DISSERTATION

UNDERSTANDING THE THAILAND UNEMPLOYMENT PROBLEM: COMPARISON OF THAI UNEMPLOYMENT TO INDONESIA, TAIWAN, AND THE UNITED STATES

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ABSTRACT OF DISSERTATION

UNDERSTANDING THE THAILAND UNEMPLOYMENT PROBLEM: COMPARISON OF THAI UNEMPLOYMENT TO INDONESIA, TAIWAN, AND THE UNITED STATES

This study attempts to understand the official population and unemployment data for Thailand. The research aims are to: (a) clarify and understand the Thailand labor force survey and compute adjustments to the Thai official population data so that they would be compatible with the data from other countries; (b) compare the Thailand official population and unemployment data to three other countries: Indonesia (a less developed Southeast Asian country); Taiwan (a developed Asian country); and the United States (a highly developed country); and (c) expand and develop innovative indexes (adjustments) to obtain a better understanding of the Thailand unemployment problem in comparison to the adjusted rates of the three other countries.

The methodology of this study is primarily quantitative; it is an examination and reanalysis of existing data. The official data were gathered from the government websites of the four countries and E-Mail queries of officials in the Thai government. The Thailand official data, specifically in the year of 2001, were clarified and adjusted to be comparable to Indonesia, Taiwan, and the United States.

Thailand had the lowest official unemployment rate in 2001, and Indonesia had the highest rate (more than double Thailand's). However, when the estimates of "seasonally inactive" persons were added to the official unemployment rates, Taiwan had the lowest rate, the United States and Thailand are essentially tied, and Indonesia had by far the highest unemployment rate. When the researcher added estimates of "seasonally inactive," "unpaid with job, but not at work," and "want a job, not looking" to the official unemployment rate, the results were the same as above: Taiwan had the lowest; the United States and Thailand were in the middle; and Indonesia had the highest percentage.

Even using these adjustments, Thailand does not seem to have a serious unemployment problem. However, the researcher believes that three major issues lead to an underestimate of problems caused by unemployment in Thailand: sampling, availability of unemployment compensation, and underemployment. For example, in Thailand, family members who are not paid and persons who work even one hour a week are considered to be employed.

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CHAPTER 1: INTRODUCTION

A three to six percent unemployment rate may not seem like a significant number, and most countries feel comfortable with this range. However, even this rate probably indicates an underlying major problem for developing countries (Assavanonda, 1998). Two reasons are that the official rates do not include many who are underemployed or should be classified as unemployed. In order to understand this problem, it is necessary to demystify the labor force survey. For example, this researcher believes that the official government unemployment rate for Thailand underestimates the "real" rate. This researcher also believes that the Thailand official reports move unemployed persons out of the unemployment group and out of the labor force more quickly than other countries.

However, all countries have their own method of reporting the unemployment rate, and the pattern and procedure of unemployment surveys vary in different countries. While the unemployment rate seems easy to survey and measure (those who have jobs are called employed and who do not have jobs are called unemployed), the issue is more complex. Unemployment information is collected via a labor force survey (Chernyshev, 1997). The labor force survey consists of a sample of "households" which are asked a sequence of questions on employment, work status, unemployment, skills, and earned income. Measurement of the unemployment rate is derived from this labor force survey source. Galenson (1992) mentions that both procedures and outcomes of the labor force

survey are reasonably different in developed and developing countries. Most of the developed countries have a formal system of unemployment compensation, facilitating people who have lost their jobs to find funding for the search for new jobs and to receive welfare payment if they are unsuccessful (Galenson, 1992). However, in developing countries unemployed persons receive little or nothing from formal government supported programs, so a person who cannot find a job in the formal sector must look to the informal sector or black-market to stay alive. The unemployment rate in developing countries then becomes inaccurate and difficult to define, because informal sector jobs generally provide low income and correspondingly low productivity (Galenson, 1992).

Galenson (1992) also points out that some parts of the Thai official unemployment data, based upon labor force surveys, do not present an adequate picture of the real circumstances. For example, during the 1980s, Thailand had almost full employment because the survey counted as employed those "underutilized by hours worked", "underutilized by income" and "underutilized by job qualifications". The economic crisis in 1997 caused a major devastation to the Thai economy for two years. Since then the official government data reports that the unemployment rate has been declining and improving slightly every quarter. The task now is to discover where the laid-off people have gone. Many of them went back to their hometowns. When Thailand had the highest unemployment rate, the government forced unemployed workers to return to the agricultural sector, and defined them as employed persons who work in the informal sector or work unpaid for their family (Assavanonda, 1998; Puenpatom, 2002). However, the Thai government does not acknowledge that the agricultural sector has been neglected for a long time, ever since the country has tried to invest more revenue in

the industrial and service sectors. Also, many agricultural workers found themselves without work due to the drought season (Assavanonda, 1998). Chomthongdi (1998) supports the factor that many town workers do not have a piece of land nor any relative left in the rural areas because most of them went to work in factories instantly after leaving primary school. These people do not know how to farm or how to live in the rural environment. Many have been pushed into the informal sector where workers are not protected by law, there is total lack of unemployment or social security coverage, and they usually have lower incomes and no welfare benefits.

Moreover, Imai (2000) states that while the official unemployment rate is falling in Thailand and other Asian nations, the underemployment rate is going up and the employment situation is just as severe as in the past. Underemployed people are the workers who are only able to work a few hours per week or work for very low wages. In Thailand, no statistics are used that specify the numbers of underemployed. However, one of Thailand's labor statistics is the proportion of unpaid family workers. In February 2000, the number of unpaid family workers was around 5.89 million or 19.4 percent of the employed workforce; they may be considered as underemployed (Imai, 2000).

Thus, in reality, the unemployment rate would still be going up if the labor force survey counted the people who work in the informal sector, who work unpaid for family, who have reduced salaries, and who have substandard welfare benefits from companies. In addition, another reason that the true unemployment rate may rise in the future is the entering of a large number of new graduates into the labor market. According to the Thailand Development Research Institute Foundation (1998), the number of graduated students entering into the labor market during 1997-2001 averaged 525,823 per year,

which is more than the labor demand in the recent past and expected future can absorb, in the current economic situation (Coxhead & Plangpraphan, 1998). This excess of supply workers will cause more unemployed numbers.

The Asian financial crisis of 1997 has not only affected Thailand; most of the countries in East and Southeast Asia also have faced this situation. There is a large number of Thai workers employed abroad. For example, there are approximately 100,000 Thai workers in Malaysia; 20,000 workers in Japan; 138,000 workers in Taiwan and China; and 25,000 workers in South Korea (Chomthongdi, 1998). These countries are also confronted with a serious problem of rising unemployment rates and trying to compel their workers from overseas to return home. The returning workers also, in turn, increase the number of unemployed people in Thailand.

Purpose Statement

This study is being done for three reasons. The first phase of the study is to examine the official government population data for the employed and unemployed labor force for the Kingdom of Thailand. The National Statistics Office (NSO) indicates that the unemployment rate in Thailand has been about two to five percent since the 1980s compared to those of developed countries at five to eight percent. This survey data appears to be flawed, partly because the data may not be representative of the entire population and partly because of different methods of computing the unemployment rate. Specifically, this study proposes to explore and clarify the survey data collection processes and trends by requesting clarifying information from knowledgeable Thailand officials about the procedure and results of the unemployment survey. The researcher will adjust the official government data from the labor force survey in three ways to make

them more comparable to those of a highly developed country (the United States), a developed Asian country (Taiwan), and a less developed Southeast Asian country (Indonesia).

In the second phase, the researcher will use the official unemployment numbers for Thailand. The researcher will compare Thailand's official unemployment rate with the official government data from Indonesia, Taiwan, and the United States.

In the third phase, the researcher will use the compatible adjusted unemployment numbers for Thailand, and it will be compared to Indonesia, Taiwan, and the United States. In addition, the researcher believes that even these adjusted unemployment rates underestimate the "true" unemployment problem in Thailand and probably other developing countries. Thus, the researcher will also expand and develop an innovative approach to understand more fully the problems with the Thailand current labor force survey, including the unemployment sector.

Research Objectives

Objective Ia: To clarify and understand the Thailand Labor Force Survey in more depth so that the Thai methods and data can be compared to those used by other countries.

Objective Ib: To compute an unemployment rate (Adjusted I) that includes the "Seasonally inactive labor force" counted as unemployed rather than not counted at all.

Objective Ic: To compute an unemployment rate (Adjusted II) that includes the "With job but not at work" counted as unemployed rather than counted as employed.

Objective Id: To compute an unemployment rate (Adjusted III) that includes both the "Seasonally inactive labor force" and "With job but not at work" counted as unemployed.

In order to accomplish these research objectives, more detail about the Thailand survey will be obtained by querying knowledgeable officials regarding, for example:

1. *What are the specific procedures for doing the surveys?*
2. *How many people are surveyed, and how representative is the sample of all the provinces in Thailand?*
3. *How are the results calculated?*
4. *What does "with job but not at work" mean, and why is the number of people in this group so high?*

Objective II: To compare the unemployment rates for Thailand and the similar rates for Indonesia, Taiwan, and the United States.

2.1 To compute an unemployment rate in Thailand comparable to the rate in less developed Southeast Asian country (Indonesia).

2.2 To compute an unemployment rate in Thailand comparable to the rate in a developed Asian country (Taiwan).

2.3 To compute an unemployment rate in Thailand comparable to the rate in a highly developed country (the United States).

Objective III: To expand and develop innovative indexes to obtain a better understanding of the Thailand unemployment and underemployment problems.

Definitions of Terms

The following refer to definitions are used for all the countries.

Unemployment: The condition of being unemployed, or the number or proportion of people in the labor force or working population who are unemployed (United States Department of Labor, 1994).

Unemployment Rate: The unemployment rate represents the number of unemployed as a percent of the labor force (United States Department of Labor, 1994).

At Work: Person who, during the reference week, performed some work for wage or salary, cash or in kind (National Statistics Office in Thailand, 2002).

With Job but not at Work: Persons who, having already worked in their present job, were temporarily not at work during the reference week but had a formal attachment to their job (National Statistics Office in Thailand, 2002).

Seasonally Inactive Labor Force: Persons who, during the survey week, were neither employed nor unemployed but were waiting for the appropriate season, being persons who usually worked without pay on farms, or in business enterprises engaged in seasonal activities owned or operated by the head of the household or any other member of the household (National Statistics Office in Thailand, 2002).

Reference Period: The calendar week preceding the date, which the participants completed their questionnaires or were interviewed. This week is not the same for all respondents, since the interviewing was conducted over a 12-month period. The occurrence of holidays during the relative reference week could affect the data on actual hours worked during the reference week, but probably had no effect on overall measurement of employment status (United States Census Bureau, 2000).

Timeliness: "Time elapsed between the publication data or release date of the statistics and the reference period" (Organization for Economic Co-Operation and Development, 1998).

Formal Sector: "Where almost everyone would like to work if he or she could. It consists of the government and large-scale enterprises such as banks, insurance

companies, factories, and trading houses. People welcome the opportunity to work in a modern facility and be associated with a prestigious name, but the main attractions of formal sector employment is the employed people get the highest wages and are offered the steadiest employment" (Perkins, Radelet, Snodgrass, Gillis, and Roemer, 2001).

Informal Sector: The informal sector covers a wide range of labor market activities that combine two groups of different character (World Bank, 2003):

1) coping strategies (survival activities) includes casual jobs, temporary jobs, unpaid jobs, subsistence agriculture, multiple job holding;

2) unofficial earning strategies (illegality in business) includes unofficial business activities: tax evasion, avoidance of labor regulation and other government or institutional regulations, no registration of the company; and underground activities: crime and corruption, both activities not registered by statistical offices.

Delimitations

This study will be confined to the data from the official government employment survey in Thailand, Indonesia, Taiwan, and the United States. Thus, the results may not be generalized to other countries.

Secondly, there are several ways to reanalyze the labor force data; the approaches will be limited by researcher's intent.

Assumptions and Limitations

Reanalyzed Thailand official government data for this study might be biased if the official government data are flawed. Flawed data may come from faulty sampling or incorrect computing. Then, if the researcher uses these inaccurate data, the reanalyzed results will be detrimental to the research.

