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Child Prostitution in Thailand

A Supply Side Analysis from an Economic Perspective

Bachelor's thesis within Economics

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Abstract

The purpose of this essay is to analyze the economic factors behind the supply of children engaged in child prostitution in Thailand. Children are recruited to the sex industry either by parents, adults in their immediacy or choose it themselves. There are several factors that contribute to pushing children towards prostitution. Many of these factors such as credit constraints and mortality are related to poverty, the most quoted of economic factors behind the supply of child prostitution. Associated to poverty is the high discount rate which means that people prioritize present over future consumption. In combination with a lack of alternatives, this makes people engage in risky activities such as prostitution. This also seems to be the case in Thailand.

To analyze the different alternatives faced by children in Thailand, a calculation of present value of life time wages of the alternative activities a child faces was computed. The computation of present value of life time wages of alternative activities of children in the face of different discount rates is in line with economic theory and shows that education confers the highest reward unless the discount rate is extremely high. If education is unavailable, as it is for unregistered children in Thailand, or discount rates are very high, as it can be for very poor families, prostitution will be the occupation with the highest returns.

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1 Introduction

Many subjects fall within several disciplines. The strength of economics is its ability to analyze a wide scope of human behavior. The economic perspective focuses on maximization behavior and markets with different degrees of efficiency. It is possible to look at almost all problems from this perspective. Prices, either on the market or shadow prices in non-market sectors measure the opportunity costs for using scarce resources in a certain way. Decisions, strategic and emotional, are taken based on this, consciously or subconsciously. In recent years more and more economists have seen the benefits of using economics on fields previously not thought of from an economic point of view. (Becker, 1990)

To link complex human behavior with economic incentives and limit the analysis to only comprise the economic aspects of an issue falls within the neoclassical category of economics. An example is Becker's *Treatise of the Family* (1991). This thesis will analyze child prostitution from this strict neoclassical perspective to find out what economic factors might lead children and their parents to sell themselves and their children into child prostitution. To further focus the analysis it will be concentrated solely on one country about which the most extensive literature can be found on the subject: Thailand

In 2000, the year of the latest consensus of child prostitutes conducted by the International Labour Organization (ILO) Children around the world engaged in prostitution were estimated to be around 1 800 000. (International Labour Organization, 2002)

According to Brown and Barret (2002) the globalization and capital liberalization during the 1980's and 1990's turned child prostitution into an international problem demanding international solutions above the national level. This led international organizations and forums for international cooperation, such as the European Union, to address the issue and in 1993 the Council of Europe stated that the sexual exploitation of children and young for profit is a social problem that needs both international and national action. To be able to address this issue it is vital to know the reasons for its materialization. Yet much empirical research needs to be done on the topic. (Council of Europe, Committee of Ministers, 1993)

It is still a controversial subject which is, if discussed at all, usually discussed from a juridical, political or ethical perspective. Few papers have been written on the problem from an economic perspective despite that economic theory can help us understand why and how this phenomenon came into existence. According to Williams (1997) the market for children is just a market and the intermediaries operate to connect demand with supply just as in any other market. The traders in human beings see people as nothing but commodities. Therefore we also, to be able to fully understand and do something about this business, "have to engage in detached analyses of an emotion-driven subject" (Williams, 1997, p.147) Since markets and trade exist as a result of economic factors, the sex market for children should also depend on economic factors, both in the sense of conditions in society and in that of the private sphere.

In order to discover what economic circumstances might lead children into prostitution different theories of factors behind prostitution in general and child prostitution in particular will be presented. As will premises of factors behind the wide-ranging topic of child labor and neoclassical theories on parents' demand for children. The alternatives the children and families face, and to what degree they are free to choose, will then be computed, displayed and discussed.

The purpose of this essay is to analyze the economic factors behind the supply of children engaged in child prostitution in Thailand.

1.1 Method and Limitations

This thesis has been limited to Thailand because this is the country where most data has been collected and about which most articles related to child prostitution have been written. Child prostitutes are not a homogenous group and their reasons for engaging in prostitution vary. However, some general patterns can be found. This thesis seeks to disclose the main *economic* factors to explain the continuous supply of children in this industry in the context of the circumstances for children in Thailand. Some alternative occupations for children have been omitted due to lack of data. All alterations of this type will be stated where it occurs.

The information presented in this essay has been found in library books, scientific journals or official web pages for Thai government organizations or international organizations such as the ILO. The books, mainly consisting of essays by authors who have conducted research about child prostitution or economic theory, have been used for information about child prostitution and theoretical background. Great care has been taken to double check the information of child prostitution in several works before using them in this paper. The articles have laid the foundation for current theories of child labor and up to date information from surveys performed by international organizations on child prostitution and migration in Thailand. The web pages used are those of the Thai National Statistical Office, The United Nations, the CIA World Book and the Swedish encyclopedia 'Nationallencyklopedin'.

It is difficult to collect data on illegal activities such as sexual exploitation and trafficking. The vulnerability of the victims also contributes to the lack of systematic data collection. (van den Anker & Doornik, 2006) So does fear of the criminal organizations who organize the trade. (Deighan, 2010) Due to these problems there may exist bias in the facts concerning this topic. Correct numbers are hard to find and the amounts used for the computations of life time wages are the average wages stated in surveys. None of the figures presented are exact. Measures, such as deflation and aggregation, have been taken to minimize the arbitrage, but the results should be used for their indicative, not their quantitative resources.

1.2 Disposition

The first part of this paper defines the central concepts such as 'child' and 'prostitution'. The second part is the background where the supply structure of the market for child prostitution, Thailand as a country together with the sex industry and child labor in Thailand is outlined. The third part, Factors of Supply in the Context of Child Prostitution, is the theoretical part of the essay. Here the economic factors of prostitution such as they are described in economic theory are presented together with previous research. The fourth part constitutes the empirical part of the essay where facts for Thailand described in the theory section are presented together with calculations of life time wages from the alternative activities of children. These results and their implications are discussed in the fifth part of the essay. The thesis is concluded by a brief summary of its theoretical framework, results and implications.

2 Background

2.1 Definitions

The term ‘child’ has meant different things at different times and in different cultures. As this is an economic thesis, no care has been given to these differences or to the sociological and cultural properties associated with children¹. ‘Child’ will in this paper refer to an individual below the age of eighteen, as it is defined in the widely, and also by Thailand, ratified United Nations declaration in the Convention on the Rights of the Child 1989 (General Assembly United Nations)

‘Prostitution’ is not an easy concept to define, scientifically or otherwise according to Garofolo (2006). There are many possible definitions but for the purpose of this thesis the definition by O’Connell Davidson (1998) has been chosen. Prostitution is here defined in its broadest sense as a business transaction where certain powers of command over the prostitute are transferred to the buyer in exchange for material goods. Either these powers of command are traded for a specific service or for a specific amount of time. (O’Connell Davidson, 1998) Prostitutes can be seen, depending on their circumstances, either as slaves or as self employed entrepreneurs. That is, individuals coming from a part of society with low socio-economic status who voluntarily, although he or she may be under economic threat, engages in prostitution, accepting risk for the sake of profits. It is a dependent form of entrepreneurship as the relation between seller and buyer is unequal. (Thorbeck & Pattanaik, 2002) (O’Connell Davidson, 1998) (Edlund & Korn, 2002) Both men and women can prostitute themselves or be exploited in prostitution but the majority of prostitutes are female. Prostitution is an economic feature in many countries, the visibility and extent vary. (O’Connell Davidson, 2005)

There is no uniform position in the world’s response to adult prostitution, but no country advocates sex trade with children. (O’Connell Davidson, 2005) ‘Sexual exploitation of children’ is defined by the Council of Europe as “the sexual use for economic purposes of a child or a young person, which violates, directly or indirectly, human dignity and sexual freedom and endangers his/her psycho-social development”. (Council of Europe, Committee of Ministers, 1993 p 22)

2.2 Supply Structure

Children as Agents

Children are often assumed to be unable to make rational decisions and children in prostitution are invariably supposed to have been forced into it. O’Connell Davidson (2005) believes that this is a simplistic way to look at the problem.

It is important to note that children can also partake in the sex trade as pimps. Children are not a homogenous group. Studies conducted in Baan Nua in Thailand shows that children sometimes construct a strict hierarchy among themselves where they have different status. The children rise in the hierarchy through their earnings and by procuring new children. (O’Connell Davidson, 2005) The returns on sex for cash are, for street children, much higher than it would be for alternative occupations. Where few alternatives exist, children

¹ For an interesting discussion on the view of characteristics of the child as a socially and culturally conditioned concept as well as the abhorrence of the separation between adult and child prostitution as a necessary symbol to uphold the fundamental concepts of the liberal society see O’Connell Davidson (2005)

can take the decision to go into prostitution. It is not a free choice. According to Wylie & McRedmond (1998) economic desperation and inequality leads to situations where the concept of choice becomes irrelevant. The children can, however, distinguish between alternatives. Even if children are not informed about or evaluate the risks associated with prostitution fully argue that they still take them into account. (O'Connell Davidson, 2005)

Economists fail to see children as economic agents because of children's relative powerlessness. Despite them having been proven to have their own preferences and being able to exert some power economists have seen them as being completely in the hands of their surroundings much in the same way as with women historically. (Levison, 2000) (Ranjan, 1999) Children work, according to both Ranjan (1999) and Libório & Ungar (2010) not only to alleviate poverty, but because they enjoy the independence and status a job gives them. The incentives for children to work are stronger for children from social groups where they cannot expect to have access to developing possibilities. (Libório & Ungar, 2010)

Parents as Agents

There are many possible explanations to why parents sell their children. Poverty and unequal distribution are the most common. In Thailand the number of working children is still significant. Parents are often engaged in unstable employment with little savings. This means that they are sensitive to changes. (Tzannatos, 1998) Girls are expected to leave the home and marry into another family and they are therefore generally less valued than boys. Girls can even be seen as financial burdens due to the future dowry their families will have to raise. Sending off the girls to work is a way to lessen the burden for a poor household. (Tilgay & Sarhan, 2002) Child labor thus results from a combination of household resources, wages, and child work time allocation. (Contreras, 2008)

