction For every question please choose only one answer

1. Age (Please put the number) ..... years old

2. Education

O No Education O Primary School

O Secondary School O Vocational Certificate

O Bachelor Degree O Master Degree

O Ph.D. Degree

3. Nationality

O Thai

O Foreigners (Please Specify).....

4. Marital status

O Single O Married

O Divorced O Widowed

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....C2/.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....


5. Income per month (Baht)

O Less than 10,000 Baht

O Between 10,000 - 20,000 Baht

O Between 20,001 - 30,000 Baht

O Between 30,001 - 50,000 Baht

O Between 50,001 - 100,000 Baht

O More than 100,000 Baht

6. How often do you visit commercial sex market?

O More than 1 time per week/every week

O More than 1 time per month but not every week (2-3 times per week)

O Every month

O 3-6 per year

O 1 time per year or less

7. Do you consume alcohol or drugs when you receive service?

O Always O Sometimes O Never

Instruction Question 8-13 are the assuming situation. We would like to know your decision under our given situation

8. Assuming that you do not have information about the sex worker's health. However, you can buy information about of sex worker's HIV status. Will you pay this amount?

O No I won't pay.

O Yes, if the price is less or equal than 1000 Baht.

O Yes if the price is between 1001 and 2000 Baht.

O Yes if the price is between 2001 and 3000 Baht.

O Yes I can pay more than 3000 Baht but not more than 10,000 Baht for this information.

9. If you visit the commercial sex markets, where will you visit? Please rank the most 3 places that you like from 1 to 3.

| Rank | Places |
|---|---|
| | Pub, Night-club, Bar, Discotheque, and Restaurant |
| | Hotel, Bungalow, and Guest house |
| | Street and Park |
| | Online, Internet, Facebook, or Call-girl |
| | Massage parlor |
| | Traditional massage and spa, and Sauna |
| | Brothel |



10. Which one will you choose to be your service provider?

<table>
<tr>
<td> <br>O No. 1 (Sideline)<br>Age 17, high school student</td>
<td> <br>O No. 2 (Sideline)<br>Age 21, university student</td>
<td> <br>O No. 3 (Sideline)<br>Age 24, Pretty and Model</td>
</tr>
<tr>
<td> <br>O No. 4 (Full time)<br>Age 28, Very good service</td>
<td> <br>O No 5 (Full time)<br>Age 35, high experiences</td>
<td></td>
</tr>
<tr>
<td> <br>O No. 6<br>Age 28, Fitness & Healthy</td>
<td> <br>O No. 7<br>Age 37, Handsome</td>
<td> <br>O No. 8<br>Age 22, university student</td>
</tr>
</table>

11. How often you use condom with the sex worker?

O Always (Every time) O Often (just sometime not use)

O Use Just 1-2 times O Never use

12. Are you the first one to offer condom use?

O Yes, I always offer the condom.

O Yes, I or sometimes the sex worker offers the condom.

O No, I never but I wait for the sex worker to offer the condom.



13. Now, you are receiving the service from the person you selected, and she/he offers you to use a condom. How will you respond?

O I will accept the condom/sex protection.

O I will ask for unprotected sex by offering a higher tips (between 100-500 Baht).

O I will ask for unprotected sex by offering a higher tips (between 500-2000 Baht).

O I will ask for unprotected sex by offering a higher tips (between 2000-5000 Baht).

O I will ask for unprotected sex by offering a higher tips (between 5000-10,000 Baht).

O I will ask for unprotected sex by offering a higher tips (more than 10,000 Baht).

แบบสอบถามถูกตรวจทานโดย..... เลขที่แบบสอบถาม.....C2/.....วันที่.....
สถานที่สำรวจแขวง.....เขต..... หมายเลขที่ใช้ในการบันทึกข้อมูลลงคอมพิวเตอร์.....



14. If you are familiar with this sex worker, How will your respond?

O I will always use the condom.

O I will probably use the condom.

O I will probably ask for the unprotected sex by offering a higher tips.

O I will remain to ask for the unprotected sex by offering a higher tips.