Significance of the Study

This study is concerned with reanalyzing the official unemployment data from Thailand, and then using both official and reanalyzed results to compare Thailand to three other countries (Indonesia, Taiwan, and the United States). Doing this research is important for several reasons. First, understanding the current International Labor Office strategy is one of the keys to developing solutions to the unemployment survey problem. Second, learning ways that can reduce the unemployment rate is significant for Thailand and other developing countries. Third, the unemployment rate might be lowered if Thailand uses unemployment strategies that other similar countries have developed.

Researcher's Perspective

The researcher is a Thai student in the United States, who has a background and major concentration in human resource development and labor market economics. This background provides an excellent resource and knowledge for understanding and recognizing the gathering technique of unemployment data and the computing of the unemployment rate problem in Thailand.

The researcher's interest in conducting an inquiry into the labor market survey, especially unemployment rates in Thailand, began when the researcher received some unemployment data from the National Statistical Official website. After much consideration about the numbers and the demonstration of the data, the researcher disagreed with the government official data, processing, method, and computing of the unemployment data and rate. The researcher also was fascinated by the low number and percentage of unemployed in Thailand, because the researcher has read many texts and articles and discussed the issue with many educated people from Thailand. Most of these

people agree that the Thai economy, including the labor force market, is still falling. For example, because of the collapse and lack of feasibility of most domestic financial businesses or companies and banks, both foreign and domestic banks have become less willing or unable to lend money; consequently, many manufactures or companies have reduced their production and several of them have even closed down (Chomthongdi, 1998). Therefore, most companies and businesses have had to lay-off workers or reduce their working hours or wage. The researcher believes that the unemployment rate in Thailand could be higher than the official unemployment rate stated both during and after the Asian financial crisis.

The researcher is also curious about the processes of the labor force survey from Thailand and how the outcome (unemployment rate) might differ if the researcher used other computation methods which reflect the reality of the labor market. The researcher has limited knowledge and experience about the Thai labor force survey strategy and processing. Thus, the investigator would like to learn more and focus on this specific kind of survey, because this survey is an important key to creating official data with integrity.

CHAPTER 2: LITERATURE REVIEW

This literature review is divided into four parts. The first part presents the history of unemployment problems in Thailand since the 1980s and describes the unemployment situation after the Asian financial crisis in 1997. The second part of this review identifies the unemployment survey and measurement method used by Thailand and three other countries, and demonstrates the basic framework of the labor force and conceptual framework for the labor force in Thailand. The third part illustrates the basic sources of unemployment and labor force data in Thailand and three other countries used to adjust Thailand's unemployment rate. The fourth part of the review presents the differences and similarities between existing measures in subject countries.

History of Unemployment Problem in Thailand

Thailand, a country of approximately sixty-three million inhabitants, borders Myanmar (Burma), Laos, Cambodia and Malaysia in Southeast Asia. Thailand is the only country in Southeast Asia that has never been occupied by a foreign power since its founding (in 1238) (International Women's Right Action Watch (IWRAW) Publication, 1997). The population is ninety-five percent Buddhist, and Islam is the most significant minority religion mostly in the southern part of the country. The country's official language is Thai, with a variety of ethnic and religious vernacular spoken.

In the past, Thailand, like other developing countries that have been rapidly transformed into industrial countries, had a high economic growth rate from the mid-1980s to the mid 1990s. Thailand has long been considered one of the most advanced developing nations in Asia, both economically and politically. The Asian financial crisis, which began in Thailand in 1997, has resulted in a depreciation of the Thai baht by over eighty percent. The exchange rate with the U.S. dollar went up from 25.09 baht in 1994 to 47.247 baht in 1997 and approximately 54 baht in 1998. Unemployment has risen severely, and even those who remain employed faced wage and hour cuts and delayed payments. The crisis was partly due to the pre-1997 readily available supply of investment capital that caused over borrowing to occur in the Thai economy and poor investment decisions to be made (Chainuvati, Nakavachara, & Na Ayudhya, n.d.). During the Asian financial crisis, many economists predicted that unemployment numbers could rise to about three million or ten percent of the labor force by the end of 1999. They also predicted that the full impact of unemployment has yet to be felt (IWRAW Publication, 1997).

The population growth rate in Thailand declined to approximately 3.5 percent in the 1971-1983 period, but this did not stop the growth of the Thai labor force. Most of the increase in the labor force was in the agricultural sector during that era (Bauer, Poapongsakorn, & Ogawa, 1993). In the early 1980s, about 44 percent of employment expansion was in the agricultural sector, while the service and manufacturing sectors reported 18.2 percent and 12.7 percent growth, respectively (Poapongsakorn, 1991). The service sector, which includes the commercial and communication sectors, accounted for 21 percent of total employment in 1984 (Poapongsakorn, 1991). The Thai employment

growth rate was impressive, and the labor market also performed very well during that period. As a consequence, the unemployment rate was normally well below two percent (NSO, 1974-1984). Coxhead and Plangpraphan (1998) also state that employment in the construction sector grew from an average of six percent of the non-agricultural labor force in 1980-1989, to over 10 percent in 1990-1995. Although the output of the country's non-agricultural sectors has exceeded that of agriculture since 1985, the majority of Thailand's labor force is still employed in the agricultural sector (Phananiramai, 1995).

One of the interesting aspects of the Thai labor market is that there are large differences between participation rates in the wet season (July- August) and the dry season (January- March). In the wet season, labor demand is at a peak in the agricultural sector, but after the harvest season, most secondary workers pull out of the labor force, causing a decline in the participation rate in rural areas. Throughout, there has been substantial controversy about the scope of the labor market in Thailand. Bertrand and Squire (1980) and the World Bank (1983) mention that Thai rural labor markets are well integrated due to migration and operating very efficiently. They summarized that seasonal unemployment is not really a problem, because most marginal workers voluntarily withdraw from the labor market, and there is a linkage between the formal and informal sector. However, Pongpaichit, and Baker (1995) and Sussangkarn and Cripps (1986) argue that there are imperfections and flaws in the Thai labor force. The major cause of seasonal unemployment is imperfect information, because almost 35 percent of seasonally inactive persons do not move to find temporary jobs, and they do not know how to find a job.

Unemployment Survey and Measurement in Thailand and Other Countries

Regardless of the existence of an international standard on labor statistics, important conceptual and methodological survey and measurement differences remain when comparing unemployment data from different countries. Figure 2.1 shows how the basic framework of the labor force may be conceptualized (Carlson, 2001):

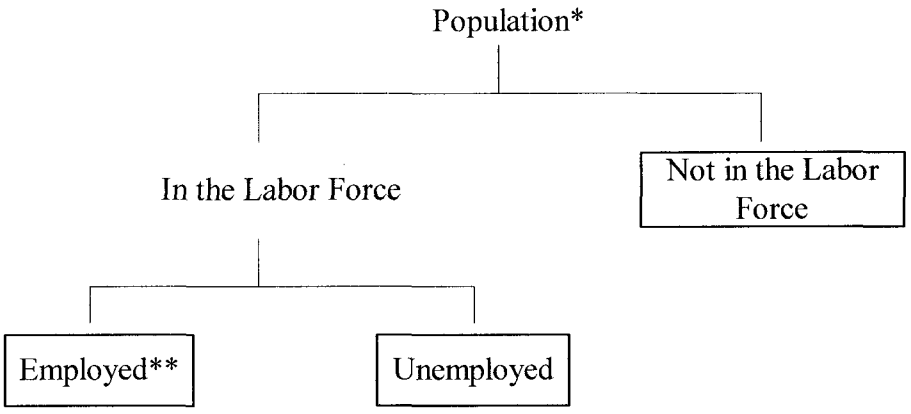

Figure 2.1. General plan for labor force in all countries.
*Note.** Each person can be assigned to one of the three basic categories (in the three boxes) **Employment in the informal sectors or black-market economy is outside the scope of measures.

The basic concepts involved in identifying the employed and unemployed are simple:

1. People with jobs are called employed.

2. People who are jobless, looking for jobs, and available for work are called unemployed.

3. People who are neither employed nor unemployed (i.e., those not looking for work) are called not in the labor force.

Surveying and measuring labor force and unemployment may not be the most thrilling task, but as unemployment has become a severe political problem, this detail-oriented discipline has been pushed into the public interest. Labor force statistics are

used by most governments for planning employment strategies. Labor force statistics are, at their best, approximately accurate or partially complete; however, in some cases these are seriously misinterpreted (International Labor Organization, 1996). The problems start with alternatives for the "reference period", the "week" which the participants completed the questionnaires. This can be as short as a day or as long as a year. A short reference period may provide accurate data, but only for the exacting time, and can be deceptive regarding the general picture if employment is likely to be highly seasonal (International Labor Organization, 1996). Also, the definition of each statistical measurement is different for each country, depending on which way is the best way to help statisticians establish consistent relations between their data on employment and on production.

In addition to questions of the definition, misinterpreted or flawed data can also be collected. The participants may not completely understand the questions, or they may not remember certain information, so the answer or response may still not be accurate or complete, especially where participants are talking on behalf of other members of their households, or where they purposely refuse to give the information (International Labor Organization, 1996).

Now, the researcher will describe the labor force survey and how it is collected in Thailand and three other countries used for rate comparison. The United States is described as a highly developed country. Taiwan is presented as a developed Asian country, and Indonesia, as a less developed Asian country, which is somewhat similar to Thailand.

Thailand

Labor force statistics in Thailand have been compiled by the NSO since 1963, and the concepts and definitions adapted and changed many times as follows (National Statistical Office Thailand, 2002):

1971-1983: performed two rounds a year (January-March and July-September);

1984-1997: performed three rounds a year (February, May, and August);

1998-2000: performed four rounds a year (February coinciding with the non-agricultural season, May coinciding with the new labor force which just finished schooling, September coinciding with the agricultural season, November coinciding with the harvest of agricultural season);

2001 to the present: conducted monthly, and the survey data for three months have been combined to present the quarterly data (Quarter 1: January- March; Quarter 2: April- June; Quarter 3: July- September; and Quarter 4: October-December).

In the year 2001, the age of persons considered to be in the labor force was changed from thirteen years of age and over to fifteen years of age and over in order to agree with the child labor law (National Statistical Office Thailand, 2002).

The NSO of Thailand defines unemployed persons as, fifteen years of age and over who did not work even for an hour during the reference week, and who had no job, enterprise, or farm of their own. It includes persons who have been looking for a job or waiting to be called during the prior thirty days before the interview's date, and those who have not been looking for a job during the last thirty days, but who were available for work during the last seven days (see Table 2.1).

Table 2.1

The Basic Concepts from the Labor Force Survey in Thailand

Employment Status of Persons Over 15 Years Old
1. Current labor force
1.1 Employed
At Work
With job but not at work
1.2 Unemployed
Looking for work
Available/not looking for work
1.3 Seasonally inactive labor force
2. Not in Labor Force
Household work
Studies
Too young/old or incapable of work
Others

Note. From National Statistical Office in Thailand, 2002.

Moreover, the NSO defines employed persons as, fifteen years of age and over who worked for at least an hour for wages, profits, or any kind of payment; who did not work at all or worked less than an hour but received profits from an enterprise or farm during the period of absence; or who did not receive any payment but had a regular job to which they would return to work. Employed persons also include persons who work for at least an hour without pay in enterprises or farms owned or operated by household heads or members (National Statistical Office Thailand, 2002).

The Labor Force Survey's (LFS) objective is to collect data on the economic activities of the population, including detailed information on employment and unemployment, characteristics of the labor force, and economically inactive persons. The

total number in the sample is about 60,500 households and covers seventy-six provinces (whole country). The data are collected by personal interviews, and then the completed questionnaires are forwarded to the manual editing stage before being sent back to the Data Processing Operation Division, NSO.

Jantavich (2000) points out some special problems of the Labor Force Survey of Thailand as follows:

- Consistency: Since 1998, the Labor Force Survey has been carried out quarterly. But, it has been done monthly from 2001.
- Result Comparison: The Labor Force Survey uses the stratified two stage sampling technique by which samples are changed every year.
- Timeliness: In the past, the Labor Force Survey reports were available late. However, currently the reports are processed within two months after the field survey (about 50 percent of the data). The report on 100 percent of the data is available within three months.
- Standard Data: Understanding the Labor Force Survey data of the users is limited and sometimes causes misunderstandings in many cases.
- Data Adjustment in the analytical process.