Other Agents on the Market

Much of the surplus from prostitution transactions end up with agents other than the children themselves or their parents. If the prostitute generates more income than what he or she needs to survive he or she has generated an economic surplus. Third parties, such as brothels, help link prostitutes with clients, not for any altruistic reason but for their own economic gain. Capitalist production models are created by third parties to generate as much surplus as possible as they can only generate profits by making sure that the prostitutes create a surplus and then parts with it. (O'Connell Davidson, 1998) (Farr, 2005) Still, it is unclear how large part of the surplus is captured by middle hands. Most of the profits seem to end up with the prostitutes. (Edlund & Korn, 2002)

Most of the forced labor takes place in illegal, private markets. Out of total forced labor, 14% is estimated to be conducted through commercial sexual exploitation. (Cock, 2009) It is often the criminal organizations that run the sex industries, seeing the profitability in entering new markets. (O'Connell Davidson, 2005) The sex market in Thailand is to a large extent organized by the Chinese triads. (Botte, 1994) (Farr, 2005)

Recruitment

There exists a long range of possible manipulations of the laborer such as wage deductions and nonpayment to keep and exploit the child. Means of coercion such as violence or threats both of the child and its family are widely used to chain the child to the employer. A

child can be kidnapped or abducted. This form of recruitment occurs foremost in countries where institutional safeguards have completely broken down. (Andrees & Belser, 2009) Kidnapping is a decreasing phenomenon. Instead, children are being contracted into hazardous labor under false pretences. Usually recruited by their friends and relatives, they are promised high wages, education or marriage. (Tumlin, 2000) (Andrees & Belser, 2009)

Giving loans that later need to be repaid through work, called debt bondage, is also a recruitment tactic. Not only the person taking the loan, but his or her entire family are expected to contribute to its repayment. (Andrees & Belser, 2009) (O'Connell Davidson, 1998) Thailand and India are well-known examples of prostitution with debt bondage elements. Children may also inherit their parents' debts. As there are often no contracts of the loan or the lender is the only one with the capacity to read the debtor is completely in the hands of the lender. (O'Connell Davidson, 1998) (Farr, 2005)

2.3 Thailand

Thailand is a monarchy with 67.4 million citizens. (The National Statistical Office of Thailand, 2010) It consists of seven regions divided into 76 provinces and the capital Bangkok with 5.7 million citizens. Its neighboring countries are Burma, Laos, Cambodia and Malaysia. (Mårtensson, 2010) The work force is composed of 38 % in the primary sector, 15 % work in the manufacturing sector. 3 % work within education and 0.9 % work in the financial sector. (The National Statistical Office of Thailand, 2008)

Between 1985 and 1995 Thailand was the Newly Industrialized Country with highest rate of growth. (Tzannatos, 1998) Concurrently there has been a reduction in child labor and child labor force participation and an increase in school enrollment. (The National Statistical Office of Thailand, 2008) This is due to a combination of the increased growth, household income and greater availability of schools. The family planning policy, which was started in the 1960's, has resulted in lower fertility rates (from 6 children 1965 to 2.1 children 1993). Thailand has grown from one of the poorest countries in Asia to one of the richest. GDP grows with approximately 8% per year. At the same time the gaps between the rich and poor grows as 13 out of the 59 million Thai people lived below the poverty line in mid 1990's. Average income was in 1995 eight times higher in Bangkok than the average of the country. (Jalakas, 1995) From then there has been a convergence so that today the income in Bangkok is roughly three times as high as that of the poorest, northeastern, region. (The National Statistical Office of Thailand, 2007)

The Sex Industry in Thailand

According to Brown & Barret (2002) there was in the end of the 1990's an estimated 200 000 children involved with prostitution in Thailand. These numbers tend to be exaggerated, the real number is probably closer to 30 000 or 40 000 children (Wille, 2001) (Tumlin, 2000) (Boonchalaksi & Guest, 1994) (Vanaspong, 2002). According to Boonchalaksi & Guest (1994) Prostitutes are most likely to be urban girls aged 15- 24. Still, the average age of the children engaged in prostitution and interviewed in Wille (2001) was 15, some were as young as 13. It is forbidden for children below the age of 16 to work in Thailand. (Botte, 1994) Prostitution is illegal and if the prostitute is below the age of 18 he or she is underage. People recruiting prostitutes or reaping the benefits from them are committing a crime punishable with prison. (Boonchalaksi & Guest, 1994) (O'Connell Davidson, 1998)

The alterations of the sex trade can be linked to the transformations in economic development which has led to increased gaps in living standards between rich and poor, urban and rural. (Boonchalaksi & Guest, 1994) Thailand is today one of the best known nexuses for prostitution. Sex tourism has become an essential part of the image of Thailand in the international society. Every year it pulls in millions of dollars and western visitors. (Farr, 2005) (O'Connell Davidson, 2005) (Thorbeck & Pattanaik, 2002) Almost twice as many men as women visited Thailand in 2007. (The National Statistical Office of Thailand, 2008) As many other newly developed countries in the 1970's Thailand was encouraged by the World Bank to promote tourism. In developing countries there has been a strong association between tourism and prostitution resulting in sex tourism. Sex tourists will utilize sexual services from debt bonded children as well as adult sex entrepreneurs. (O'Connell Davidson, 1998) (Thorbeck, 2002) (Boonchalaksi & Guest, 1994) At the same time as government officials wish to cater to tourists interested in sexual entertainment they will not do so openly as this will depress other segments of tourists, families with children for example. Therefore the sex industry is indirectly promoted while its existence and extent is denied publicly. (Boonchalaksi & Guest, 1994)

Prostitution has a long history as an established and reasonably accepted industry in Thailand. Although it is unclear when the practice became widespread, it was legal and taxed in different ways from 1350 to the 1960's. In modern time the sex industry in Thailand has undergone changes. It is not disguised, although it is illegal. Instead it is an economic activity with large investments controlled by other parts of the tourist industry. Prostitutes often come from the north or northeastern parts of the country which is very poor and where agriculture still constitutes the larger part of the economy or from the ethnic minority of hill tribe people living there. (Boonchalaksi & Guest, 1994) (Tumlin, 2000) (Tzannatos, 1998) They are also trafficked from neighboring countries. There are approximately 16 000 foreign prostitutes in Thailand, a third of these are younger than age 18. (Wille, 2001) The Ministry of Public Health in Thailand confirmed that the number of child prostitutes working in known establishments increased with roughly 20 % between 1996 and 1999 while the total number of prostitutes only increased with 3 %. A broader study of child prostitutes in general in South Asia shows that a majority of the sexually exploited children are between 12 and 15 years old, although there were children much younger than this. Victims often come from large, agrarian families with low levels of education. (Tumlin, 2000)

Child Labor in Thailand

Sexual exploitation is just one part of the problem of child labor. (Boonchalaksi & Guest, 1994) (Botte, 1994) Thailand is a main receiving country of children exploited for labor. Most children come from Myanmar, followed by Laos and Cambodia. Different sources indicate that these children are more likely to work in the sectors with exploitative and dangerous work situations compared to Thai children. Child refugees have also been found in hazardous work in Thailand. (Wille, 2001) (Tumlin, 2000) (Botte, 1994) (International Organization for Migration, 2005)

Child labor has decreased during the 1990's when labor force participation rates fell with 50% for children between 13-14 years. But 230,000 Thai minors between the ages of 13 to 17 are still working. The majority of these children come from poor families and many belong to the Thai hill tribe minorities. (Tzannatos, 1998) (Wille, 2001)

3 Factors of Supply in the Context of Child Prostitution

In this part of the thesis the different theories concerning the economic factors behind the supply of children into prostitution will be outlined. The section on parents' demand for children and the poverty related conditions, such as opportunities for children and time preference together with credit constraints seem to hold the highest relevance. Naturally economic factors are not the only type of factors behind child prostitution, there are many kinds of scientific perspectives from which this subject can be analyzed. It is also important to keep in mind that parents do not only have children for material reasons. Obviously children and parents are have a deeper, emotional relationship. Therefore it is not to be said that children are inadvertently expected to work to help sustain themselves and their families.

There are however economical aspects that do come into consideration when choosing how many children to have and how much to invest in them and in some circumstances the expectation of children to contribute to the household economically as well as psychologically is taken into account. Possibly this depends on the circumstances of the family for which economical conditions play an important role.

3.1 Economic Theory of Prostitution

One of the few economic theories on prostitution was created by Edlund and Korn in 2002. Here Edlund and Korn argue that only two options are open to a woman: to sell reproductive sex in marriage or on the market through prostitution. They explain the relatively high wage of prostitutes as compensation for their foregone marriage opportunities. Selling of sexual services is not that different from selling of other services. A woman would, according to this model, only sell sex if she had few other opportunities on the labor or marriage market. (Edlund & Korn, 2002)

3.2 Status and Inequality

In every kind of society some kind of hierarchy with a status ladder is created. High status will render high utility and therefore individuals in the society will try hard to achieve it. (Becker & Murphy, 2000)

A continuous scale of status is assumed in the model presented by Becker and Murphy (2000). The high-status positions are limited and fought for. Some hierarchies of status are fixed, such as caste, but in other systems status fluctuates based on income, wealth and position. Education and moving to places with higher wages are ways to achieve a higher income and thus higher status. Risk is also a factor: the riskier the business, the higher the reward if it succeeds. Risky enterprises include entrepreneurial activities and crime where the results are uncertain. Education, race, gender and wealth are also important aspects of functional income. But they are not the only factors that determine income. If they were, then status would be fixed and no one would partake in risky activities to improve their status. In societies with high income differences, the potential reward for risk taking is higher. For individuals with few options, risky activities become an attractive alternative. (Becker & Murphy, 2000)

3.3 The Demand for Children by Parents

Malthus asserted that fertility depended on marital age and the frequency of coition during the marriage. Becker (1991) argues that these two factors depend on the price of children and real income. He concluded that fertility tends to go down when real wages for women go up, rural families have more children and families with higher income have had more children than low income families except for in the western world during the last 150 years. The analysis is based on the interaction between quality and quantity of children. This explains variation of number of children over time even when there are no substitutes for children and the income elasticity of quantity is small. It also explains why more children tend to lead to less education per child. (Becker, 1991)

The number of children people have depends on their ability to produce them and demand. There is an interaction between economic development and fertility through quantity and quality of children. Through shifts in income and rate of return on education the effective price of children increase when income increases. As parents are assumed to spend an equal amount on every child this means that total costs will increase with additional children and children will demand more from their parents as the family income increases. The quantity and quality interaction implies that demand for children depends on price and income if there are no close substitutes. When demand for children decrease the demand for quality in children will increase. If there is no possibility to invest in the quality of children, parents will invest in quantity instead. Racial differences can render lower returns to education for marginalized groups which explains why these groups tend to have more children instead. In a society with a rigid hierarchy, with a caste system or apartheid for example, where there is little chance that the child will be able to move over the stature of its ancestors there will be little return on investment in human capital so people will have more children instead. The net cost of children will be reduced if they contribute to the breadwinning. The earning potential of the child will therefore be taken into account when deciding amount of children. (Becker, 1991) (Heyneman & Loxley, 1983)

There is a tradeoff between labor and education, present and future income. Technological growth will decrease fertility rate. Over time with increased capital, the direction of intergenerational transfers switches from parents to children with parents investing in their children while fertility rates keep declining. In the long run this process eliminates child labor in a steady state with a high human capital level. (Sugawara, 2010)

3.4 Children's Support of Parents

Young children have no choice as to be exposed to the values and norms of their parents. Parents, altruistic or selfish, may therefore influence their children with a strong preference for helping their parents even if it harms the children themselves.