15. Have you ever test for HIV?

O Yes O No

## .9 Chulalongkorn University Thesis Ethics Approval

AF 01-12

**คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย**
อาคารสถาบัน 2 ชั้น 4 ซอยจุฬาลงกรณ์ 62 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330
โทรศัพท์: 0-2218-8147 โทรสาร: 0-2218-8147 E-mail: eccu@chula.ac.th

**COA No.** 012/2558

### ใบรับรองโครงการวิจัย

| | | |
|---|---|---|
| **โครงการวิจัยที่ 183.1/57** | : | ความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ, การแพร่ระบาดของเชื้อ HIV และการใช้ถุงยางอนามัย |
| **ผู้วิจัยหลัก** | : | นายพีระ ตั้งธรรมรักษ์ |
| **หน่วยงาน** | : | คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย |

คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย ได้พิจารณา โดยใช้หลัก ของ The International Conference on Harmonization – Good Clinical Practice (ICH-GCP) อนุมัติให้ดำเนินการศึกษาวิจัยเรื่องดังกล่าวได้

**ลงนาม**.....
(รองศาสตราจารย์ นายแพทย์ปรีดา ทัศนประดิษฐ)
ประธาน

**ลงนาม**.....
(ผู้ช่วยศาสตราจารย์ ดร.นันทรี ชัยชนะวงศาโรจน์)
กรรมการและเลขานุการ

**วันที่รับรอง** : 26 มกราคม 2558 **วันหมดอายุ** : 25 มกราคม 2559

**เอกสารที่คณะกรรมการรับรอง**

1) โครงการวิจัย
2) ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย
3) ผู้วิจัย
4) แบบสอบถาม

เลขที่โครงการวิจัย 183.1/57
วันที่รับรอง 26 ม.ค. 2558
วันหมดอายุ 25 ม.ค. 2559

**เงื่อนไข**

1. *ข้าพเจ้ารับทราบว่าเป็นการผิดจริยธรรม หากดำเนินการเก็บข้อมูลการวิจัยก่อนได้รับการอนุมัติจากคณะกรรมการพิจารณาจริยธรรมการวิจัยฯ*
2. *หากใบรับรองโครงการวิจัยหมดอายุ การดำเนินการวิจัยต้องยุติ เมื่อต้องการต่ออายุต้องขออนุมัติใหม่ล่วงหน้าไม่ต่ำกว่า 1 เดือน พร้อมส่งรายงานความก้าวหน้าการวิจัย*
3. *ต้องดำเนินการวิจัยตามที่ระบุไว้ในโครงการวิจัยอย่างเคร่งครัด*
4. *ใช้เอกสารข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย ใบยินยอมของกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย และเอกสารเชิญเข้าร่วมวิจัย (ถ้ามี) **เฉพาะที่ประทับตราคณะกรรมการเท่านั้น***
5. *หากเกิดเหตุการณ์ไม่พึงประสงค์ร้ายแรงในสถานที่เก็บข้อมูลที่ขออนุมัติจากคณะกรรมการ ต้องรายงานคณะกรรมการภายใน 5 วันทำการ*
6. *หากมีการเปลี่ยนแปลงการดำเนินการวิจัย ให้ส่งคณะกรรมการพิจารณารับรองก่อนดำเนินการ*
7. *โครงการวิจัยไม่เกิน 1 ปี ส่งแบบรายงานสิ้นสุดโครงการวิจัย (AF 03-12) และบทคัดย่อผลการวิจัยภายใน 30 วัน เมื่อโครงการวิจัยเสร็จสิ้น สำหรับโครงการวิจัยที่เป็นวิทยานิพนธ์ให้ส่งบทคัดย่อผลการวิจัย ภายใน 30 วัน เมื่อโครงการวิจัยเสร็จสิ้น*

**.10 Agreement on data collection with The Service Worker in Group (SWING) Foundation**



ที่ ศ.ด. 082/2557

หลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต
คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330

3 ตุลาคม 2557

เรื่อง ขอความอนุเคราะห์ในการเก็บข้อมูล
เรียน มูลนิธิเพื่อนพนักงานบริการสวิง (The Service Workers in Group (SWING) Foundation)