Developing a conceptual framework for the labor market is useful for understanding sustainable development with all variables that are not balanced (see Figure 2.2). Johnson (1992) states that because of the developmental pattern of Thailand in the past; some conceptual framework has to be reanalyzed.

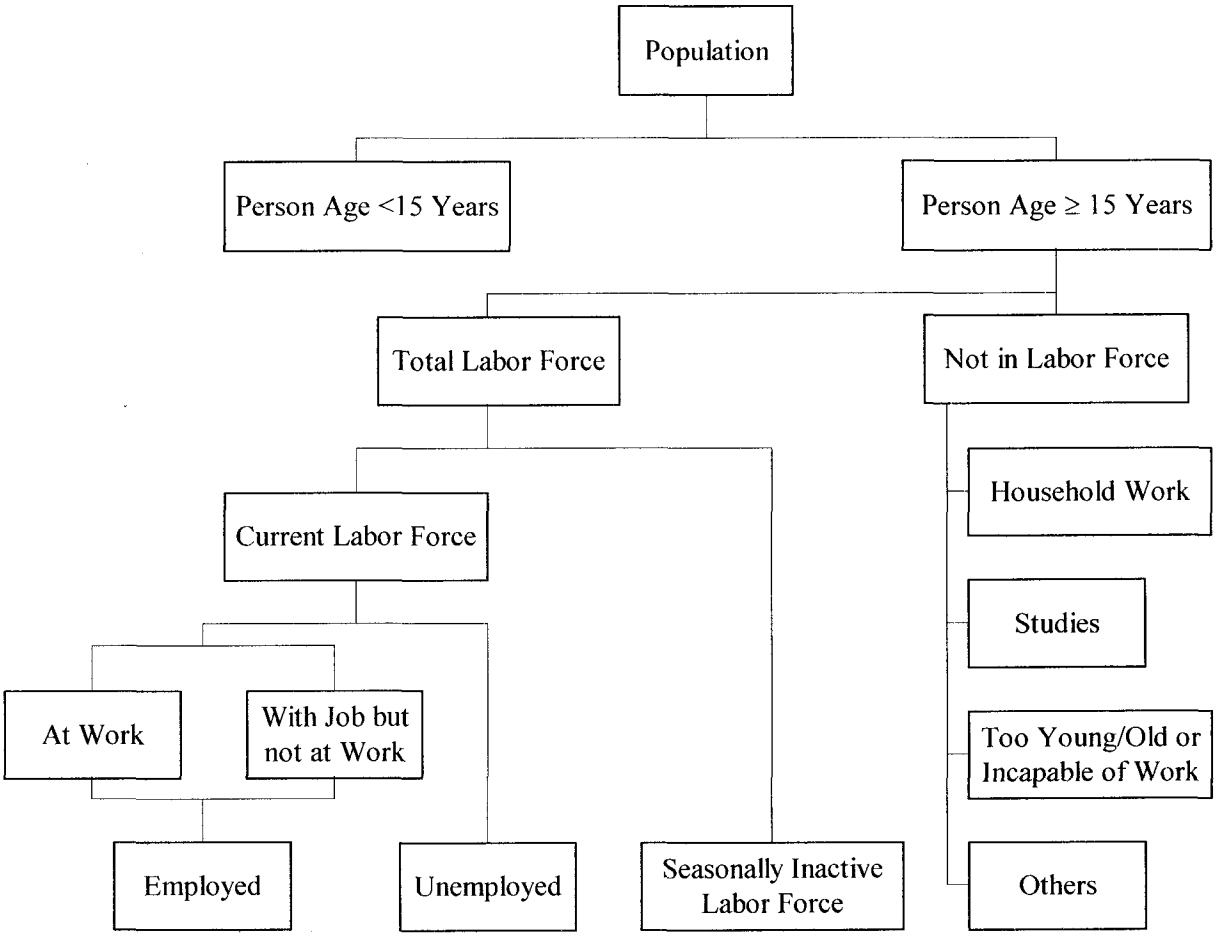

Figure 2.2. Concept framework for labor force in Thailand

Indonesia

Like other developing countries, Indonesia's employment pattern from the late 1980s to the beginning of the 1990s illustrates that only about 9 percent of the total labor force worked in the industrial sectors, about 35 percent worked in the service sectors, whereas 55 percent of the total labor force worked in the agricultural sectors (The Library of Congress, November 1992). The effect of the financial crisis in Indonesia has affected various social issues, including access to job security, health care, and access to education. A recent estimate by the World Bank (1998) predicts that 20 million out of the total working population (90 million) in Indonesia will lose their jobs due to the financial crisis in 1997. The International Labor Organization (1998-1999) also predicts that

Indonesia's unemployment in 1998 could rise to 9 to 12 percent of the labor force participation rate, compared to about 4 percent in 1996, the year before the crisis.

Unemployed persons in Indonesia are defined as all persons who are 15 years old and over and who did not have a job and were looking for work during the reference week (see Table 2.2).

Table 2.2

The Basic Concepts from the Labor Force Survey in Indonesia

Employment Status of Persons Over 15 Years Old
1. Labor Force Participation Rate (i.e. Current labor force)
1.1 Working (i.e., Employed)
1.2 Looking for work (i.e., Unemployed)
2. Not in labor force
Schooling
House keeping
Others

Note. From Badan Pusat Statistik (BPS-Statistic Indonesia), 1997.

Since 2001, unemployed persons include: future starts and those who do not have any job, who have made arrangements to start a new job on a date subsequent to the reference week, and who are not looking for work due to economic reasons, such as discouraged workers (International Labor Organization, Jakarta, 2002).

The unemployment data is obtained from the Nation Labor Force Survey (SAKERNAS), and Central Bureau of Statistic (CBS) is an organization that is responsible for the survey. The survey includes about 32,000 households that are selected from the whole country, and the sample households are always changed every year (no rotation sample), and the survey is quarterly, conducted in February, May, August, and November of each year.

Taiwan

Many countries have fought to keep unemployment down or have been suffering from high unemployment that refuses to drop. However, Taiwan has not had a serious unemployment problem since 1950. Before 1970, the unemployment rate in Taiwan was situated above 3 percent; since then, the unemployment rate has been generally dropping. One of the main reasons is that Taiwan has a sizable trade surplus (http://www.taiwan.com.au). From 1987 to 1995, Taiwan's unemployment rate remained below 2 percent, and then it began to rise from around the middle of 2000, because Taiwan was affected by poor global economic prospects. Since that time, Taiwan's economic growth has consequently declined, and the unemployment rate has risen (Rong, 2001).

According to the Manpower Survey in Taiwan, unemployed persons are defined as all persons who had no employment during the reference week, were available for work and were actively seeking a job or were waiting for the results of past job-seeking activity. Furthermore, those who waited for a recall after a layoff, or had a job offer but had not started to work with pay, were also classified in this category (see Table 2.3).

The data are compiled using information from the monthly Manpower Survey, which covers the civilian non-institutional population fifteen years and older. Each month about 20,000 household units are eligible for interviewing. The reference week for the survey is the calendar week (Sunday through Saturday) that includes the 15th day of the month. The data are published in both an unadjusted and a seasonally adjusted format (IMF, 2002).

Table 2.3

The Basic Concepts from the Labor Force Survey in Taiwan

Employment Status of Persons Over 15 Years Old

1. Labor force participation rate (i.e., Current labor force)

   1.1 Employment

   1.2 Unemployment

2. Not in labor force

   Intend to work but not seeking now

   Attending school

   Household work

   Old age or disabled

   Others

Note. From National Statistics of Taiwan, 2003.

The United States

During 2001 and 2002, the United States' economy experienced its tenth recession since the end of World War II. The national unemployment rate increased from 4 percent of the labor force in 2000 to 5.8 percent in 2002, and unemployment rates have increased in nearly all states. Because of the September 11, 2001 terrorist attacks on the United States, the United States' economy slowed. The initial impacts were in the stock market and airline, travel and tourism industries. Unemployment rate eventually rose, and the daily news reported falling corporate profits, write-offs and layoffs. The unemployment rose to 5.8 percent in November 2001 from 4.5 percent in June 2001 and from 4 percent at the end of 2000; however, the unemployment somewhat dropped back to 5.6 percent in December 2001 (International Monetary Fund, 2000/2001).

The United States Department of Labor (1994) defines employed persons as those who worked for pay or profit during the reference week, those who worked at least fifteen hours of unpaid work in family-operated enterprise, and those who were temporarily absent from their jobs because of illness, vacation, bad weather, industrial dispute, and a variety of personal reasons (see Table 2.4).

The basic downside of unemployment in the United State is that when workers are unemployed, everyone (families and the whole country) is lost. When workers and their families lose wages, then the whole country can lose the goods or services that could have been produced by them. Moreover, the buying power of these workers is lost, which can lead to unemployment for other workers (the United States Department of Labor, 1994). The United States Government conducts a monthly survey that is called the Current Population Survey (CPS) to measure the extent of unemployment. Approximately 60,000 households are qualified for interviewing each month, uniformly about 1 in every 1,600 households in the whole country (the United States Department of Labor, 1994). Each month, the Bureau of Labor Statistics (BLS) of the United States Department of Labor also publishes the total number of employed and unemployed persons in the United States for the previous month. The essential concepts of unemployment include people who have no job, have looked for jobs in the prior four weeks, and are currently available for work (the United State Department of Labor, 1994). On the other hand, in the systematic concept, unemployed persons are those who were not classified as employed during the reference week, were not working and were waiting to be called back to a job from which they had been temporarily laid off,

including those who were trying to find a job during the prior four weeks and were available for work.

Table 2.4

The Basic Concepts from the Labor Force Survey in the United States

Employment Status of Persons Over 16 Years Old
1. Civilian labor force (i.e. Current labor force)
1.1 Employed
At work
Full-time
Part-time
With a job but not at work
Industrial dispute
On vacation
Bad weather
Temporary illness
Other reasons
1.2 Unemployed
Looking for full-time work
Looking for part-time work
2. Not in the labor force

Note. From U.S. Department of Labor, Bureau of Labor Statistics, 2002.

Table 2.5 provides a side by side comparison of the labor force survey categories for each of the four countries. Note that Thailand is the only country with a category for "Seasonally inactive labor force"; these persons are not classified as either employed or unemployed. Note also that some countries have more detailed subcategories than others; for example, the United States provides little detail about those not in the labor force.

Table 2.5

Comparison of the Labor Force Survey Categories for Each of the Four Countries

Thailand	Indonesia	Taiwan	The United States
1. Current labor force	1.Labor force participation	1. Labor force participation	1. Civilian labor force
1.1 **Employed** At work	1.1 **Working**	1.1 **Employment**	1.1 **Employed** At work Full-time Part-time
With job, not at work	--	--	With job, not at work Industrial dispute On vacation Bad weather Temporary illness Other reasons
1.2 **Unemployed** Looking for work	1.2 **Looking for work**	1.2 **Unemployment**	1.2 **Unemployed** Looking for full-time work
Available/ not looking			Looking for part-time work
1.3 Seasonally inactive			
2. **Not in labor force** Household work Studies Too old or incapable of work Other	2. **Not in labor force** Schooling Housekeeping Others	2. **Not in labor force** Intend to work but not seeking now Attending school Household work Old age or disabled Others	2. **Not in labor force** Persons who want a job, not looking

Basic Characteristics of Unemployment and Labor Force Data

Table 2.6 shows the basic characteristics of the labor force surveys that are used for the collection of employment and unemployment data in Indonesia, Taiwan, the United States, and Thailand in term of the organization that responds for the survey, population, the survey method, the definitions of the unemployment, and so on. Note that there are many similarities but also some important differences among these four countries. For example, the labor force survey in the United States does not count as employed persons between 15 and 16 years of age who are not in school and do not work during the reference week. In the other countries persons over 15 years old are counted in the labor force. However, the United States does not count unpaid family members as employed unless they worked at least 15 hours/week. Some countries, like Thailand, count as unemployed those who did not have a job, but they did not count agrarian people without a job (e.g., seasonally inactive labor force) as unemployed.

Summary of the Differences and Similarities of Definitions between Existing Measures in Subject Countries

Figure 2.3 shows the terms that Thailand uses for each of the categories related to work force and unemployment. The other three countries use somewhat different terminology as explained in the following sections.

Table 2.6

Basic Characteristics of Unemployment and Labor Force Data in Thailand, Indonesia, Taiwan, and The United States.