Children may choose to spend income on their parents not because of their own guilt, but because of what their peers do. If they would spend less on their parents they may be considered heartless and loose status. Changes in behavior and norms take long time as it's the combined habits of the people in that society that creates them. Customs and traditions of a society thus influence these investment decisions. (Becker & Murphy, 2000) With retirement systems there will be less need for children to look after their parents. Therefore increases in welfare and decreases in poverty leads less pressure on children to support their parents. (Becker, 1991)

3.5 Opportunities for Children

Children's opportunities partly depend on the success of their families as this determines how much expenditure is spent on the children. But income between siblings will in addition differ due to their personalities and luck. The parents' investments in their children will also diverge depending on what they perceive of the children's abilities and potential. The sex of the child will also play a part. In societies where rates of return on human capital are lower for women, parents will invest more in their male children. This has been shown empirically. If forced to give up any of their children parents would, according to the theory of lemons, put up the children they saw as inferior for sale. (Becker, 1991) In countries with large gender inequality this would mean the girls. Women have lower future wages, no matter which sector they work in, and therefore lower return to education. Girls can therefore be expected to work more than boys, even as unpaid workers within the household. (Chakraborty & Das, 2005)

In Thailand the economic shift from agriculture to manufacture has led to better communications between rural and urban areas. Furthermore, the shift from an agricultural to a manufacturing society has changed the inheritance rules from girls to boys. This has led to a large disadvantage for women on the labor market. (Boonchalaksi & Guest, 1994) Low potential for women to earn money seems to be linked with prostitution. (Edlund & Korn, 2002)

3.6 Poverty and Child Education

Child labor has been proven to be directly associated with poverty, both across countries and within each country. Poor people also have greater difficulties in accessing credits. (Jafarey & Lahiri, 2002)

Children living in countries disrupted by poverty, natural disasters, epidemics or armed conflict have a higher probability to end up in prostitution. Orphaned children often have to support themselves as well as their siblings and as they are too young to enter the official labor market they turn to the labor they can get. (Tumlin, 2000) (Farr, 2005) (Wylie & McRedmond, 2010) (O'Connell Davidson, 2005) Children who work are often proud that they can contribute to the family income. (Dessy & Pallage, 2004) (Wille, 2001)

Altruistic parents who care about their children and are well informed may still send them into prostitution or deep sea fishing because these risky and harmful jobs provide much higher wages. That there is a wage premium compensating parents on risky activities, can also be seen empirically. (Dessy & Pallage, 2004) The higher wage on prostitution can also be derived from the prostitutes' inability to subsequently enter the marriage market. (Edlund & Korn, 2002)

According to both poverty and poor education quality are important determinants of child labor. The incidence of child labor decreases as society moves from a situation of borrowing constraints to a condition in which poor households can borrow freely from rich ones and then to the case of perfect international credit markets. At the same time, even perfect credit markets, on their own, may not eliminate child labor altogether. (Jafarey & Lahiri, 2002) Empirical studies indicate that what makes parents send their children to school is the existence of low-cost, high-quality schooling. This should then increase the rate of school attendance and therefore reduce child labor. But even with such a system, public education may not be supported by poor households if they lose a significant part of current income by sending their children to school due to direct or indirect costs of schooling. (Tanaka, 2003)

3.7 Time Preference and Credit Constraints

Parents face a tradeoff between sending their children to school, which would generate a high future return, and to work, which would render instant return. Ranjan (1999) analyses this tradeoff assuming that parents care about the welfare of their children. They come to the conclusion that it is the inability of the parents to borrow capital to substitute the foregone wages of their children in the present for their earnings in the future. Without the functioning credit markets the utility cost is too high for poor families to justify sending their children to school. If the rate of return of education is higher than the market rate of interest the prediction is that there is no child labor according to the model. (Ranjan, 1999)

There is a documented high return in developing countries on all levels of education. But imperfect capital markets are enough by themselves to create child labor. Unequal distribution of income combined with credit constraints thus leads to child labor. It also depends on the wage of the child and its future unskilled worker wage compared to the future wage of a skilled adult (Ranjan, 2001)

3.8 Income and Income Distribution

Household economic growth decreases the incident of child labor. (Contreras, 2008) If income distribution is unequal, public schooling will not be supported by the majority and child labor increases dramatically. The cost of public education puts a tax burden on households that they may not be able to hold. Low median income will also result in high levels of child labor. (Tanaka, 2003)

In the early stages of development in a country there tends to be a high rate of child labor participation. According to Contreras (2008) institutional wage regimes can alter decisions made by households by skewing individual incentives which results in child labor. Contreras asserts that the most important variable is not credit constraints, or household resources, but wage distortions. As adult-child wages converge in the early stages of development, the occurrence of child labor increases, but decreases in the long-run. Child labor participation is only efficient when there are few or no wage differentials with respect to education and age. (Contreras, 2008) While wage differentials are desirable to create incentives for education it is through decreased income gaps, especially higher low skilled wages, that one can decrease poverty for all. (te Velde & Morrissey, 2002)

3.9 Education of Parents and Mortality

The level of child labor can be high even when parents are not constrained by credits if return to human capital is uncertain and insurance are incomplete. (Pouliot, 2006) In Chakraborty & Das (2005) the authors claim that mortality is a determinant for child labor. If parents face a high rate of child or youth mortality they have a much higher risk for investment in their children's education as these may die before they have repaid the investment. High mortality will also influence parents' decisions on fertility as it becomes necessary to have more children in case some of them die. This makes parents prioritize quantity over quality in children, which raises incentives to engage their children in labor. (Chakraborty & Das, 2005) (Becker, 1991)

Estevan and Baland (2007) also argue that the mortality risk is one of the major sources of risks of investment in children's education in developing countries. If there is no well functioning insurance the level of child labor will be inefficient. If parents are egoistic and expect positive transfers from their children in the future then uncertain returns to educa-

tion combined with mortality or imperfect capital markets raise child labor. If the possibility that a child will die is high parents will rather invest in something safer such as savings. However, if parents are altruistic and unsure about how many children will live the parents may choose to reduce the bequest by save less and invest more in education. (Estevan & Baland, 2007)

Children can be said to contribute to their parents either through labor or old age support. If mortality rates are high parents risk never getting any old age support and thus prioritize present income. This gives them a high discount rate. (Chakraborty & Das, 2005) If there is high child mortality then parents must also have more children to ensure that a sufficient number reach adulthood. When welfare increases mortality tend to decrease which therefore leads to a decline also in fertility. With retirement systems there will be even less need for children to look after their parents. (Becker, 1991)

Tzannatos (1998) argues that the allocation of children's time depends on a combination of household characteristics and economic factors. According to Tzannatos' econometric analysis of the Thai Labor Force Surveys between 1985 and 1992 decisions on work and education are significantly connected to the level of education of parents. There seems to be a strong inter-generational transfer of human capital between parents and children so that households where the parents are educated are more likely to send their children to school. (Tzannatos, 1998)

3.10 Growth

Child labor goes down when national growth goes up since growth implies technological development which increases the efficiency and wages of skilled labor and thus the return on education. (Chakraborty & Das, 2005) Productivity of children in rural areas is higher compared to urban areas. As agricultural production has become more mechanized, children are having lower earning potential even there, making returns to education go up further and parents send children to school. (Becker, 1991) Growth that leads to higher incomes also shifts demand for sex from prostitution towards marriage. (Edlund & Korn, 2002)

In developing countries, increasing assets owned by families have improved the well being of children, although this depends both on the type and the amount of assets. It lowers child mortality and improves child development. There is also a connection between owning assets and school enrollment. However, this relation seems to be u-shaped. (Chowa, Ansong, & Masa, 2010) (Basu, Das, & Dutta, 2010). Kambhampati and Rajan (2006) find the same u-shaped connection between growth and child labor. Owning a little land will diminish incidence of child labor, then the incidence of child work goes up. Girls are required to do more domestic work while their brothers are allowed to go to school. Not until enough assets have been accumulated does the child work decrease permanently. (Chowa, Ansong, & Masa, 2010) (Basu, Das, & Dutta, 2010) Some assets, such as cattle require more maintenance work which makes children more prone to divide their time between school and work. (Chowa, Ansong, & Masa, 2010) Economic growth will increase household incomes through higher adult wage rates or more adult employment opportunities. The supply of child labor only goes down if poverty was the reason as to why they were sent to work in the first place. Growth may also affect a household's decision through the higher return on education which would increase incentives for sending children to school. However growth implies that those of future generations will face better conditions and be better off than the adults of the present generation leading these to wish to shift resources back to themselves and one way to do this is child labor. (Kambhampati & Rajan, 2006)

Growth will also affect the society as a whole. A strong economy often leads to strong institutions that can ensure that children attend school. It may also contribute to a society where children are valued more for their emotional and psychological than economical contributions to their parents. A higher growth can lead to improved infrastructure which enables children who live in rural locations to both go to school and help at home. (Kambhampati & Rajan, 2006)

4 Data

According to both the Council of Europe, Committee of Ministers (1993) and Wylie (2006), two important characteristics of child prostitution are its invisibility and mobility. The extent of child prostitution is hidden and thus hard to study. This is however not a reason not to try to create ways to research the topic, in understanding the factors behind the phenomenon and help get rid of it.