ด้วย นายพีระ ตั้งธรรมรักษ์ เลขประจำตัวนิสิต 5485903529 นิสิตระดับบัณฑิตศึกษา หลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กำลังทำวิทยานิพนธ์เรื่อง "ปัญหาความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ, การแพร่ระบาดของเชื้อ HIV, และการใช้ถุงยางอนามัย (Asymmetric Information in Commercial Sex Market, HIV, and Condom uses)

นิสิตมีความประสงค์ใคร่ขอความอนุเคราะห์ข้อมูลเพื่อประกอบการทำวิทยานิพนธ์ ซึ่งงานวิจัยดังกล่าวประกอบไปด้วย 3 ส่วน คือ 1) ส่วนของการศึกษาโครงสร้างตลาด 2) ส่วนของแบบจำลองทางทฤษฎี (Theoretical Model) และ 3) ส่วนของการศึกษาเชิงประจักษ์ (Empirical Study) ซึ่งส่วนที่ 3 ส่วนการศึกษาเชิงประจักษ์มีความจำเป็นที่จะต้องเก็บแบบสอบถามและลงพื้นที่ภาคสนาม โดยกลุ่มตัวอย่าง ได้แก่ หญิงและชายที่ขายบริการทางเพศทั้งที่อิสระและอยู่ในสถานประกอบการ อย่างไรก็ตาม กลุ่มตัวอย่างดังกล่าวเป็นกลุ่มที่มีความอ่อนไหวและเข้าถึงได้ยาก จึงมีความจำเป็นต้องขอความช่วยเหลือจากองค์กรนอกภาครัฐ (Non-Governmental Organization; NGO) ในการช่วยลงพื้นที่เก็บข้อมูล

หลักสูตรฯ หวังเป็นอย่างยิ่งว่าท่านจะให้ความอนุเคราะห์ในการช่วยเก็บข้อมูลดังกล่าวเพื่อประโยชน์ทางด้านวิชาการแก่นิสิต และใคร่ขอขอบพระคุณเป็นอย่างสูงมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.พงศา พรชัยวิเศษกุล)
ประธานหลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต

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วันที่ 31 ตุลาคม พ.ศ. 2557

เรื่อง มูลนิธิเพื่อนพนักงานบริการสวิง ตอบรับให้ความช่วยเหลือในการลงพื้นที่เก็บข้อมูลภาคสนาม

เรียน ประธานหลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

กระผม นายพีระ ตั้งธรรมรักษ์ เป็น นิสิตปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย รหัสนิสิต 548 59035 29 ปัจจุบันทำวิทยาพนธ์เรื่อง "ปัญหาความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ,การแพร่ระบาดของเชื้อ HIV, และการใช้ถุงยางอนามัย/Asymmetric Information in Commercial Sex Market, HIV, and Condom uses" ทั้งนี้ในส่วนสุดท้ายของงานวิจัย ได้แก่ ส่วนการศึกษาเชิงประจักษ์ (Empirical study) มีความจำเป็นที่จะต้องเก็บแบบสอบถามและลงพื้นที่ภาคสนาม โดยกลุ่มตัวอย่าง ได้แก่ หญิงที่ขายบริการทางเพศอยู่ในสถานประกอบการที่มีการบังคับตรวจโรค อย่างไรก็ตาม กลุ่มตัวอย่างดังกล่าว เป็นกลุ่มที่มีความอ่อนไหวและเข้าถึงได้ยาก กระผมจึงมีความจำเป็นต้องขอความช่วยเหลือในการเก็บข้อมูลจากมูลนิธิเพื่อนพนักงานบริการสวิง (The Service Workers in Group (SWING) Foundation) ซึ่งเป็นหน่วยงานที่มีความเชี่ยวชาญและทำงานอยู่ในสาขาดังกล่าว

ทั้งนี้มูลนิธิเพื่อนพนักงานบริการสวิง ได้ให้ความกรุณาช่วยเหลือกระผมในการเก็บข้อมูลภาคสนาม ซึ่งกลุ่มตัวอย่างได้แก่ กลุ่มหญิงที่ขายบริการในสถานประกอบการที่มีการบังคับตรวจโรค ประมาณ 60-80 คน