Category/Country	**Thailand**	**Indonesia**	**Taiwan**	**The United States**
Main Survey	Labor Force Survey	National Labor Force Survey (SAKERNAS)	Manpower Survey	Current Population Survey(CPS)
Total Population	62,354,402[a]	231,328,092[b]	22,548,009[b]	280,562,489[b]
Sample Size	60,500 households per each round (76 strata)	34,000 households	20,000 household units	55,000 occupied household units
Geographical Coverage	Whole Country	Whole Country (27 provinces)	Taiwan-Fukien area[c]	Whole Country
Frequency	Monthly (since 2001)	Annually (August)	Monthly	Monthly
Age	15+	15+	15+	**16+
Method	Personal Interviews	Direct Interviews	Interviews	Interviews (directly to laptop)
Reference Period	The last seven days before interview's date.	The seven days preceding the enumeration day.	The calendar week that includes the 15th day of the month.	The calendar week that includes the 12th day of the month.

Category/Country	Thailand	Indonesia	Taiwan	The United States
Timeliness	Approximately three months after the end of the enumeration period.	Within six months after the end of the reference week (around February).	Approximately 5 weeks after the end of the reference week each month.	About three weeks, and no later than one month, after the end of the reference week each month.
Seasonal Adjustment	No	No	Yes, both an unadjusted and a seasonally adjusted format.	Yes, both an unadjusted and a seasonally adjusted format.
Unemployment				
Unpaid Family Workers	Employed Person	Employed Person	Employed Person	**Unemployed Person (counted as employed if working for more than 15 hours/week)
Waiting to Start new job	Unemployed (except agrarian)	Unemployed	Unemployed (also waiting for the results of past job-seeking activity)	Unemployed (job search activity required)
Availability for 'Work	Currently available	Currently available	Currently available	Currently available

Category/Country	Thailand	Indonesia	Taiwan	The United States
Temporarily Laid Off	**Seasonally inactive are not included in the labor force	N/A[d]	Unemployed (if waiting for a recall after layoff or have a job offer but have not started to work with pay)	If given a date of return or expect to return to work within 6 months are counted as unemployed. Must be available for work but no job search activity required.
Employed				
Hours/week worked	≥ 1 hour/week	≥ 1 hour/week	N/A[d]	**≥ 15 hours/week

Note. Information preceded by asterisks (**) indicates points of possible important differences between the countries in terms of unemployment rates.

[a] for Thailand clearly take into account the effects of excess mortality due to AIDS; this can result in lower life expectancy, higher infant mortality and death rates, lower population and growth rates, and changes in the distribution of population by age and sex than would otherwise be expected (July 2002 est.).

[b] July 2002 estimated number.

[c] Fukien is located along China's southeast coast, northwest of the island of Taiwan. Fukien includes Quemoy and Matsu, two islands of no more than 100,000 people.

[d] N/A means not available.

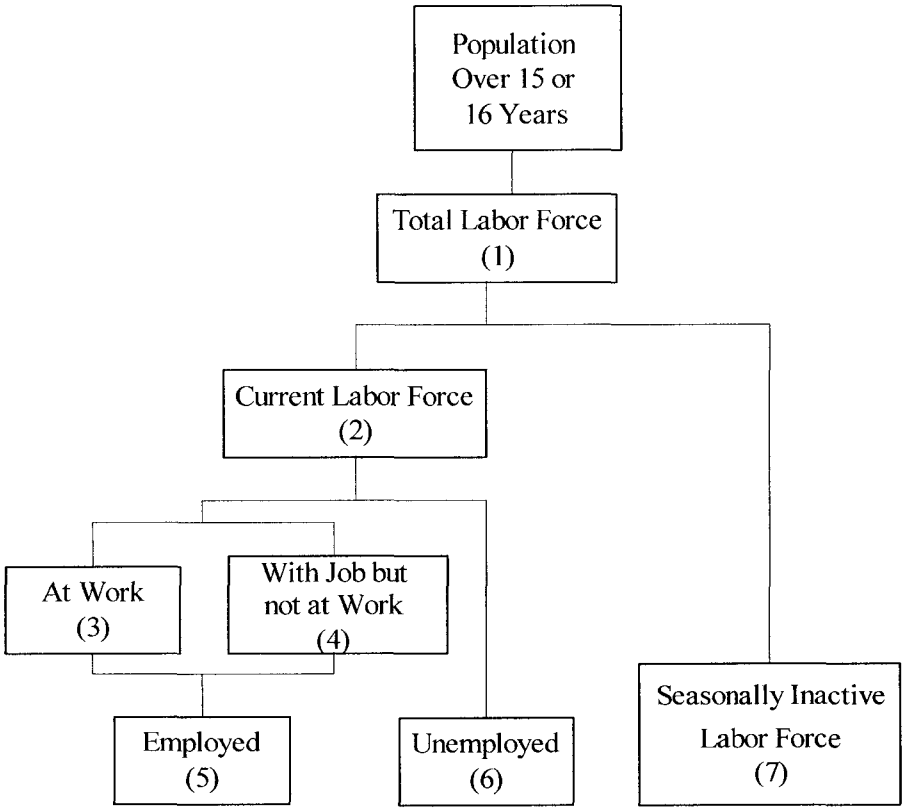

Figure 2.3. Schematic summary of the labor force terms used by Thailand.

Total Labor Force (1)

Thailand: "Total Labor Force" means all persons, who during the survey week, are in the current labor *or are classified as seasonally inactive* labor force (National Statistical Office Thailand, 2002).

Indonesia: "Labor force"- means persons 15 years old and over who are working, temporarily absent from work but having jobs (both are categorized as employed), and those who do not have work and are looking for work (International Labor Office, 2003).

Taiwan: "Economically Active Population"- means the population, age 15 and over who are capable to work, are participating in or willing to participate in economic activities, including employed persons and unemployed persons (National Bureau of Statistics of China, 2002).

The United States: "Civilian noninstitutional population"- means persons, who are 16 years of age and older, residing in the 50 states and the District of Columbia, who are not inmates of institutions (e.g. penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces (the United States Department of Labor, 1994).

Current Labor Force (2)

Thailand: all persons who, during the survey week, are either employed or unemployed (National Statistical Office Thailand, 2002).

Indonesia: same as above

Taiwan: same as above

The United States: "Civilian labor force"- means all persons in the civilian noninstitutional population classified as either employed or unemployed (the United States Department of Labor, 1994).

Employed Person (5)

Thailand: all persons

1. 15 years of age and over who work at least one hour during the survey week for wages, profits, dividends or any other kind of payment, in kind; or

2. who did not work at all but have regular jobs, business enterprises, or farms from which they are temporarily absent, whether or not they are paid by their employers during their period of absence provided that, in the case of a temporary closure of the work place, the expectation is that it would be reopened within 30 days from the date of closure and they would be recalled to their former job; or

3. who worked for at least one hour without pay in business enterprises or on

farms owned or operated by household heads or members (National Statistical Office Thailand, 2002) .

Indonesia: all persons who are currently working, plus those who have a job but are temporarily absent from work during the reference week.

Persons are considered as currently working if they were working for earnings or profit or assisting others in obtaining earnings or profit for at least one hour during the reference week; unpaid family workers are included in this category. People having a job, but currently not working, are those normally working but absent during the reference week, such as government or private employees on leave, on strike, ill, and farmers with farmland wait for harvest time or another reason.

Included in the employed are:

1. full- and part-time workers seeking other work during the reference week;
2. full- and part-time students working full- or part-time;
3. persons who performed some work for pay or profit during the reference week, while being subjected to compulsory schooling; or retired and receiving a pension; or registered as jobseekers at an employment office or receiving unemployment benefits;
4. paid or unpaid apprentices and trainees;
5. participants in employment promotion schemes;
6. paid and unpaid family workers, including unpaid family workers who were temporarily absent from work during the reference week;
7. private domestic servants;

8. members of producers' co-operatives who actively participate in the cooperatives;

9. seasonal workers awaiting agricultural or other seasonal work;

10. persons with a job but temporarily absent due to bad weather or mechanical breakdown, labor-management dispute or other reduction in economic activity, provided they will return to their former job on a determined date;

11. members of the armed forces.

Excluded from the employed, and considered as out of the labor force, are persons engaged in their own housework; and persons doing unpaid community or social work.

Taiwan: persons who are engaged in social work and receive remuneration payment or earn business income, including total staff and workers, re-employed retirees, employers of private enterprises, self-employed workers, employees in private enterprises and individual economy, employees in township enterprises, employed persons in the rural areas, and other employed persons (including teachers in the schools run by the local people, people engaged in religious professions and servicemen, etc.). This indicator reflects the actual utilization of the total labor force during a certain period of time and is often used for research regarding Taiwan's economic situation and national influence (National Bureau of Statistics of Taiwan, 2002).

The United States: all persons who, during the reference week (week including the twelfth day of the month), do any work as paid employees, work in their own business or profession or on their own farm, or work 15 hours or more as unpaid workers in an enterprise operated by a member of their family, or are not working but who had

jobs from which they are temporarily absent. Each employed person is counted only once, even if he or she holds more than one job.

Unemployed Person (6)

Thailand: all persons who are 15 years of age and over who during the survey week do not work even for one hour, have no jobs, business enterprises, or farms of their own, from which they are temporarily absent, but were available for work.

Persons in this category include:

1. those who have been looking for work, during the preceding 30 days; or
2. those who have not been looking for work because of illness or belief that no suitable work was available, waiting to take up a new job, waiting for agricultural season or other reasons (National Statistical Office Thailand, 2002).

Indonesia: all persons who, during the reference week, do not have any job and are making some efforts to find a job, or who have made arrangements to start a new job on a date subsequent to the reference week. They also include those persons who are without previous work experience. Also included are:

1. full- and part-time students seeking full- or part-time work;
2. members of producers' co-operatives not actively participating in the co-operatives;
3. persons without work, currently available for work but not seeking work during the reference week for reasons such as short illness, short courses, etc.

Taiwan: all persons who have no employment during the reference week, are available for work and are actively seeking a job, or are waiting for the results of past job-seeking activity, furthermore, those who wait for a recall after layoff or have a job

offer but have not started to work with pay that are also classified as unemployed (Bureau of Census, Taiwan, Republic of China, 2002).

The United States: all persons who had no job during the reference week, and they are available for work, except for temporary illness, and have made specific efforts to find employment some time during the four- week period ending with the reference week. In addition, persons, who are waiting to be recalled to a job from which they have been laid off, need not have been looking for work to be classified as unemployed (the United States Department of Labor, 1994).

Summary

Problems with the conceptual framework of the labor market arise because the task of defining unemployment is different in each situation and each country. For example, the labor force survey in the United States does not count as unemployed persons between 15 and 16 years of age who are not in school and did not work during the reference week. In the other countries persons over 15 years old are counted in the labor force. However, the United States does not count unpaid family members as employed unless they worked at least 15 hours/ week. Some countries, like Thailand, count as unemployed those who did not have a job, but they did not count agrarian people without a job (e.g., seasonally inactive) as unemployed.

Other criticisms of the unemployment measure are that the definition tends to focus more on the uses of the data than on the underlying theoretical framework for the definition. In addition, measurements of the welfare of the population in some countries are flawed, because they do not effectively measure labor market- related hardship such as economic, social and psychological distress.

However, it is unclear how the labor market program in each country will delegate responsibility to efficiently achieve the reduction of unemployment. The researcher believes that the most effective way would be superior early formal education, because it will provide the theoretical basis and good learning habits for on-the-job skill development. The program or policy also should be appropriate to stimulating economic growth.

CHAPTER 3: METHOD

This chapter evaluates the research method and explains the research approach. The chapter also presents the research procedures and data analysis.

Research Approach

This study was primarily quantitative. The design and results of the study were quantitative; however, it did not fit into a traditional design because the data already existed in the form of national unemployment data from several countries.

An advantage of this design was that it did not require using humans as participants, so Human Research Committee approval was not needed.

Participants

There were no human participants because this study was an examination and reanalysis of existing population research data.

The first part of the study examined and attempted to clarify data by E-mail queries of officials in the Thai government. Then, after the researcher had a better understanding of the data, the data was reanalyzed. In the second part of this study, the official government and reanalyzed data were compared to those from other countries.