In this section the situation of Thailand with respect to the factors outlined in the previous segment will be presented together with computations for alternative activities in Thailand.

4.1 Education in Thailand

The costs of education are, when children are expected to help provide for themselves as it might be for families under severe economic pressure, both the opportunity cost foregone earnings of the child as well as the cost of supporting the children while they are completing their education. Primary and secondary education is provided by the Thai government for free. The minimum social gain from children completing junior secondary would be their wage increase compared to those who do not complete their education.

Tzannatos (1998) found that in the 1990's the most often quoted reason for children to be out of school was the direct cost of schooling as well as not being admitted. Opting for work became more important as the children grew older. Lifetime gains from finishing junior secondary compared to dropping out in primary lies between 141 000 Baht and 56 000 Baht for work till the age of 55 years if the rate of discount lies between 1 to 6 % in 1992. Throughout this range of values for a social discount rate lifetime benefits would exceed costs though only by a small amount (1 600 Baht) if both child wages and the discount rate are assumed to be unrealistically high.

Private returns in the form of wages are only a part of the social returns on education. If we assume that public rate of return on education is 10 % the present value of the societal gain over a 40 year productive lifetime (till the age of 55 years) exceeds costs by a factor from two to four depending on which levels of discount rate and child wage are used. (Tzannatos, 1998)

4.2 Poverty, Income and Income Distribution in Thailand

Men have higher wages than women, both in rural and urban parts of Thailand. (The National Statistical Office of Thailand, 2004) The poorest part of the country is the north-east where the average monthly wage is 12 995 Baht (US\$ 378) compared to that of metropolitan areas around Bangkok of 35 007 Baht (US\$1019). Households involved with agriculture earned the lowest wages. (The National Statistical Office of Thailand, 2007) (The National Statistical Office of Thailand, 2008)

Monthly income per capita increased from 5,245 in 2006 to 5,494 in 2007. The income gaps also decreased slightly between 2006 and 2007 but are still very high. The percentage share of households in the group with the highest income decreased from 50.9 % to 49.2 % while the income of the group with the lowest income increased from 5.1 % to 5.7 %. (The National Statistical Office of Thailand, 2007) In a longer perspective household income inequality has increased in Thailand, from 45.3% in 1980 to 50.8% in 1998. Wages usually contribute most to household income and in Thailand the wage differentials be-

tween skilled and unskilled labor have increased. Simultaneously, the number of skilled workers has increased in Thailand. (te Velde & Morrissey, 2002)

Total saving and growth have generally gone up over the years 1998-2005. (The National Statistical Office of Thailand, 2008) Tax income for the government has also increased to 1463 billion Baht in 2006 compared to 864 billion Baht in 2002. Inflation during this period was on average slightly above 1%. (The National Statistical Office of Thailand, 2008)

4.3 Children's Support of Parents and Mortality in Thailand

Girls are expected to contribute to the family. In the northern parts of the country where the youngest girl inherits the family owned land, the anticipation of girls to look after their parents is even more visible. (Boonchalaksi & Guest, 1994) Almost 75% of the children questioned in the survey conducted by (Wille, 2001) were originally motivated by a desire to help their family financially but only half of these actually sent money home. The majority of the parents had received little or no information about their children's whereabouts. (Wille, 2001)

Overall mortality in Thailand has decreased as income has increased. (Warr, 2007) In 2005 mortality for all age groups was just above 5/1000 for women and 7/1000 for men. For both women and men the mortality rates have declined slightly over the years 2002-2006 for the age group 15-44 and increased slightly for those aged 45+. (The National Statistical Office of Thailand, 2008) The life expectancy is 75 years for the whole country (CIA, 2010)

4.4 Credit Constraints

The Thai credit market differs between rural and urban areas. Despite the quick growth, it is still harder to access credits in the rural part of Thailand. Loans from banks are granted with respect to household characteristics such as previous savings and income. Here people prefer to use informal moneylenders who charge a higher interest rate, but do not demand collateral or savings. (Giné, 2010) It is more common for banks in Thailand to demand collateral for loans than in developed markets. (Menkhoff, Neuberger, & Suwanaporn, 2006)

63% of all households in Thailand are indebted. The people loan money mainly for consumption and to purchase land. The households with the highest wages are also the ones that are most heavily indebted in Thailand. It is also in the wealthier southern regions that the percentage of indebtedness is rising. The proportion of expenditure per income in this region was 68.6 % in 2007. The Northeastern region consists of households with the lowest income, indebtedness and expenditure. Here the proportion of expenditure per income was 84.0 percent. Households in this region thus have less money for savings. (The National Statistical Office of Thailand, 2007)

4.5 Alternatives

To determine what leads children into prostitution one must consider the alternatives for those under 18 in need of making money. In many countries the only jobs available for young girls are domestic work in private households or prostitution. (O'Connell Davidson, 2005) (Farr, 2005) All jobs that children have the ability to take are referred to as the worst

forms of child labor in the case when they present working environments that are hazardous for the children. (Wille, 2001)

Thinking of prostitution as an economic decision has lead researchers to argue that the underlying factor that pushes individuals into prostitution is the limitations of the labor market. Either the people enter into prostitution because that is the only way open for them to join the workforce or because that way is the most lucrative of the possibilities for them. (Phoenix, 1999) People with no education are much more likely to be employed in the informal sector than those with education, especially women. (The National Statistical Office of Thailand, 2008)

In the section below alternative activities for children in Thailand are discussed. The flow of children to their alternative occupations can be illustrated by Figure 1 where the lines represent the path of the children. The children are either kept at home working at the family's farm or the farm of someone the family owes money, sent to school or sent to any of the alternative activities. Either they are sent directly by their parents, or go voluntarily, something that is represented by the full, red line or they are recruited by an agent and then sent to one of these activities.

Domestic work for the child's own family as well as self employment and work in criminal markets such as drug dealing as well as work in any of these sectors overseas have been excluded due to lack of data of salaries in these sectors.

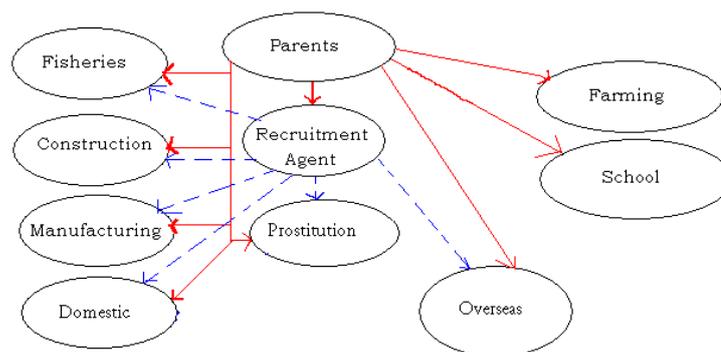


Figure 1 Flow of Children

Prostitution

In Asia, there are an estimated 5 500 000 children involved in hazardous work other than prostitution. (International Labour Organization, 2002) The minors interviewed in (Wille, 2001) who earned the highest wages worked in the sex industry or the fisheries. Girls exploited in prostitution often earned 4 000 to 5 000 Baht/ month (US\$ 108—135), some of them reported being able to make up to 30 000 Baht/month (US\$ 810). If using the 4 000-5 000 Baht as monthly income this gives an annual income of 54 000 Baht.

Manufacturing

Workers in jeweler and weaving factories often have to work long hours to reach a wage they can live off due to a system with very low payment per piece. For new recruits in the jeweler factories the wages started at 600 Baht/ month (US\$ 16) to 3 000 (US\$ 81) Baht for those with long experience. This gives a yearly income of 7 200 Baht for t_0 and the first time period and 36 000 for the second time period (15-50 years old). (Wille, 2001)

Deep Sea Fisheries

Working hours in the fishing industry are very long, minors often have to work all hours in 2.5 hours shifts with 1 ½ hours breaks in between every day during the period of 20—25 days when they are at sea. Boys in fisheries stated an income between 5 000—6 000 Baht/ 20-25 day trip (US\$135-162). In a year this generates 66 000 Baht. (Wille, 2001)

Domestic work in Private Households

Domestic employment in Private Households is characterized by very long hours, often without possibility to take time off. (Wille, 2001) (Huguet & Punpuing, 2005)

32% of the interviewed, adult, migrate workers in (Huguet & Punpuing, 2005) received maximally 1000 Baht/ month, 30% had wages ranging between 1 001 and 2 000 Baht, 22% received 2001 to 3 000 Baht. 15% received over 3 000 Baht per month. 80% of the women had to work more than 12 hours/ day, 61 % were obligated to work more than 14 hours/ day. Many worked seven days a week, with no regular days off. (Huguet & Punpuing, 2005) Thus median wage lies between 1 001 and 2 000 Baht. The aggregate of this is 1 738 Baht which comes close to the stated income of children (1500 Baht) in Wille (2001). This gives a yearly wage of 20 856 Baht. Thai domestic workers earn on average 3 774 Baht per month which will be used as the adult wage rate (45 288 Baht per year). (The National Statistical Office, Ministry of Information and Communication Technology of Thailand, 2010)

Farming

The majority of children in the world who work do so in agriculture, either on commercial farms or family land. Hours are usually long and working conditions hazardous (Forastieri, 1997). Fractures and amputations as well as other disabling mishaps are frequent, as is maltreatment and long-term damage to a child's central nervous system (Kielland and Tovo, 2006). However, as with other forms of work children derive utility from contributing to the household's economic security as well as increased consumption. (Libório, 2010)

A majority of children who are working are engaged in farming. Child labor can, according to Tzannatos (1998), be valued as 30 % of the average agriculture wages. The yearly income in 2000 for children was thus 9 096 Baht and 30 324 Baht for adults. (The National Statistical Office, Ministry of Information and Communication Technology of Thailand, 2010)

Construction

On various construction sites the children were working at dangerous heights and transported heavy materials. Their work days equated an average of eight to nine hours per day, seven days a week. Wages normally range from 2 400 to 3 600 Baht/ month (US\$ 64. 97). (Wille, 2001) This gives 36 000 in annual wages for children. The official statistics show an average wage of 53 388 Baht per year for adult workers. Women represent 15% of all construction workers. (The National Statistical Office, 2010)

Education

Only children of registered refugees have the right to attend Thai schools. Still, only a small portion of the registered children go to school. Some do not send their children to school because they are not allowed to do so by local authorities or because they are required to pay school fees. (Huguet & Punpuing, 2005)

The hill tribe population, seen by the Thai government as an ethnic minority has been registered only gradually. If a village is not registered it does not get government services such as schools. Individuals must register to be able to attend schools and receive many basic rights. (Huguet & Punpuing, 2005)

Thailand had until the end of the 1990's difficulties to get children into secondary education. (te Velde & Morrissey, 2002) Despite the high rate of growth and increased literacy, the Thai school system still shows weak overall performance. (Warr, 2007) Since the number of skilled workers is relatively low in Thailand this has led to high wages for skilled labor compared to those of lowskilled. (te Velde & Morrissey, 2002) Schools in urban parts of Thailand are more efficient than those in rural parts. (Kantabutra, 2009)

An aggregate of wages of professions demanding education gives the yearly wage of skilled workers to be 131 592 Baht.