กระผมขอขอบพระคุณทางมูลนิธิเพื่อนพนักงานบริการสวิงเป็นอย่างสูงที่ได้ให้ความกรุณาช่วยเหลืองานดุษฎีนิพนธ์ของกระผม และขออนุญาตกราบเรียนมายังอาจารย์เพื่อโปรดพิจารณา

ด้วยความเคารพอย่างสูง

ลงชื่อ .....นิสิตปริญญาเอก

(นายพีระ ตั้งธรรมรักษ์)

ความเห็นจาก มูลนิธิเพื่อนพนักงานบริการสวิง

ยินดีให้ความช่วยเหลือในการแนะนำ ข้อมูล และการ เก็บข้อมูล ภาคสนาม ในกลุ่มตัวอย่างที่ทาง SWING ทำงานในพื้นที่ดังกล่าว

ลงชื่อ .....มูลนิธิเพื่อนพนักงานบริการสวิง

( เด่นชัย ศรีกรองทอง )

เจ้าหน้าฝ่ายวิชาการ

**.11 Agreement on data collection with The Service Worker in Group (SWING) Foundation**



ที่ ศ.ด. 083/2557

หลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต
คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330

3 ตุลาคม 2557

เรื่อง ขอความอนุเคราะห์ในการเก็บข้อมูล
เรียน สมาคมฟ้าสีรุ้งประเทศไทย (Rainbow Sky Association of Thailand)

ด้วย นายพีระ ตั้งธรรมรักษ์ เลขประจำตัวนิสิต 5485903529 นิสิตระดับบัณฑิตศึกษา หลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กำลังทำวิทยานิพนธ์เรื่อง "ปัญหาความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ, การแพร่ระบาดของเชื้อ HIV, และการใช้ถุงยางอนามัย (Asymmetric Information in Commercial Sex Market, HIV, and Condom uses)

นิสิตมีความประสงค์ใคร่ขอความอนุเคราะห์ข้อมูลเพื่อประกอบการทำวิทยานิพนธ์ ซึ่งงานวิจัยดังกล่าวประกอบไปด้วย 3 ส่วน คือ 1) ส่วนของการศึกษาโครงสร้างตลาด 2) ส่วนของแบบจำลองทางทฤษฎี (Theoretical Model) และ 3) ส่วนของการศึกษาเชิงประจักษ์ (Empirical Study) ซึ่งส่วนที่ 3 ส่วนการศึกษาเชิงประจักษ์มีความจำเป็นที่จะต้องเก็บแบบสอบถามและลงพื้นที่ภาคสนาม โดยกลุ่มตัวอย่าง ได้แก่ หญิงและชายที่ขายบริการทางเพศทั้งที่อิสระและอยู่ในสถานประกอบการ อย่างไรก็ตาม กลุ่มตัวอย่างดังกล่าวเป็นกลุ่มที่มีความอ่อนไหวและเข้าถึงได้ยาก จึงมีความจำเป็นต้องขอความช่วยเหลือจากองค์กรนอกภาครัฐ (Non-Governmental Organization; NGO) ในการช่วยลงพื้นที่เก็บข้อมูล

หลักสูตรฯ หวังเป็นอย่างยิ่งว่าท่านจะให้ความอนุเคราะห์ในการช่วยเก็บข้อมูลดังกล่าวเพื่อประโยชน์ทางด้านวิชาการแก่นิสิต และใคร่ขอขอบพระคุณเป็นอย่างสูงมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.พงศา พรชัยวิเศษกุล)
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วันที่ 29 ตุลาคม พ.ศ. 2557

เรื่อง สมาคมฟ้าสีรุ้งแห่งประเทศไทย ตอบรับให้ความช่วยเหลือในการลงพื้นที่เก็บข้อมูลภาคสนาม

เรียน ประธานหลักสูตรเศรษฐศาสตรดุษฎีบัณฑิต คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