Measures/ Instruments/Validity and Reliability

There were no traditional instruments used in this study. The researcher analyzed unemployment using data from the websites for Thailand, Indonesia, Taiwan, and the United States in these categories:

1. Population
2. Total Labor Force
   - 2.1 Current Labor Force
     - 2.1.1 Employed
       - At Work
       - With Job but not at Work
     - 2.1.2 Unemployed
       - Looking for Work
       - Available/Not Looking for Work
   - 2.2 Seasonally Inactive Labor Force
3. Not in Labor Force and more than 15 years of age
   - 3.1 Household Work
   - 3.2 Studies
   - 3.3 Too Old or Incapable of Work
   - 3.4 Other
4. Persons Under 15 Years of Age
5. Unemployment Rate

The researcher trusted the reliability and validity of the unemployment surveys. But one of the issues that the researcher explored was the data from the government

official websites, where the reliability and validity were not clear. Also, the researcher did not know yet whether people in the labor force were adequately sampled in some of these countries.

Procedure

This section described the detailed methods and procedures for this study. The researcher followed this procedure to ensure the reliability of the study. The gathering of the data for this study was as follows:

Objective I

1. Find the official government labor force data from the Thailand websites.
2. E-mail the National Statistical Office in Thailand to get more information and clarity about the labor force, especially the unemployment rate and data (see list of questions below).
3. Compute an unemployment rate (Adjusted I) that includes the "Seasonally inactive labor force," and plot graphs from this step.
4. Compute an unemployment rate (Adjusted II) that includes the "With job but not at work," and plot graphs from this step.
5. Compute an unemployment rate (Adjusted III) that includes both the "Seasonally inactive labor force" and "With job but not at work," and plot graphs from this step.

List of Questions

The answers to these questions were obtained from published information or from knowledgeable official(s) in Thailand (and when necessary, from the other countries):

1. How often are the surveys done each year?
2. What are the procedures for doing the surveys?
3. How are the results calculated?
4. How many people are surveyed and how representative is the sample of all the provinces in Thailand?
5. What does "with job but not at work" mean, and why is the number of people in this group so high?
6. How is the group called "Seasonally inactive labor force" defined?
7. What does "Others" (under "not in the labor force") in the labor force table mean?
8. Why was the category "people in the labor force" changed from age 13 years and over to 15 years and over?
9. How are the people in the "Household work" group defined? Should some of those be considered unemployed?
10. Who or what organization verifies the accuracy of the survey (examines and reviews the survey)?
11. Are there other ways to analyze the data?
12. Can people outside the organization, the National Statistical Office, see the real/raw surveys?
13. What are the major questions in the survey that determine the employment status?
14. Are there offices in Thailand where people report that they are (un)employed and what percentage of the population use these organizations?

15. Were the same system and procedures used for the survey in the years before 1999?
16. What does "N/A" mean (from the survey table)?
17. Are the interviewers trained or educated?
18. Are there any questions in the survey related to "Discouraged workers"?
19. How about a person in overlapping cases (those who cannot be defined as unemployed or employed or not in the labor force)?
20. How is the unemployment rate computed?
21. Does the survey include people who work in the informal sector or black-market?

The answers to these questions will be embedded in chapter four and five.

Objective II

6. Compare the official unemployment rate of Thailand, Indonesia, Taiwan, and the United States from 1999 to 2002, and plot graph.
7. Demonstrate and explain the sub-categories of the labor force survey for Thailand, Indonesia, Taiwan, and the United States.
8. Compare the percentage of each sub-category among these four countries based on the total population.
9. Compare the percentage of each sub-category among these four countries based on persons over fifteen years old.
10. Compare the percentage of persons "With job but not at work" between Thailand and the United States in 2001.

11. Compare the percentage of persons "Not in labor force" among Thailand, Indonesia, Taiwan, and the United States.

Objective III

12. Compare the estimated adjusted unemployment rates based on the persons over fifteen years old among these four countries.
13. Discuss how the adjusted unemployment of Thailand differs from the other three countries.

Data Analysis

One purpose of this study was to determine if there were differences in data-gathering methods between those of the official Thai government and those used by other countries. Also of interest was whether there were differences between Thailand and the other countries in how they calculated the unemployment rate. The researcher used:

- Descriptive data tables
- Graphs comparing several years of Thailand data
- Graphs comparing Thailand data and other countries (the United States, Taiwan, and Indonesia)

CHAPTER 4: RESULTS

This chapter includes the analysis of the data to understand the labor force survey in Thailand and examine the differences between the official government population data for the employed and unemployed labor force of Thailand. This chapter also includes the differences between the Thai official and adjusted Thai unemployment data, and the chapter compares the Thai unemployment rate with other countries (the United States, Taiwan, and Indonesia). The results also show an innovative approach to understand more fully the problems with the Thai current labor force survey, especially the unemployment sector. The measures, validity and reliability, procedure, and data analysis plan were discussed in Chapter 3. The official employed and unemployed labor force data of each country have been obtained from the official government websites and follow-up e-mails. This chapter will be divided by the objectives described in Chapter 3. The discussion of each phase will include the research objectives for that phase.

Results Related to Research Objective 1a: *To clarify and understand the Thai labor force survey in more depth so that the Thai methods and data can be compared to those used by other countries.*

According to the Labor Force Survey (LFS) of Thailand, the objective of the survey is to collect data on the economic activities of the population, including detailed information on employment and unemployment, characteristics of the labor force, and about economically inactive persons (Jantavich, 2000). The National Statistical Office

(NSO) is the core organization that collects basic statistical data, and the NSO is under the Office of the Prime Minister. The sample households are about 10 percent of the total population (60,500 households). In the labor force survey 2000, there were seventy-nine enumerators with some experiences in field operation who were employed in the Bangkok Metropolis, while eight hundred enumerators worked in the other seventy-five provinces (Jantavich, 2000). Then, the data were collected by personal interview at the selected households, and the completed questionnaires were sent back to the Data Processing Operation Division of the National Statistical Office for manual coding and editing before data-entry. The results of the survey were calculated to the population by an estimation factor, and this factor was derived from the ratio of the total population estimate to the number of persons enumerated in the survey. However, there was not much detail in the government or official documents about the methodology of the labor force survey of Thailand. For example, Thailand had no answer to which statistical data are currently collected or published using the classification asked by the United Nations questionnaire in 2002 (United Nations Statistics Division, 2001).

Table 4.1 is divided into two main categories: "Total labor force" and "Not in labor force." The "Total labor force" is also separated into two groups: "Current labor force" and "Seasonally inactive labor force." In addition "Employed" and "Unemployed" are included in "Current labor force."

Table 4.1

Key Official Labor Force Statistics for Thailand in 2001

Labor Force Status	Quarter 1 (Jan. –Mar.)	Quarter 2 (Apr. –Jun.)	Quarter 3 (Jul. – Sep.)	Quarter 4 (Oct. –Dec.)
A. Total labor force	33,211.9	33,494.4	34,487.7	34,059.9
1. Current labor force	32,027.1	32,576.6	34,380.0	33,929.0
1.1 Employed	30,444.7	31,388.2	33,483.7	33,100.4
1.1.1 At work	28,630.6	29,914.8	32,951.0	32,358.4
1.1.2 With job but not at work	1,814.1	1,473.5	532.8	741.9
1.2 Unemployed	1,582.4	1,188.4	896.3	828.7
1.2.1 Looking for work	443.5	372.0	160.8	147.1
1.2.2 Not looking for work	1,139.0	816.4	735.5	681.5
2. Seasonally inactive	1,184.8	917.8	107.7	130.9
B. Not in labor force	13,614.4	13,486.0	12,646.7	13,227.5

Note. The numbers above are in 1,000s. Most of these data for 1983 to 2002 can be found in Appendix A.

1+2 = A 1.1 +1.2 = 1 1.1.1 + 1.1.2 = 1.1 1.2.1 + 1.2.2 = 1.2

Table 4.1 also shows that the unemployed number was higher in Quarters 1 and 2 than in Quarter 3 and 4. The First and Second Quarters are the dry or non-farming season, so there are normally a higher number of "seasonally inactive" workers than the Third and Fourth Quarters. Thailand has, basically, two seasons. One season is the wet season and the other is the dry season. The greater majority of the rainfall is in the wet season, and it rarely rains in the dry season. During the wet season, irrigation is not necessary, so farmers grow rice in this season, which needs heavy rains and flooding. All the categories in Table A have been defined in Chapter 2.

Appendix A shows that, since 1983, Thailand has both higher unemployed numbers and unemployment rates in the first half of every year, or during the dry season. Table 4.2 also shows this wet vs. dry season difference in unemployment. The table shows that from 1983 to 1997 (except for parts of 1986 and 1987) there was a relatively steady decline in the unemployment rates in both the wet and dry seasons. Then, in 1998, the unemployment rates rose because of the financial crisis that affected Thailand and other Asian countries.

Table 4.2

Unemployment Rates in Thailand 1983-2002

	Unemployment Rate in Thailand	
	Quarter 1	Quarter 4
1983	6.9	2.4
1984	6.5	2.3
1985	6.3	3.7
1986	7.8	3.5
1987	6.0	5.8
1988	5.7	3.1
1989	5.9	1.4
1990	N/A	2.2
1991	3.6	2.7
1992	4.4	1.4
1993	3.8	1.5
1994	4.0	1.3
1995	2.3	1.1
1996	2.0	1.1
1997	2.2	0.9
1998	4.1	4.5
1999	5.2	3.3
2000	4.3	3.7
2001	4.8	2.4
2002	3.2	1.8

In addition, Table 4.2 and Figure 4.1 show that the unemployment rate began to decrease again at the end of 1999, or the beginning of 2000. They also show a marked decline in unemployment rates between 2001 and 2002.

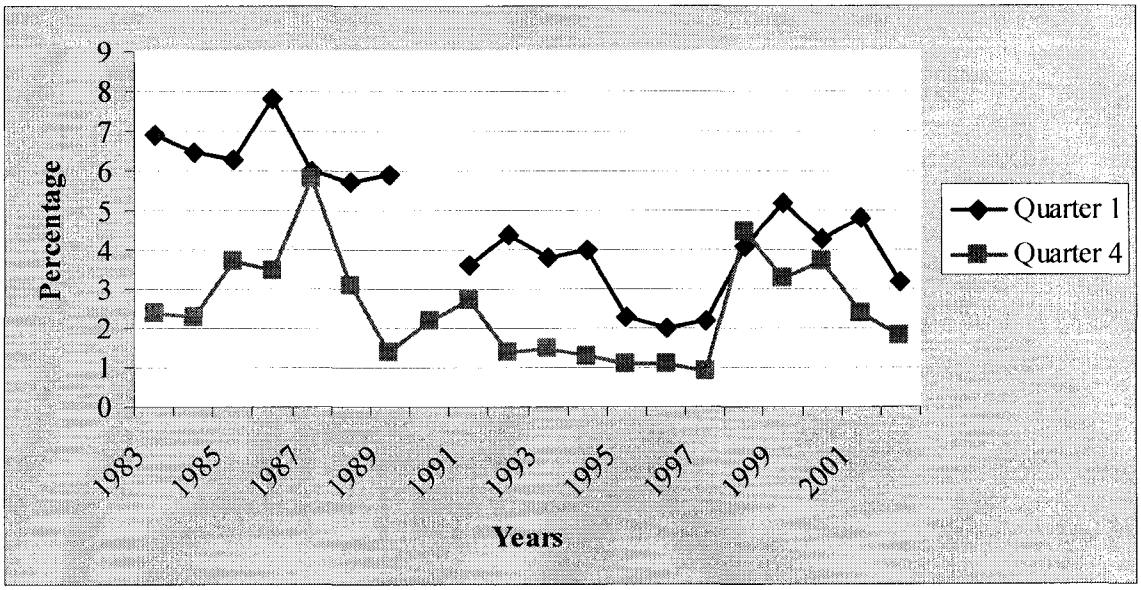

Figure 4.1. Comparing the 1st and the 4th Quarter unemployment rate in Thailand 1983 to 2002.

Results Related to Research Objective 1b: *To compute an unemployment rate (Adjusted I) that includes the "Seasonally inactive labor force," counted as unemployed, rather than not counted at all.*

Table 4.3 shows the Thai official unemployment rate and an adjusted rate that is computed from the official unemployment rate plus the seasonally inactive labor force. This table also includes the percentage of change between the official and the adjusted numbers.