4.6 Computations

Discount Rates

Discount rates play an important part in deciding time allocation. The societal discount rate can be low as societies are long lived and therefore have a much lower uncertainty compared to individuals. Tzannatos (1998) states that unless child wages and administration costs are high, there is a significant societal gain from education. Poor households have a high rate of time preference and will thus spend too little on education. Lifetime private benefits cannot be discounted by a rate of 3% or 6 % since their rate of time preference can easily be 15%, reaching up to 100 % during an emergency situation. Since time spans are shorter for households than society the discounted wage gain becomes smaller. One must also take into account that parents may pay less attention to their children's wages after these have left home. (Tzannatos, 1998)

Procedure and Limitations of Computations

For all computations, consult the appendix. To find the the Present Value (PV) children and their families face when deciding whether or not to go into child prostitution it is important to know the age of children when this decision is taken. This age will symbolize the time T_0 in the computations. Since the majority of children working with child prostitution were between 12 and 15 years old (Tumlin, 2000) the assumed starting age (T_0) will be set to 12 years. Discount rates of 2%, 4%, 6%, 10% will be assumed in four different calculations. People are assumed not to switch from one sector to another and to work until the age of 55 when beginning to work at age 12 in all sectors apart from fisheries, prostitution and those professions demanding education. This is the age used in previous studies such as Tzannatos (1998). Not letting people be able to transfer into other sectors that their original is a necessary simplification to arrive at any reasonable results since there are no statistics on to what extent people switch between the different industries nor would it be feasible mathematically to include them into the calculations. It

can further be argued that parents and children when deciding activities plan to remain and advance within their chosen branch for the remainder of their lives. For those with education the assumed retiring age is at the age of 60 and those involved with the high risk industries fisheries and prostitution are assumed only to work until they are 35. After having reached the age of 35 deep sea fishers and prostitutes are assumed not to be able to work anymore. They are also assumed to not be able to enter into the work force in any other sector. Sensitivity analyses where people are assumed to work additionally 5 years or 5 years less have also been performed. To see how the life time wages are affected by the restriction of prostitutes and deep sea fishers only being able to work within this sector an additional computation which displays life time wages should prostitutes be able to enter into domestic work after having been engaged in prostitution until the age of 35. The age of retirement for domestic workers is still set to be when the worker is 50 years old .

The wage rates of children are the ones stated by children in the survey from 2000 presented by Wille (2001) whereas the wage rates of adults are taken from the Thai Report of the Labor Force Survey, National Statistical Office, Ministry of Information and Communication Technology (2010). The numbers are from the first quarter of 2001, hence not deflated. The wage for adult prostitutes are assumed to be the same as for children. There are suggestions in the literature that the wages for child prostitutes are higher, but it may just as well be argued that children have less power to demand their payments and therefore have lower wages.

In Thailand children enter elementary school at age 6, which they attend for six years. Secondary school is then three plus three years. The primary as well as the first three years of secondary are mandatory. Elementary and secondary education is provided by the government for free. (Rupavijetra, 2009)

Since children report lower wages than adult counterparts engaged in the same sectors two different wage rates at two different time intervals have been used. To calculate the present value of the latter time period annuities have been used. (See Appendix)

To show the development of educational development a diagram was computed with numbers from The National Statistical Office of Thailand (2008) that shows employed persons by level of educational attainment. The income change 2003-2010 was computed using numbers from The National Statistical Office of Thailand (2004).

Results

Diagram 1 displays how average income per month has changed from 2003-2010. It does however not give any indications as to income distribution. Average income has continued to rise over the last few years, just as it has from the 1960's (see Diagram 1). This should mean that the Thai people will tend to start investing in quality instead of quantity with respect to amount of children. A continuing rise in average income can also be a result from previous years growth. Due to the previous mentioned effects of higher income on parents this growth would lead to a larger part of the employed population have completed higher levels of education, which is exactly what can be seen in Diagram 2. Diagram 2 shows to what degree the employed labor force has completed their education and here we can see a steady increase at all levels and a decrease in the number of people without any form of education.

Education tends to increase efficiency and wage level of the workforce which then tend to invest more into the education of their children. The increase in part of the employed population with education can of course also be due to employers demand skilled work force to a higher degree so that those lacking education cannot find employment. If this is the case then this will create incentives for parents to send their children to school as this will yield higher future returns.

Change in Average Income

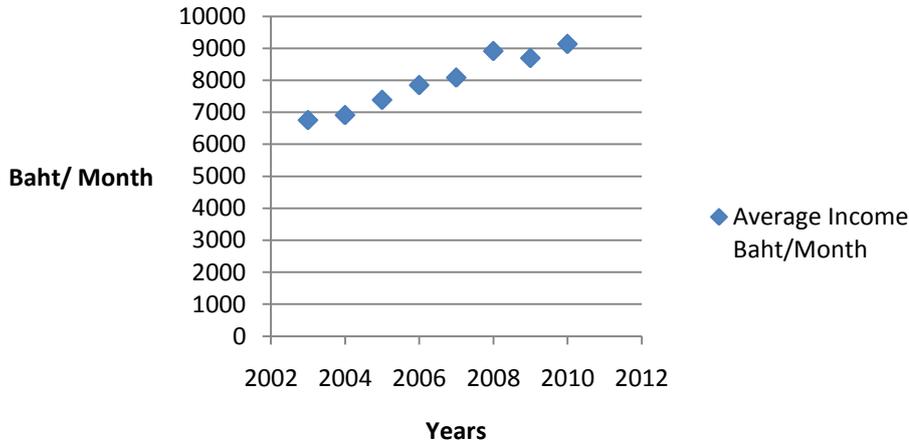


Diagram 1 Change in Average Income

Source: Own computations (See Appendix 3) with data from The National Statistical Office, Ministry of Information and Communication Technology of Thailand (2010)

Levels of Education

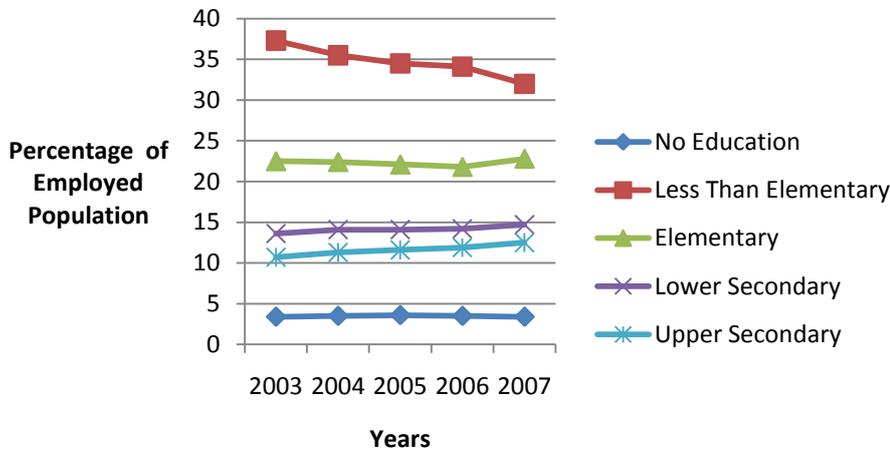


Diagram 2 Levels of Education

Source: Own computations (See Appendix 3) with data from The National Statistical Office of Thailand, 2008

With Table 1 begins the presentation of the results from the computations of the present value of life time wages. Table 1 displays the different life time wages for different activities in a descending order with the activity rendering the highest wages is at the top for discount rates 2- 10%. From this it can be seen that the present value of life time wages was higher for education than all alternative activities within this scope of discount rates. Farming remained the activity with the lowest returns for all discount rates which confirms why children would move away from rural to urban areas in search for jobs and why wages

seem to be so much lower in poor rural parts of Thailand compared to the metropolitan areas around Bangkok.

Risky activities such as deep sea fishing and prostitution had higher returns compared to many other activities. Manufacturing, however, remained higher than prostitution for all discount rates as well while prostitution passed domestic work in private households already at the discount rate of 6%. For discount rates below 6% prostitution is the activity with the lowest rewards apart from farming. 6% is however a low rate and it would not take much economic pressure to push the personal discount rate to this level.

Table 1 Present Values of Life Time Wages With Respect to Discount Rate

Source: Own computations (see Appendix 1), data from (The National Statistical Office of Thailand, 2008)

Discount Rate 2%	Discount Rate 4%	Discount Rate 6%	Discount Rate 10%
Life Time Wages	Life Time Wages	Life Time Wages	Life Time Wages
Education (3 625 175)	Education (2 478 396)	Education (1 792 604)	Education (1 069 483)
Manufacturing (1 949 797)	Manufacturing (1 354 983)	Manufacturing (992 850)	Deep Sea Fishery (652 292)
Construction (1 532 423)	Construction (1 090 760)	Deep Sea Fishery (878 023)	Manufacturing (604 233)
Deep Sea Fishery (1 273 285)	Deep Sea Fishery (1 046 551)	Construction (821 286)	Prostitution (533 693)
Domestic (1 271 444)	Domestic (897 327)	Prostitution (718 382)	Construction (530 839)
Prostitution (1 041 779)	Prostitution (856 269)	Domestic (669 248)	Domestic (423 815)
Farming (837 014)	Farming (586 782)	Farming (434 321)	Farming (270 460)

Table 2 also shows different life time wages for different activities in a descending order with the activity rendering the highest wages is at the top , but at the discount rate of 36 %. At this rate both deep sea fishery and prostitution has passed all the other activities, including education. While that rate might be considered high it is not improbable. It does signal economic pressure and high time preference.