กระผม นายพีระ ตั้งธรรมรักษ์ เป็น นิสิตปริญญาเอก คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย รหัสนิสิต 548 59035 29 ปัจจุบันทำวิทยาพนธ์เรื่อง "ปัญหาความไม่สมมาตรของข้อมูลในตลาดขายบริการทางเพศ,การแพร่ระบาดของเชื้อ HIV, และการใช้ถุงยางอนามัย/Asymmetric Information in Commercial Sex Market, HIV, and Condom uses" ทั้งนี้ในส่วนสุดท้ายของงานวิจัย ได้แก่ ส่วนการศึกษาเชิงประจักษ์ (Empirical study) มีความจำเป็นที่จะต้องเก็บแบบสอบถามและลงพื้นที่ภาคสนาม โดยกลุ่มตัวอย่าง ได้แก่ หญิงและชายที่ขายบริการทางเพศ ทั้งที่อิสระและอยู่ในสถานประกอบการ และลูกค้าผู้ใช้บริการ อย่างไรก็ตาม กลุ่มตัวอย่างดังกล่าว เป็นกลุ่มที่มีความอ่อนไหวและเข้าถึงได้ยาก กระผมจึงมีความจำเป็นต้องขอความช่วยเหลือในการเก็บข้อมูลจากสมาคมฟ้าสีรุ้งแห่งประเทศไทย (Rainbow Sky Association of Thailand) ซึ่งเป็นหน่วยงานที่มีความเชี่ยวชาญและทำงานอยู่ในสาขาดังกล่าว

ทั้งนี้สมาคมฟ้าสีรุ้งแห่งประเทศไทย ได้ให้ความกรุณาช่วยเหลือกระผมในการเก็บข้อมูลภาคสนาม ซึ่งกลุ่มตัวอย่างจะถูกแบ่งออกเป็น 3 กลุ่ม ได้แก่ กลุ่มที่หนึ่ง คือ กลุ่มชายที่ขายบริการในสถานประกอบการ ประมาณ 60-80 คน กลุ่มที่สอง คือ กลุ่มหญิงและชายที่ขายบริการอย่างอิสระ ประมาณ 15-20 คน และกลุ่มที่สาม คือ กลุ่มลูกค้าที่เข้ามาใช้บริการประมาณ 30-40 คน

กระผมขอขอบพระคุณทางสมาคมฟ้าสีรุ้งแห่งประเทศไทยเป็นอย่างสูงที่ได้ให้ความกรุณาช่วยเหลืองานดุษฎีนิพนธ์ของกระผม และขออนุญาตกราบเรียนมายังอาจารย์เพื่อโปรดพิจารณา

ด้วยความเคารพอย่างสูง

ลงชื่อ .....พีระ ตั้งธรรมรักษ์.....นิสิตปริญญาเอก

(นายพีระ ตั้งธรรมรักษ์)

ความเห็นจาก สมาคมฟ้าสีรุ้ง แห่งประเทศไทย

ทางสมาคมฟ้าสีรุ้งแห่งประเทศไทย ยินดีช่วยเหลือให้การสนับสนุนทางนักศึกษา
ในการเก็บข้อมูลวิจัย เพื่อเป็นประโยชน์ต่อผู้ศึกษา และกลุ่มเป้าหมาย อย่างยิ่ง
และที่สำคัญหากผลงานวิจัยสิ้นเร็ว สามารถนำมาเผยแพร่ต่อได้

ลงชื่อ .....สมาคมฟ้าสีรุ้ง แห่งประเทศไทย

( นายธนภัย ไชยสาลี )

# VITA

Mr. Peera Tangtammaruk, the oldest child of Mr. Somboon and Mrs. Duangchai Tangtammaruk, was born on February 5, 1987 in Bangkok, Thailand. He graduated from Saint Dominic School. He received his Bachelor and Master of Economics from the Faculty of Economics, Chulalongkorn University, Thailand in 2009 and 2011, respectively. He joined the Doctor of Philosophy Program in Economics, Chulalongkorn University in 2011. His Ph.D. dissertation was present at “the 12th Eurasian Business and Economics Society Conference”, Nanyang Technological University, Singapore, in January 2014, and “the 22nd Annual Conference on Pacific Basin Finance, Economics, Accounting, and Management”, Aichi University, Nagoya, Japan, in September 2014.

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University