From Appendix A, the adjusted numbers show that the unemployment rate from 1983 to 2002 was very high in the first two quarters and declined in the last two quarters. From 1999 to 2002, the unemployment in each column has steadily decreased.

From Figure 4.2, the adjusted I rate is approximately two to four percent higher than official data. However, after 2001, the seasonally inactive labor force decreased, so the lines get closer than before.

Table 4.3

*Comparing the **Official** and **Adjusted I** Thailand Unemployment Rate*

	Quarter 1				Quarter 4			
	Official	S.I.	Adjusted	% Chg.	Official	S.I.	Adjusted	% Chg.
1999	5.2	3.3	8.5	63%	3.3	0.7	4.0	21%
2000	4.3	3.6	7.9	84%	3.7	0.5	4.2	14%
2001	4.8	3.5	8.3	73%	2.4	0.4	2.8	17%
2002	3.2	2.0	5.2	63%	1.8	0.3	2.1	17%

Note. S.I. means seasonally inactive labor force

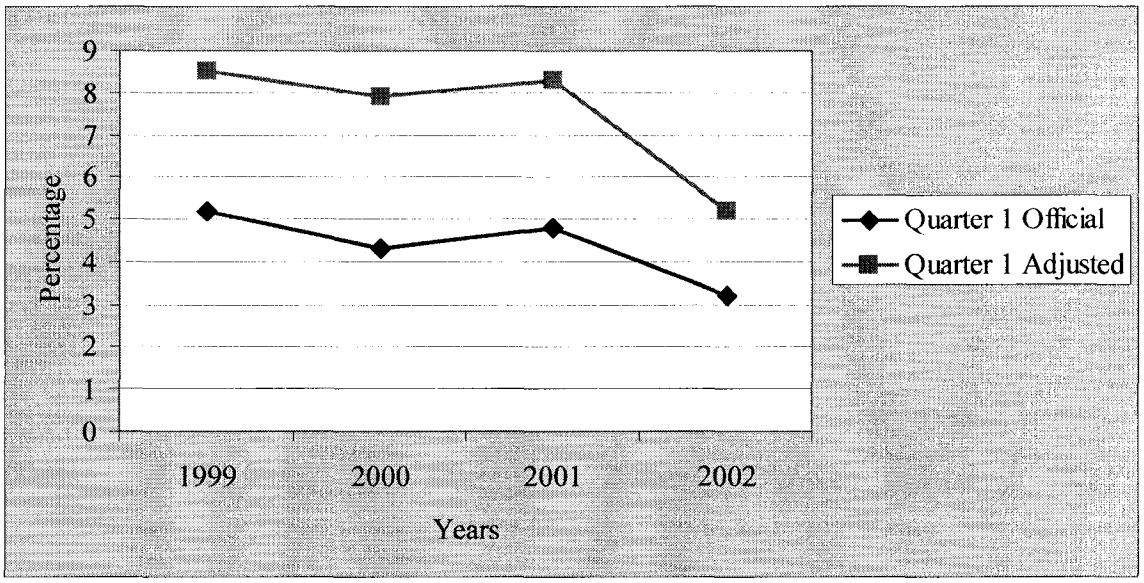

Figure 4.2. Comparing the official and adjusted I Thailand unemployment rate in the 1st quarter.

Table 4.2 and Figures 4.2 and 4.3 show that the adjusted unemployment rates are much higher than the official number, about 70% higher during the dry season and 17% higher during the wet season.

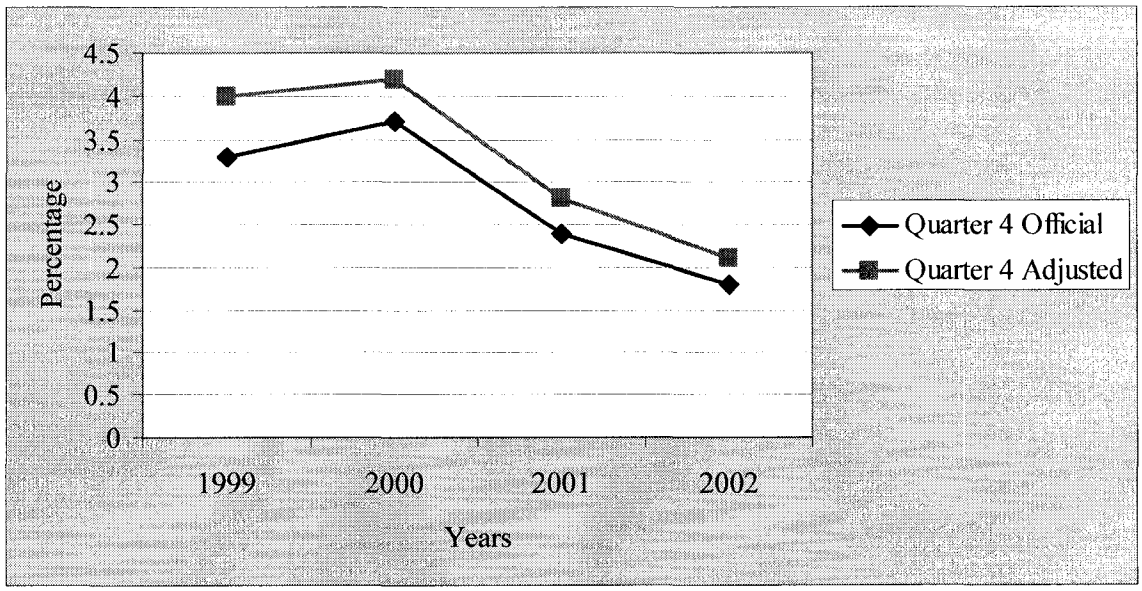

Figure 4.3. Comparing the official and adjusted I Thailand unemployment rate in the 4th quarter.

However, the unemployment rate is still low in the Third and Fourth Quarters in every year. According to the weather and culture in Thailand, Thai people have more jobs during the wet season than the dry season. Nevertheless, even if persons in the labor force do not earn any income, they are still called employed. The differences between the official and this adjusted rate (I) in the First Quarter are much bigger than for the Fourth Quarter because most people in the "seasonally inactive labor force" are farm workers, who can find work in the wet or growing season but not in the dry or non-farming season.

Results Related to Research Objective 1c: *To compute an unemployment rate (Adjusted II) that includes the "With job but not at work" counted as unemployed rather than counted as employed.*

Table 4.4 shows the increased percentage of unemployment after the researcher added the whole group of "With job but not at work" into the unemployment rate.

Between 1999 to 2002, in the First and Fourth Quarters, the adjusted numbers are more than double the official number (except in Quarter Four 2001 when it was a 92% increase.

Table 4.4

*Comparing the **Official** and **Adjusted II** Thailand Unemployment Rate*

	Quarter 1				Quarter 4			
	Official	N.A.W.	Adjusted	% Chg.	Official	N.A.W.	Adjusted	% Chg.
1999	5.2	7.2	12.4	139%	3.3	4.9	8.2	149%
2000	4.3	7.1	11.4	165%	3.7	6.1	9.8	165%
2001	4.8	5.4	10.2	113%	2.4	2.2	4.6	92%
2002	3.2	4.1	7.3	128%	1.8	1.9	3.7	106%

Note. N.A.W. means with job but not at work

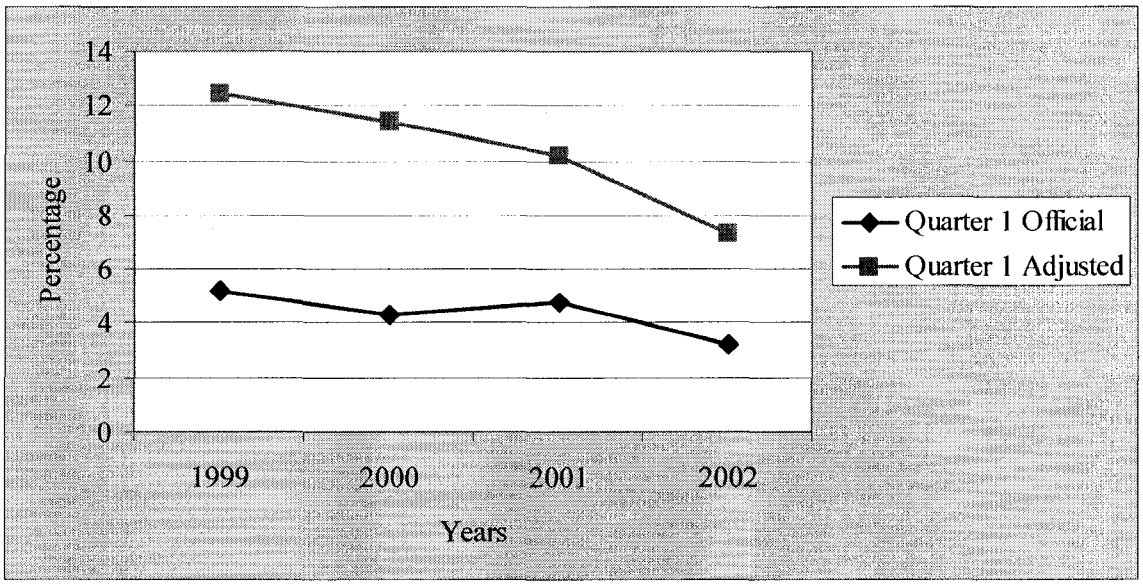

Figure 4.4. Comparing the official and adjusted II unemployment rate in the 1st quarter of 1999 to 2002.

Figure 4.4 and 4.5 show these differences and the general decline in both official and adjusted rates over these four years. Figure 4.4 and 4.5 show that, in 1999 and 2000, the number of persons in "with job but not at work" was much higher than 2001 and 2002 in both quarters.

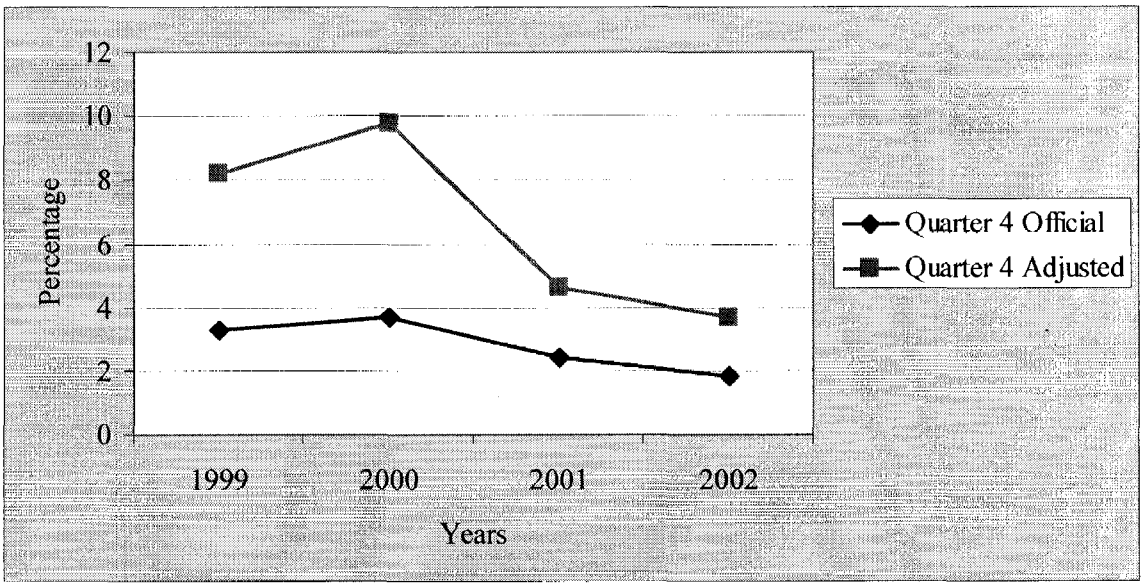

Figure 4.5. Comparing the official and adjusted II unemployment rate in the 4th quarter of 1999 to 2002.

Results Related to Research Objective 1d: *To compute an unemployment rate (Adjusted III) that includes both the "Seasonally inactive labor force" and "With job but not at work" counted as unemployed.*

In Table 4.5, Adjusted III means that the researcher added the number of people from both the "with job but not at work" and "seasonally inactive" categories into the unemployment rate. After adding both categories, the adjusted unemployment rate expands about 200% during the dry season and about 150% during the wet season. All adapted numbers are much bigger than the official numbers. For example, in 1999 the First Quarter rate changed from 5.2% (official) to 8.5% after adding "seasonally inactive

labor force", and moved up to 15.5% after adding both "seasonally inactive labor force" and "with job but not at work". Thus, after the researcher added both categories to the official number, the adjusted unemployment rate almost tripled the official rate. Note, however, that both the official and adjusted unemployment rates have decreased since 2000, as shown in Figures 4.6 and 4.7.