Table 2 Present Values of Life Time Wages at a Discount Rate of 36%

Source: Own computations (see Appendix 1), data from (The National Statistical Office of Thailand, 2008)

Discount Rate 36%
Life Time Wages
Deep Sea Fishery (249 177)
Prostitution (203 872)
Education (197 627)
Construction (162 113)
Manufacturing (124 787)
Domestic (115 481)
Farming (66 243)

The results summed up in the tables can be displayed graphically so that we can see how the returns change with discount rates. This is done in Diagram 3 where it can be seen how all returns decrease for higher discount rates so that for a rate of 36% deep sea fishery and prostitution has passed all other activities. Also note how the risky activities slowly climb above the others as preference for money in the present increases.

Present Value of Life Time Wages at Different Discount Rates

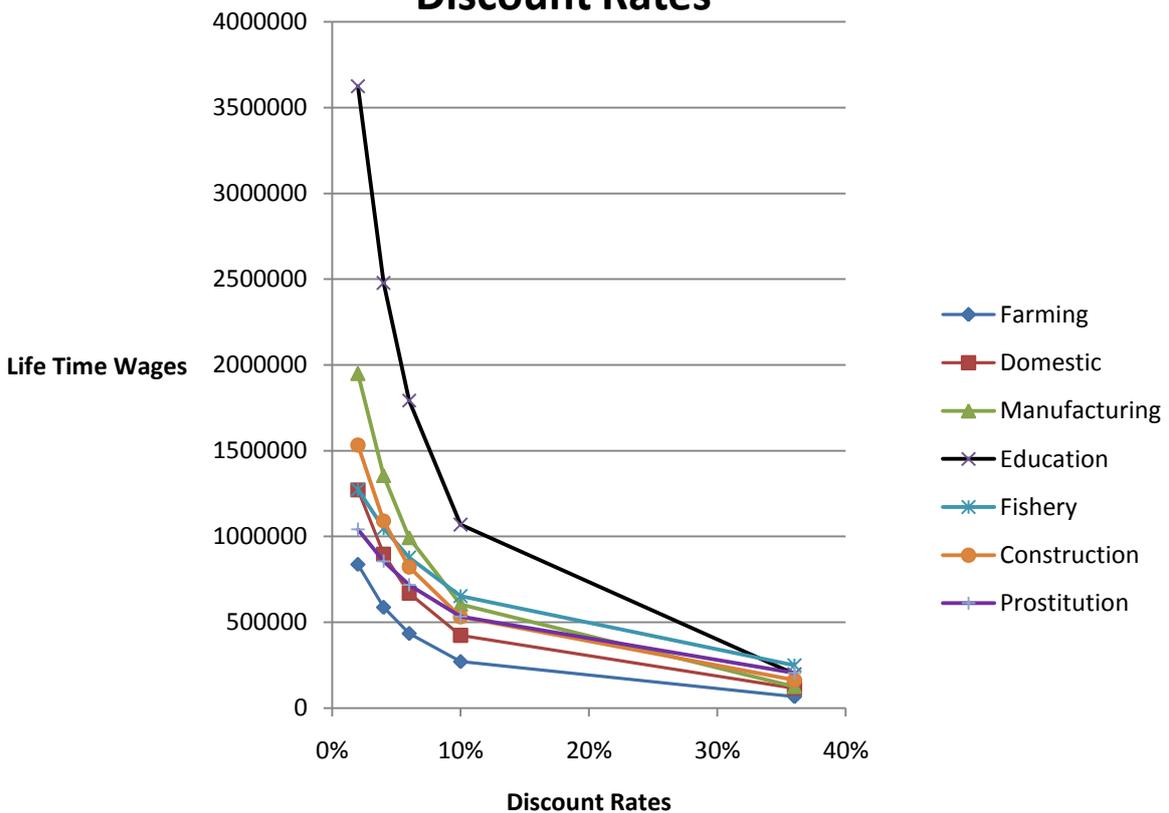


Diagram 3 Life Time Wages at Different Discount Rates for Different Activities

Source: Own computations (see Appendix 1 & 3), data from (Wille, 2001) (The National Statistical Office, 2010)

Table 3 demonstrates the order of returns in the form of life time wages if the domestic workers are assumed to be migrants instead of Thai. Here the wages for the second time period are the same as those stated by migrated workers. The results are that domestic work is the industry with the lowest rewards for any discount rate. It even lies below the returns of farmwork (see Table 3).

Table 3 Present Values of Life Time Wages when Domestic Workers are Migrants at a Discount Rate of 4%
 Source: Own computations (see Appendix 1), data from (The National Statistical Office of Thailand, 2008)

Life Time Wages
Education (2 478 396)
Manufacturing (1 354 983)
Construction (1 090 760)
Deep Sea Fishery (1 046 551)
Prostitution (856 269)
Farming (586 781)
Domestic (445 709)

Table 4 shows the life time wages if the retirement age is postponed by five years or took place five years earlier. It can be seen that when changing the age of retirement by adding five years on all activities, risky activities provided higher rewards than previously. If the number of working years is reduced by five years instead, the order of life time wages between the activities does not change at all. (see Table 4) This implies that should people be assumed to work for longer within the riskier industries they are more likely to go into them. The question is how likely it is that one would be able to continue within these professions when one becomes older than 35. To see how much of a difference it would make to the life time wages if those involved with prostitution were able to enter another sector after having reached the age of 35 and continue to work in that industry until the age of 55 a final computation was made, the results of which are displayed in table 5 and Diagram 4.

Table 4 Present Values of Life Time Wages for Different Retirement Ages at a Discount Rate of 4%
 Source: Own computations (see Appendix 2), data from (The National Statistical Office of Thailand, 2008)

Five Years Less	Five Years More
Life Time Wages	Life Time Wages
Education (2 356 375)	Education (2 578 688)
Manufacturing (2 321 240)	Manufacturing (1 414 482)
Construction (1 037 216)	Deep Sea Fishery (1 165 762)
Deep Sea Fishery (901 513)	Construction (1 134 770)
Domestic (851 906)	Prostitution (953 805)
Prostitution (737 602)	Domestic (934 660)
Farming (556 369)	Farming (611 779)

From Table 5 it can be seen that allowing for those who engage in prostitution to continue within another sector such as domestic work in private households it becomes a more profitable activity to engage in. Even for low discount rates prostitution becomes more profitable than construction and much more profitable than when just assuming work within the sex sector. The difference between just prostitution and prostitution followed by domestic work shrinks as discount rates increases but the gap remains for the entire interval. This

stands to reason as the future returns will always be higher when adding both extra years and income even if it takes place in the future. It is also logical that the importance of these extra future earnings decrease when the discount rates increases as they are valued less and less. Graphically, this can be displayed as in Diagram 4 where the present values of activities at discount rates 2-36% are presented, this time including the combination of prostitution and domestic work in private households. This combination does indeed lie higher than that of prostitution for almost the entire span of discount rates.

That prostitutes would exit the sex industry for domestic work in private households is not an unrealistic assumption as it is hard to enter into a new sector when you do not have either experience or schooling. Domestic work is one of the few sectors open, especially to women.

Table 5 Present Values of Life Time Wages for Different Activities, Including Prostitution Followed by Domestic Work in Private Households, at Discount Rates 2-36%

Source: Own computations (see Appendix 1), data from (Wille, 2001) (The National Statistical Office, 2010)

Discount Rate 2%	Discount Rate 4%	Discount Rate 6%	Discount Rate 10%	Discount Rate 36%
Life Time Wages	Life Time Wages	Life Time Wages	Life Time Wages	Life Time Wages
Education (3 625 175)	Education (2 478 396)	Education (1 792 604)	Education (1 069 483)	Deep Sea Fishery (249 177)
Manufacturing (1 949 797)	Manufacturing (1 354 983)	Manufacturing (992 850)	Deep Sea Fishery (652 292)	Prostitution and Domestic Work (203 979)
Construction (1 532 423)	Prostitution and Domestic Work (1 105 985)	Deep Sea Fishery (878 023)	Manufacturing (604 233)	Prostitution (203 872)
Prostitution and Domestic Work (1 511 387)	Construction (1 090 760)	Prostitution and Domestic Work (854 373)	Prostitution and Domestic Work (576 753)	Education (197 627)
Deep Sea Fishery (1 273 285)	Deep Sea Fishery (1 046 551)	Construction (821 286)	Prostitution (533 693)	Construction (162 113)
Domestic (1 271 444)	Domestic (897 327)	Prostitution (718 382)	Construction (530 839)	Manufacturing (124787)
Prostitution (1 041 779)	Prostitution (856 269)	Domestic (669 248)	Domestic (423 815)	Domestic (115 481)
Farming (837 014)	Farming (586 782)	Farming (434 321)	Farming (270 460)	Farming (66 243)

Present Value of Life Time Wages at Different Discount Rates Including Prostitution Followed by Domestic work in Private Households

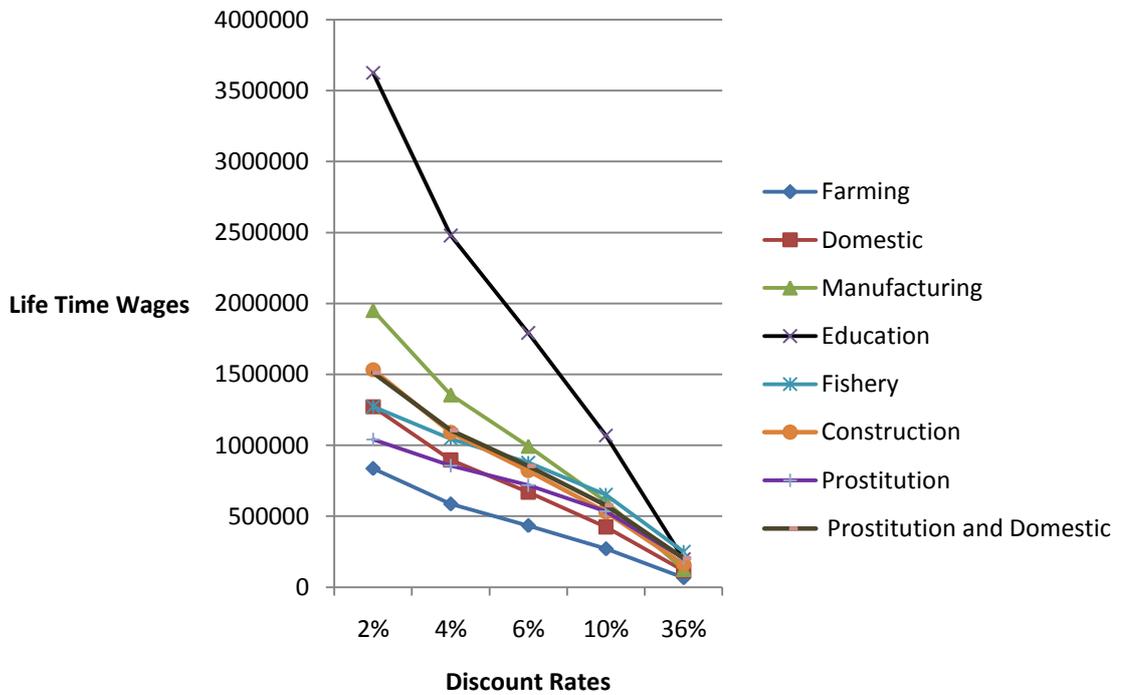


Diagram 4 Present Value of Life Time Wages for Different Activities, Including Prostitution Followed by Domestic Work in Private Households, at Discount Rates 2-36%

Source: Own computations (see Appendix 1&3), data from (Wille, 2001) (The National Statistical Office, 2010)

5 Discussion

The purpose of this essay was to analyze the economic factors behind the supply of children engaged in child prostitution in Thailand.