Table 4.5

*Comparing the **Official** and **Adjusted III** Thailand Unemployment Rate*

	Quarter 1				Quarter 4			
	Official	S.N.	Adjusted	% Chg.	Official	S.N.	Adjusted	% Chg.
1999	5.2	10.3	15.5	198%	3.3	5.6	8.9	170%
2000	4.3	10.5	14.8	244%	3.7	6.5	10.2	176%
2001	4.8	9.0	13.8	188%	2.4	2.6	5.0	108%
2002	3.2	6.0	9.2	188%	1.8	2.2	4.0	122%

Note. S.N. means seasonally inactive labor force and with job but not at work

Figure 4.6 shows the large gap between official and adjusted III in the First Quarter of 1999 to 2002. In four years, the number of adjusted III was higher than the official, over 200 % (average), especially in 2000. In 2000, the adjusted number was very high, because both seasonally inactive labor force and with job but not at work were individually higher than in other years.

Figure 4.7 presents the different percentage of unemployment rates between official and adjusted number during the wet season of 1999 to 2002. From 1999 to 2000, there is a huge gap between the official and adjust; however, they swing closer in 2001 and 2002.

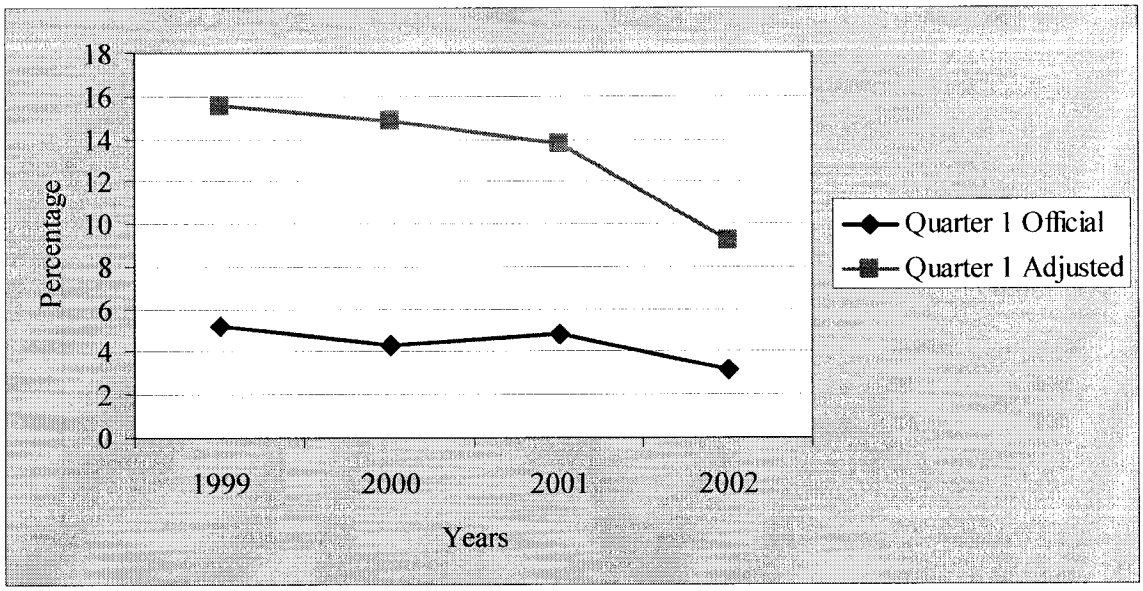

Figure 4.6. Comparing the official and adjusted III unemployment rate in the dry seasons of the 1st quarter of 1999 to 2002.

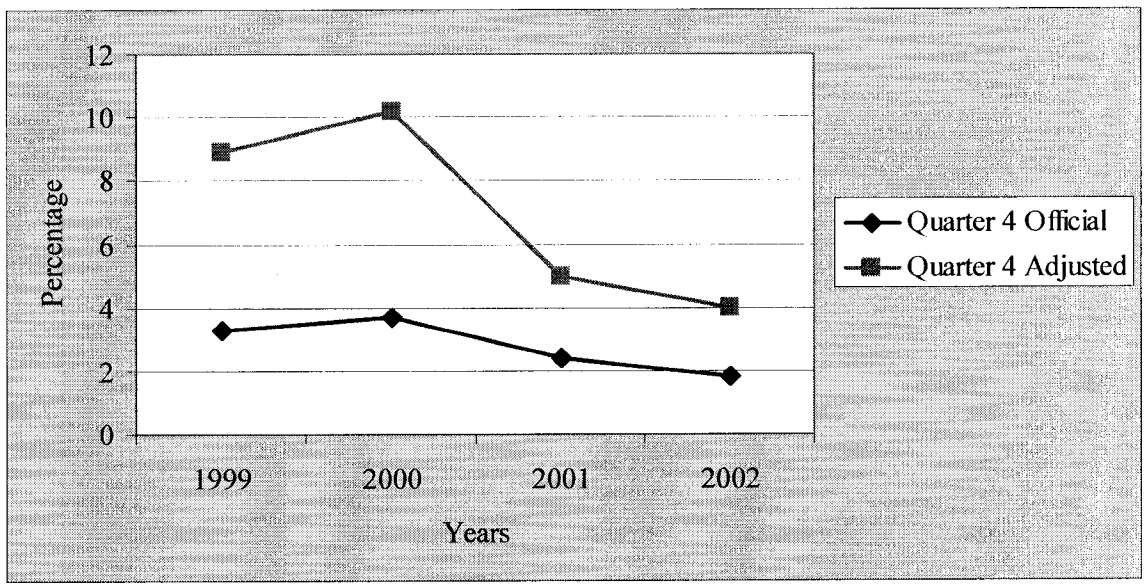

Figure 4.7. Comparing the official and adjusted III unemployment rate in the wet seasons of the 4th quarter of 1999 to 2002.

Results Related to Research Objective 2: *To compute an unemployment rate in Thailand comparable to: a) the rate in a less developed Southeast Asian country (Indonesia); b) the rate in a developed Asian country (Taiwan); and c) the rate in a highly developed country*

Table 4.6 and Figure 4.8 show comparisons of the unemployment rate in a four-year period for the four countries as a percentage of the labor force. Indonesia had the highest unemployment rate during all four years. In 1999 and 2000, Thailand had rates that were higher than Taiwan, but in these two years, Thailand had similar numbers to the United States. However, in 2001 and 2002, the remaining three countries had increased unemployment rates by about 1%, but Thailand had about a 1% lower rate than in 2000.

Table 4.6

Comparison of the 1999 to 2002 Unemployment Rate in Four Countries as a Percentage of the Labor Force

Year/Unemployment rate	Thailand	Indonesia	Taiwan	The U.S.
1999	4.2	6.4	2.9	4.2
2000	3.6	6.1	3.0	4.0
2001	3.4	8.1	4.6	4.8
2002	2.4	9.1	5.2	5.8
2003 *	0.8	10.5	5.1	6.2

Note. * means Economist Intelligence Unit (EIU) forecast.

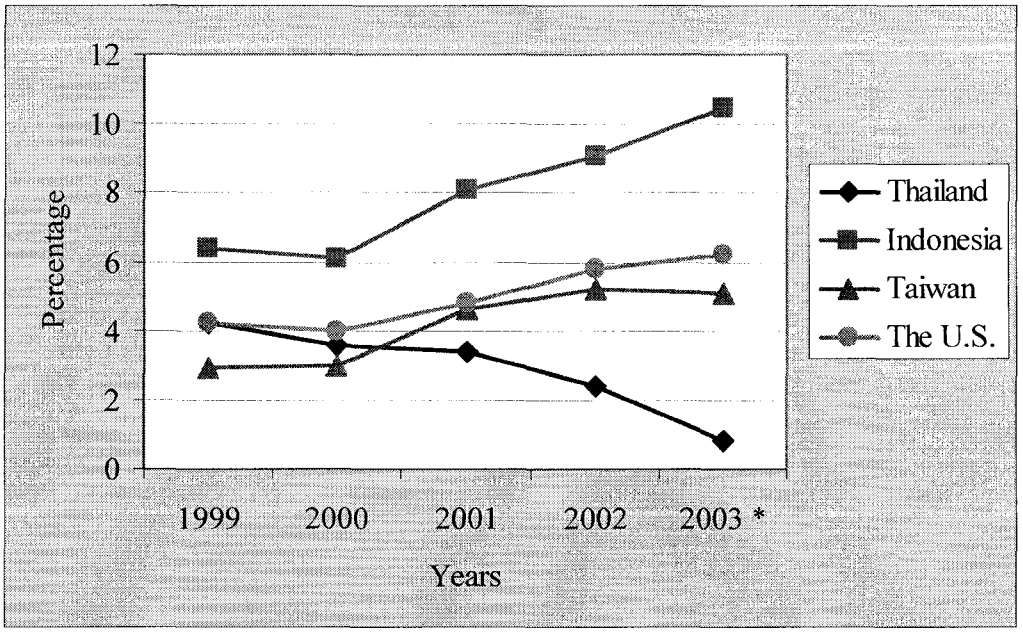

Figure 4.8. Comparing the unemployment rate of four countries during 1999 to 2003.

Table 4.6 and Figure 4.8 also show that, during our base year of 2001, Thailand had the lowest percentage of unemployed persons (3.4%), and the United States and Taiwan had similar slightly higher percentages (about 4.7%) than Thailand. Indonesia had the highest percentage of unemployed, at 8.1%.

Table 4.7 shows the Thai population classified by labor force status in 2001, which was the latest year with data from all four countries.

For each of the four major groups, the total population is divided into persons under 15 years old and those people over 15 years old. The later category is divided into the total labor force and those not in the labor force. The number of persons for each of these categories, and the available sub categories, is provided for Thailand, the United States, Taiwan, and Indonesia in Tables 4.7 to 4.10.

Table 4.7

Demographics of the Thailand Labor Force in 2001

Labor Force Status	Population*
Total population	62,936
A. Persons under 15 years old	15,879
B. Persons over 15 years old	47,057
1. Total labor force	33,813
1.1 Employed	32,104
With job but not at work	1,141
1.2 Unemployed	1,124
Unemployment rate	3.3%
1.3 Seasonally inactive	585
2. Not in labor force	13,244
1. Household work	4,002
2. Studies	4,254
3. Old or disabled	3,935
4. Other	1,053

Note. * in thousands

Tables 4.7 to 4.10 show the total population in each country divided into persons under and over 15 years old. However, in this study, the United States is the only country that defines those in the labor force as persons over 16 years old; the other countries define the labor force as over 15 years old.

Table 4.8

Demographics of Indonesia Labor Force in 2001

Labor Force Status	Population*
Total population	228,438
A. Person under 15 years old	84,404
B. Persons over 15 years old	144,034
1. Labor force participation	98,812
1.1 Employed	90,807
1.2 Unemployed	8,005
Unemployment rate	8.10%
2. Not in labor force	45,221
1. Schooling	10,899
2. House keeping	26,462
3. Others	7,861

Note. * in thousands.

Thailand is the only country that has a third category besides "Employed" and "Unemployed," which is "Seasonally inactive." Thailand defines "Seasonally inactive labor force" as "persons who during the survey week, were neither employed nor unemployed, but were waiting for the appropriate season, being persons who usually worked without pay on farms, or in business enterprises engaged in seasonal activities owned or operated by the head of the household or any other member of the household" (National Statistical Office Thailand, Oct. 12, 2003).

Table 4.9

Demographics of Taiwan Labor Force in 2001

Labor Force Status	Population*
Total population	22,281
A. Persons under 15 years old	5,102
B. Persons over 15 years old	17,179
1. Current labor force	9,832
1.1 Employed	9,383
1.2 Unemployed	450
Unemployment rate	4.57%
2. Not in labor force	7,347
1. Intend to work but not seeking now	201
2. Attending school	2,156
3. Household work	2,673
4. Old age or disabled	1,831
5. Others	486

Note. * in thousands.