Malfunctioning credit markets are listed as a contributing factor to high personal discount rates and, as a consequence, child labor. Credit markets seem to be well functioning in the central, metropolitan parts of the country, but work less efficiently in the poorer parts of the country. In these regions, the lack of collateral demanded for loans results in high interest rates. The income distribution is equally skewed with much higher wages in urban parts than in rural parts, especially those of the north-eastern regions. It is much easier to borrow money for someone who is already earning a high income as they can save and provide collateral for the credit institutions. This also makes it easier for wealthy families to substitute future income of children and let them attend school.

Income has in general increased all over Thailand and with it education levels. However, the income gaps are still very large between the poorest and richest in Thailand. The average wages were much higher in general than the ones for the occupations used as non-education alternatives. This indicates that the poor are more desperately poor as they live with the same price conditions as those who are wealthy. This leads to the displayed problems of saving for those who are poor and subsequent difficulties with attaining loans. Levels of education have risen in general when it comes to attendance of elementary school. This has not improved the enrollment into secondary education where many instead choose to work. An exception to the upgoing trend of education is the child refugees who, if not registered, have no right to attend Thai schools.

Mortality has increased for those aged 45+ but decreased for children and young people simultaneously with the increase in education. According to theory education would go up as income increased and youth mortality declined which is exactly what can be seen in Thailand. Mortality tends to go down as income increases so it can be argued that the income changes are the cause of the largest effects.

Growth was argued to have many effects, both positive and negative, on child labor. While there has been an increase in the income gaps between people living in urban rural parts of Thailand, there has also been a reduction in child labor. Since wages have come to vary so much between skilled and unskilled labor the incentives for parents to send their children to school have increased. It is therefore an interesting observation that the overall performance of the Thai education system is inefficient. A reason for this could be low expected returns of education to marginalized groups or for the groups not able to engage in education.

Options or the lack thereof is a widely quoted reason for engaging in any kind of risky activities. The lack of alternatives could either come from personal or societal circumstances. Poverty is a factor that affects both the society and the individuals living within it. When computing the present value of life time wages for children the results were in line with how few possible activities as well as high time preference might lead children to enter into prostitution. For low discount rates the returns to most activities are much higher than that of prostitution. The initial higher wage of prostitution gives higher returns the higher the discount rate is, but it does not surpass education until at the high rate of 36%. While it may be argued that 36% is a high rate, it is not improbable. Depending on the situation of the individuals, they might not have the possibility to have any long-term planning at all. During emergency situations families with low savings have nothing to mitigate the situation with. Then the future earnings and potential future risks of an activity becomes completely irrelevant. For an individual with lower discount rate to choose prostitution or for someone to choose prostitution for him or her, this would mean that

some of the other alternatives presented here are unavailable. Such a high rate would either mean that the individual is either very poor or is not expected to live for very long. The two can of course be interrelated.

Prostitution was the activity, apart from farming, with lowest reward for all discount rates below 6%, where it passed domestic work. This means that for girls who do not enter as easily into male dominated sectors such as construction prostitution and manufacturing, apart from education, becomes the most profitable activity already at a discount rate of 6%, which is considered low. The manufacturing wages are however very low for children, something that is reflected when raising the discount rate. If put under economic pressure manufacturing would probably not be a realistic choice. This can be seen in the computations where the riskier activities such as deep sea fishery and prostitution has passed manufacturing at the discount rate of 36%. Education was the activity with the highest return. For any individual to choose another activity they would either have extremely high discount rate or not have the possibility to attend school. This would imply that migrant children who are not registered and thus not entitled to Thai education would have much lower opportunity cost for working and would make up a large part of child labor in Thailand. Since prostitution was the activity with highest return for girls, apart from domestic services this would be the rational choice. The number of children employed within child prostitution would therefore decrease as education becomes more easily available, which is what we can see empirically, and the bulk of children supplied into child prostitution would therefore tend to be migrated children. Migrated workers also seem to have less returns on activities other than prostitution, at least when it comes to domestic work which is the other form of employment most common for girls in Thailand.

The wages of prostitutes vary both with location and personal attributes, such as looks and age, of the prostitute. The assumption of constant wages for all is of course a simplification. The same can be said for the other professions where different people will have different wages depending on factors such as type of education, personality and experience. All professions requiring education have been aggregated into one category. This is another simplification. No difference is made between those who have gone only to the first three years of secondary education and those who have gone on to university. It is also possible that people switch career during a life time and that people work to different ages.

It is also important to note an important limitation of the computations in the sense that the retirement age is 35 for the risky activities. No large differences were visible when extending or decreasing the age of retirement by five years. However, should we assume that individuals survive, or expect to survive, longer and then go into another sector where they continue to work until the age of 55 risky activities such as prostitution would much more quickly surpass the other activities as the combined future wages would be higher. The only sector definitely excluded is that which demands education as it would be too late to enter into it. Obviously, the benefits from being able to enter the labor force again in another field would naturally play a lesser role as financial pressure, in the form of discount rates, increases. This is something that also could be seen in the calculations when allowing for former prostitutes to enter into the sector for domestic work in private households. Hence prostitution becomes an even more profitable activity if assuming a longer career, even if that career is within another sector. Though the probability of surviving in the sex industry for such a long time and then be able to change to another profession can be debated. The assumption that the prostitutes would wait until the assumed retirement age of 35 before changing into another sector is also a simplification, although it is logical that individuals would wait as long as possible before changing to a sector with lower returns if the time preference remained at a high level.

The children and families of children contemplating entering into child prostitution also do not know exact years, future wages or life time when they make that decision. An exact present value of future wages, had it even been possible to calculate one, would therefore not necessarily say more about why children enter into prostitution as these numbers are not available to either parents or children. A further aspect of the matter is that of deception and information. If the child or the parents who make the choice of the child's time allocation are not properly informed, either of work conditions or wages, the notion of rational choice becomes irrelevant since they do not what they are really choosing. Their present value computations will therefore be wrong in terms of the costs and benefits that they will actually be facing.

A more important discussion is that of the intangible costs to prostitution. The nature of child prostitution is such that certain costs are impossible to calculate in monetary terms. It is impossible to put a number on the cost of suffering, disease and premature death. These costs are both subject to the expected earnings of the individual as well as personal preferences of which we know nothing. The risks of violence and disease are also very high for prostitutes. The question is if anyone, before engaging in prostitution can understand what the costs will really be and whether and to what extent the risks are included in the calculation. The costs and benefits are also likely to be personal. Who can say if the opportunity cost of being hungry is higher than that of selling sex? The risks of dying or being hurt as a result of prostitution must also be seen in the light of these risks happening in the future whereas the threats of for example starvation can be imminent. Thus the more desperate the financial situation, the higher the discount rate for the risks and the lesser the extent that they will be taken into account.

When children are required to pay off the debts of their parents, as they do when caught in debt bondage, they also face fewer alternatives. That of education immediately disappears. An even more skewed view on these costs arises if the choice is not made by the child but by adults in its environment who are not altruistic towards the child. These would only calculate the alternatives in the way displayed in this thesis, albeit take personal attributes of the child into consideration. Since it is not certain who makes the decision to engage the child in the sex industry, or whether it is even possible to fully understand these costs before engaging in the sex trade, this computation of present value of life time wages has been conducted as objectively as possible. How personal costs and benefits are calculated and to what degree they are taken into account obviously depends on the position of the person who makes the choice and the level of their attained information.

Naturally, economic factors are not the only factors behind prostitution just as economics is not the only method by which child prostitution can be analyzed. Since poverty related factors seemed the most important it can be argued that the economic factors may have stronger effects in countries where people are generally poor and the welfare system is not extensive. In developed countries where education is readily available for all and strong hierarchies are not in place prostitution to a larger degree comes from sociological factors. These factors may well affect people in poorer countries as well, but the economic factors seem essential. With respect to economic factors children tend only engage in prostitution if they are either extremely poor or have few other options. Not only when there are no other alternatives, but when prostitution becomes the most profitable option, depending on personal circumstances, will children enter into prostitution. Survival, as well as the quest for status may affect this choice. Income generates higher status and alternatives that render large profits quickly assures faster rise in status, especially in comparison with others. In Thailand the large gaps between rich and poor might aggravate this competition for status while its rigid hierarchy of wages between immigrants and Thai might reduce the returns and thus the incentives for children to invest in future wages through education.

6 Conclusions

Children become engaged in child prostitution, either from their own volition or from that of adults close to them as a result of several economic factors. One of these is poverty. The actual income, the distribution of income and relative wages affect the supply of children in child prostitution. Thailand has experienced a rapid growth since the 1960's. During this period the country also saw increased gaps between rich and poor. School enrollment overall increased, but not that of refugees and ethnic minorities who together with other exposed groups constitute a large part of the children employed within the sex industry. For Thai children the level of education and the number of children receiving it have increased over the years. Unregistered children cannot access this education thus they can only choose from different forms of labor. The risk premium, among other things, keep wages in the worst forms of child labor, such as prostitution and deep sea fishery, high.

According to economic theory families with children who do have access to education might still choose prostitution for their children if they belong to a marginalized group which faces low returns to education in the future or if the children are girls. In Thailand women are well integrated into the labor market, but the minorities are not.

When computing the alternative life time earnings the education was shown to be the activity with highest reward apart from when discount rate was extremely high (around 36%) which was when prostitution surpassed it. Prostitution was, apart from manufacturing and education, the activity with highest returns open to women. Manufacturing yielded very low child wages and became a much less attractive option when discount rates increased. For children who are either poor enough to face extremely high discount rates or who, for some reason, are excluded from education prostitution becomes the rational choice.

If allowing for individuals to enter into another sector after the assumed retirement age in prostitution this became a much higher rewarding activity. The difference in life time wages between only prostitution and prostitution combined with domestic work in private households decreased as discount rates increased.

There are costs associated with child prostitution that are intangible and hits the child, not its parents unless they are altruistic, that have not been included. The question is how much these costs are taken into account when making the decision to enter or not to enter a child into child prostitution.

The policy implications from this are that to stop prostitution of all children, no matter origin, in Thailand all children must have the ability to attend school. Poverty, both in Thailand and its neighboring countries, must be reduced for all citizens to a level where no one faces extreme discount rates or lacks alternative ways of sustenance while being desperately credit constrained.

Future topics for research in this area would be to obtain more detailed and better data so as to perform a regression analysis to see which of these economic factors that is the most significant. How the industry is organized and to trace the flow of money would also provide important insights as to how efficient policies to eradicate the problem can be constructed.

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Appendix 1 Computations of Present Value for Different Activities and Discount Rates

Formula used to compute the annuities

$$\text{Present Value (PV)} = C * (1/r - 1/r(1+r)^t)$$

Time Period 1 : T_{1-2} For All Activities

Time Period 2 : T_{3-23} For Prostitution and Deep Sea Fishery

Time Period 2 : T_{3-48} For Activities Requiring Education

Time Period 2 : T_{3-43} For All Other Activities

Discount Rate 2 %

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.02	9096	30324
Domestic	0.02	20856	45288
Manufacturing	0.02	7200	72178,8
Education	0.02	0	131592
Fishery	0.02	66000	66000
Construction	0.02	36000	53388
Prostitution	0.02	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	17660.4383	810257.3223	837014
Domestic	40493.1949	1210095.423	1271445
Manufacturing	13979.2388	1928617.637	1949797
Education	0	3625175.231	3625175
Fishery	128143.022	1079142.45	1273285
Construction	69896.1938	1426527.434	1532424
Prostitution	104844.291	882934.7316	1041779

Discount Rate 4 %

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.04	9096	30324
Domestic	0.04	20856	45288
Manufacturing	0.04	7200	72178.8
Education	0.04	0	131592

Appendix

Fishery	0.04	66000	66000
Construction	0.04	36000	53388
Prostitution	0.04	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	17155.9172	560530.051	586782
Domestic	39336.3905	837135.1058	897327
Manufacturing	13579.8817	1334203.484	1354983
Education	0	2478396.494	2478396
Fishery	124482.249	856069.3015	1046552
Construction	67899.4083	986861.178	1090761
Prostitution	101849.112	700420.3376	856269

Discount Rate 6 %

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.06	9096	30324
Domestic	0.06	20856	45288
Manufacturing	0.06	7200	72178.8
Education	0.06	0	131592
Fishery	0.06	66000	66000
Construction	0.06	36000	53388
Prostitution	0.06	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	16676.5397	408548.589	434321
Domestic	38237.2375	610155.2731	669249
Manufacturing	13200.4272	972449.1129	992850
Education	0	1792604.049	1792604
Fishery	121003.916	691019.0967	878023
Construction	66002.136	719284.7933	821287
Prostitution	99003.204	565379.2609	718382

Discount Rate 10 %

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.1	9096	30324
Domestic	0.1	20856	45288
Manufacturing	0.1	7200	72178.8

Appendix

Education	0.1	0	131592
Fishery	0.1	66000	66000
Construction	0.1	36000	53388
Prostitution	0.1	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	15786.4463	245577.7115	270460
Domestic	36196.3636	366763.0721	423815
Manufacturing	12495.8678	584537.1495	604233
Education	0	1069483.805	1069484
Fishery	114545.455	471746.9613	652292
Construction	62479.3388	432360.6009	530840
Prostitution	93719.0083	385974.7865	533694

Discount Rate 36 %

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.36	9096	30324
Domestic	0.36	20856	45288
Manufacturing	0.36	7200	72178.8
Education	0.36	0	131592
Fishery	0.36	66000	66000
Construction	0.36	36000	53388
Prostitution	0.36	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	11606.0554	45541.2258	66243
Domestic	26611.2457	68014.4781	115482
Manufacturing	9186.8512	108399.6514	124787
Education	0	197627.9582	197628
Fishery	84212.8028	98964,9889	249178
Construction	45934,2561	80179,2297	162113
Prostitution	68901,3841	80971,3546	203873

Discount Rate 4 %, Domestic wages based on aggregate stated by migrant workers

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2
Farming	0.04	9096	30324
Domestic	0.04	20856	20856
Manufacturing	0.04	7200	72178.8
Education	0.04	0	131592

Appendix

Fishery	0.04	66000	66000
Construction	0.04	36000	53388
Prostitution	0.04	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	17155.9172	560530.051	586782
Domestic	39336.3905	385516.9088	445709
Manufacturing	13579.8817	1334203.484	1354983
Education	0	2478396.494	2478396
Fishery	124482.249	856069.3015	1046552
Construction	67899.4083	986861.178	1090761
Prostitution	101849.112	700420.3376	856269

Prostitution Followed by Domestic Work

Time Period 1: T_{1-2}

Time Period 2: T_{3-23}

Time Period 3: T_{24-43}

Discount Rate 2%

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2	Yearly Wage Time period 3
Prostitution and Domestic	0.02	54000	54000	45288

Activity	Annuity Time Period 1	Annuity Time Period 2	Annuity Time Period 3	PV Life Time Wages (no decimals)
Prostitution and Domestic Work	104844.291	882934.7316	469607	1511387

Discount Rate 4%

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2	Yearly Wage Time period 3
Prostitution and Domestic	0.04	54000	54000	45288

Activity	Annuity Time Period 1	Annuity Time Period 2	Annuity Time Period 3	PV Life Time Wages (no decimals)

Appendix

Prostitution and Domestic Work	101849.112	700420.3376	249715.916	1105985
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Discount Rate 6%

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2	Yearly Wage Time period 3
Prostitution and Domestic	0.06	54000	54000	45288

Activity	Annuity Time Period 1	Annuity Time Period 2	Annuity Time Period 3	PV Life Time Wages (no decimals)
Prostitution and Domestic Work	99003.204	565379.261	135990.533	854373

Discount Rate 10%

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2	Yearly Wage Time period 3
Prostitution and Domestic	0.1	54000	54000	45288

Activity	Annuity Time Period 1	Annuity Time Period 2	Annuity Time Period 3	PV Life Time Wages (no decimals)
Prostitution and Domestic Work	93719.0083	385974.7865	43058.8845	576753

Discount Rate 36%

Activity	Discount Rate	Yearly Wage Time period 1	Yearly Wage Time period 2	Yearly Wage Time period 3
Prostitution and Domestic	0.36	54000	54000	45288

Activity	Annuity Time Period 1	Annuity Time Period 2	Annuity Time Period 3	PV Life Time Wages (no decimals)
Prostitution and Domestic Work	68901.3841	80971.3546	106.50204	203979

Appendix 2 Different Ages of Retirement

5 Years Less at a Discount Rate of 4 %

Activity	Discount Rate	Yearly Wage Time Period 1	Yearly Wage Time Period 2
Farming	0.04	9096	30324
Domestic	0.04	20856	45288
Manufacturing	0.04	7200	72178.8
Education	0.04	0	131592
Fishery	0.04	66000	66000
Construction	0.04	36000	53388
Prostitution	0.04	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	17155.917	530117.180	556369
Domestic	39336.391	791714.38	851907
Manufacturing	13579.882	1261813.149	1282593
Education	0	2356375.73	2356376
Fishery	124482.249	711031.352	901514
Construction	67899.408	933316.713	1037216
Prostitution	101849.112	581752.924	737602

5 Years Less at a Discount Rate of 4 %

Activity	Discount Rate	Yearly Wage Time Period 1	Yearly Wage Time Period 2
Farming	0.04	9096	30324
Domestic	0.04	20856	45288
Manufacturing	0.04	7200	72178.8
Education	0.04	0	131592
Fishery	0.04	66000	66000
Construction	0.04	36000	53388
Prostitution	0.04	54000	54000

Activity	Annuity Time Period 1	Annuity Time Period 2	PV Life Time Wages (no decimals)
Farming	17155.917	585527.214	611779
Domestic	39336.391	874467.632	934660
Manufacturing	13579.882	1393703.063	1414483
Education	0	2578688.668	2578689
Fishery	124482.249	975279.924	1165762
Construction	67899.408	1030870.825	1134770
Prostitution	101849.112	797956.301	953805

Appendix 3 Computations Behind Diagrams

For Diagram 1

Year	Average Income Baht/Month
2003	6758.521932
2004	6915.150332
2005	7389.438846
2006	7850.636671
2007	8085.146764
2008	8912.701985
2009	8694.21446
2010	9133.217202

For Diagram 2

Year	No Education	Less Than Elementary	Elementary	Lower Secondary	Upper Secondary
2003	3.4	37.3	22.5	13.6	10.7
2004	3.5	35.5	22.4	14.1	11.3
2005	3.6	34.5	22.1	14.1	11.6
2006	3.5	34.1	21.8	14.2	11.9
2007	3.4	32	22.8	14.7	12.5

For Diagrams 3 & 4

Life Time Wages	2%	4%	6%	10%	36%
Farming	837014	586782	434321	270460	66243
Domestic	1271445	897327	669249	423815	115482
Manufacturing	1949797	1354983	992850	604233	124787
Education	3625175	2478396	1792604	1069484	197628
Fishery	1273285	1046552	878023	652292	249178
Construction	1532424	1090761	821287	530840	162113
Prostitution	1041779	856269	718382	533694	203873
Prostitution and Domestic	1511387	1105985	854373	576753	203979