From Table 4.8 and 4.9, both Taiwan and Indonesia have similar sub-categories as Thailand. However, Taiwan has "Intend to work but not seeking now" that is the same as the United States "Persons who currently want a job." In addition, Taiwan and the United States also have had a similar rate of unemployment in 2001, and Thailand and Indonesia have the least and the greatest unemployment rate, respectively.

However, the labor force survey (official) of the United States does not have sub-categories under "not in labor force" like the other countries in this study. A specialist from the Bureau of Labor Statistics of the United States explained that they do not tabulate this category, because it is virtually impossible. Only a small portion of survey participants who are "not in the labor force," and not all respondents were asked for the reason why they were not working.

Table 4.10

Demographics of the United States Labor Force in 2001

Labor Force Status	Population*
Total population	285,024
A. Person under 15 years old	65,611**
B. Persons over 16 years old	215,093
Persons over 15 years old	219,413**
1. Civilian labor force	143,783
1.1 Employed	136,941
1.2 Unemployed	6,842
Unemployment rate	4.8%
2. Not in labor force	71,310
1. Persons who want a job, not looking	4,591

Note. * in thousands, ** estimated official data.

Labor Force Survey Categories

Persons under and over 15 years old. Table 4.11 compares the four countries on the percentage of persons in several labor force and non-labor force categories as a percentage of total population. The percentage of persons under 15 years old, in the labor

force, and not in the labor force is 100% of the total population in each country. In the first category, "persons under 15 years old", the United States and Taiwan (about 23%) had similar numbers, and they were much lower than Indonesia (37%). Thus, Indonesia had a higher percentage of young persons who did not count yet as part of the workforce in their country.

Persons in labor force. Both Thailand and the United States have a category for "with job but not at work," and the United States was somewhat higher than Thailand. The category includes persons on vacation, illness, bad weather, labor disputes, and other reasons. They may or may not be paid while not at work. In terms of the "labor force participation," Thailand and the United States had almost the same percentage of the total population rates (about 50%), but both were higher than Taiwan and Indonesia, who also had similar rates as well (about 44%). Labor force participation was lower in Taiwan because of a relatively high percentage of adults not in the labor force, while Indonesia was relatively low due to a high percentage of children. From Table 4.10 in the unemployment rate category, Thailand had the lowest rate (less than 2%) and Indonesia had the highest (3.50%).

Persons not in labor force. Taiwan had the highest percentage of persons not in the labor force (33%), in second place was the United States (25%), and Indonesia had the lowest proportion of persons not in the labor force (20%). In addition, more Taiwanese and Indonesians (almost 12%) were in household work, and Taiwan had a relatively high percentage in the schooling and old/ disabled categories in this table. However, in Thailand, there were similar rates (almost 6% each) among household work, schooling, and old age or disabled.

Table 4.11

Comparison of Labor Force Survey Data in Four Countries as a Percentage of Total Population in 2001

Labor Force Status	Thailand	Indonesia	Taiwan	The U.S.
A. Persons under 15 years old	25.23%	36.95%	22.90%	23.02%
B. Persons over 15 years old	74.77	63.05	77.10	76.98
1. Labor force participation	52.80	43.26	44.13	50.45
1.1 Employed	51.01	39.75	42.11	48.05
1.1.1With job but not at work	1.82	N/A	N/A***	1.98
1.2 Unemployed	1.79	3.50	2.02	2.40
1.2.1 Seasonally inactive	0.93	N/A	N/A	N/A
2. Not in labor force	21.04	19.80	32.97	25.02*
Household work	6.36	11.58	12.00	N/A
Schooling	6.76	4.77	9.68	N/A
Old age or disabled	6.25	N/A	8.22	N/A
Others	1.67	3.44	2.18	N/A
Want a job, not looking	N/A	N/A	0.90	1.61

Note. * means percentage of persons over 16 years old who are not in labor force. ** means the total of unemployed, seasonally inactive, and currently want a job. *** means not available. Thailand population 62,936,000, Indonesia population 228,438,000 Taiwan population 22,281,000, and The United States population 285,024,000.

Table 4.12 shows the comparison of labor force survey categories in four countries as a percentage of persons over 15 years old. Thailand had the highest percentage (71%) of persons in the labor force participation category, and Taiwan had the lowest percentage (57%). Thailand also had a higher percentage of employed persons

than other countries, and Taiwan had the lowest employed percentage in these four countries. In this table, Taiwan had the highest number (43%) of persons in "not in labor force," which was much higher than Thailand (28%).

Table 4.12

Comparison of Labor Force Survey Data in Four Countries as a Percentage of Persons Over 15 Years Old in 2001

Labor Force Status	Thailand	Indonesia	Taiwan	The U.S.
1. Labor force participation	70.62%	68.60%	57.23%	65.53%
1.1 Employed	68.22	63.05	54.62	62.41
1.2 Unemployed	2.39	5.56	2.62	3.12
1.3 Seasonally inactive	1.24	N/A	N/A	N/A*
2. Not in labor force	28.14	31.40	42.77	32.50
Household work	8.50	18.34	15.60	N/A
Schooling	9.04	7.57	12.55	N/A
Old age or disabled	8.36	N/A	10.66	N/A
Others	2.24	5.46	2.83	N/A
Want a job, not looking	N/A	N/A	1.17	2.09

Note. The population over 15 years old of four countries, Thailand 47,057,000, Indonesia 144,034,000, Taiwan 17,179,000, The United States 219,413,000 (estimated) N/A means not available.

Table 4.13 shows that the persons in the "with job but not at work" category as a percentage of the total of population; however, Taiwan and Indonesia were not available in this category. Both tables explain that Thailand had higher percentages during the First and Second Quarters, or dry season, than the wet season. The issue here is what percentage of those who are having a job but are not at work are being paid. It seems

reasonable to include those who are not paid as unemployed, but those paid really are employed.

Table 4.13

Comparison of Persons "With Job but not at Work" for Four Countries in 2001 as a Percentage of the Total Population

Period of Time	Thailand	The U.S.
1st Quarter (Jan. - Mar.)	2.89%	1.64%
2nd Quarter (Apr. - Jun.)	2.34%	2.04%
3rd Quarter (Jul. – Sep.)	0.85%	2.80%
4th Quarter (Oct. – Dec.)	1.18%	1.43%
Annual	1.82%	1.98%

Because not all countries report each of the categories of people who are in "With job, not at work" will be considered to be unemployed. It is impossible to make really valid comparison across these countries. However, the Thailand unemployment rate still looks very promising; especially in comparison to Indonesia and even the United States. Furthermore, the U.S. had relatively high percentages of "with job, but not at work" during mid-year or the Second and Third Quarters, or summer session, compared to the whole year. The annual rate or average of "with job but not at work" in both countries show that Thailand was slightly lower than the United States.

Table 4.14 provides a breakdown of the percentage of persons not in the labor force in each of the four countries. Most of these countries had high percentages in household work and schooling. However, the United States does not have the sub-categories as other countries; the United States shows only "Currently want a job" in this table.

Table 4.14

Comparison of Four Countries by the Percentage of Persons not in the Labor Force in 2001

Labor Force Status	Thailand	Indonesia	Taiwan	The U.S.
Household work	30.22%	58.52%	36.38%	N/A
Schooling	32.12	24.10	29.35	N/A
Old age or disabled	29.71	N/A	24.92	N/A
Others	7.95	17.38	6.61	N/A
Currently want a job	N/A	N/A	2.74	6.44

Note. The population of persons over 15 years old and not in labor force of four countries, Thailand 13,244,000, Indonesia 45,221,000, Taiwan 7,347,000, The United States 71,310,000

Results Related to Research Objective 3: To expand and develop innovative indexes to obtain a better understanding of the Thailand unemployment problems.

For objective 3, 2001 data were used because these data was the latest and completed data that all four countries' governments provided and published.

Table 4.15 shows the official unemployment rate and five adjustments, as a percentage of persons over 15 years old, for each of the four countries. Thailand, as described earlier, had the lowest official unemployment rate, in 2001, and Indonesia had the highest rate (more than double Thailand's).

The adjusted I index (line 5 of Table 4.15) is the sum of the unemployment rate and the "seasonally inactive" percentage, which only Thailand reports. The adjusted II rate is divided into two parts: adjusted II ("unpaid with job, not at work" plus the official unemployment rate) and adjusted IIa ("want a job, not looking" plus the official unemployment rate). Only Thailand and the United States report the "with job but not at

work" rate, which the researcher assumed includes both paid and unpaid persons. Only the United States and Taiwan report "want a job-not looking" rates, under the category of persons not in the labor force.

The adjusted III rate includes the official unemployment rate, "seasonally inactive" rate plus "with job but not at work." Finally, the adjusted IV rate is the total of all four categories: official unemployment rate, "seasonally inactive", "unpaid with job, not at work", and "want a job, not looking".

Table 4.15

Comparison of Estimated Adjusted Unemployment Rates in Four Countries as a Percentage of Persons over 15 Years Old (Adjusted) in 2001

Labor Force Status	Thailand	Indonesia	Taiwan	The U.S.
Unemployment rate (UR)	2.39%	5.56%	2.62%	3.12%
Seasonally inactive (SI)	1.24	1.24	.31	.41
Unpaid with job, not at work (NW)	2.42(1.62)	1.62	.86	2.57(.86)
Want a job, not looking (NL)	1.37	2.14	1.17	2.09
Adjusted I (UR + SI)	**3.63**	**6.80**	**2.93**	**3.53**
Adjusted II (UR + NW)	**4.01**	**7.18**	**3.48**	**3.98**
Adjusted IIa (UR + NL)	**3.76**	**7.70**	**3.79**	**5.21**
Adjusted III (UR + SI + NW)	**5.25**	**8.42**	**3.79**	**4.39**
Adjusted IV (UR + SI + NW + NL)	**6.62**	**10.56**	**4.96**	**6.48**

In order to make comparable adjusted indexes for each of the four countries, it was necessary to estimate the missing or misleading values in several cases. These estimates are described in the next three sections and are underlined in Table 4.15. An

assumption for all the adjusted indexes is that the persons in the categories used to make the adjustments ("seasonally inactive", "unpaid with job, not at work", and "want a job, not looking" should really be considered as unemployed, even though they are not in the official unemployment rates.

Assumption Used in Making Adjusted Indexes

Seasonally inactive (SI). In order to estimate this rate, it was assumed that the percentage of "seasonally inactive" persons in the United States is one third of that in Thailand, because in America many seasonal labor positions are filled by illegal immigrants and students who are not counted in the labor force. Coulombe (2001) said that, in the past few years, the most popular jobs during the summer time have been in agriculture, forestry and tourism. Taiwan was estimated to have about one fourth of Thailand's "seasonally inactive" rate because, since the 1970s, Taiwan's GDP has rapidly departed from the agriculture sector to the services and industry sectors. Thus, now most Taiwanese are working on high-tech and capital intensive industries that do not have seasonal unemployment (Papadimos, 2002). Moreover, Taiwan does not have as high a percentage of tourism as the United States and Thailand. Like in Thailand, agriculture is the key sector in the Indonesian economy. The majority of people depend on this sector for their source of revenue. So the "seasonally inactive" rate was estimated to be the same as Thailand's.

Unpaid with job, not at work (NW). The total "with job, not at work" in 2001 in Thailand was 2.42 % of the persons over 15 years old, but this percentage included both paid and unpaid workers. However, in Table 4.15, the researcher wanted to use just unpaid workers to adjust the unemployment rate. The researcher estimated that only

about one third, or 1.62%, are paid workers with a job. Two thirds of those who are not at work due to illness, vacation, labor disputes, and so on do not get paid.

In the United States, it is estimated that about one third (0.86%) of the official percentage (2.57%) is "unpaid with job, not at work". The portion of "unpaid with job, not at work" in Taiwan is estimated to be similar to the United States because of a comparable economic model and economic development. On the other hand, Indonesia and Thailand seem to be parallel in many ways, such as the model of economics, culture, politics, GDP per capita, and economic growth. Thus, in Table 4.15, the "unpaid with job, not at work" category shows the same percentage (1.62%) for Thailand and Indonesia.

Want a job, but are not looking (NL). The percentage of persons who "want a job, not looking" in Thailand and Indonesia came from the statistics and analysis of the United States and Taiwan numbers for "not in the labor force", "others", and "want a job, not looking" of these countries in Table 4.12. The estimate of "want a job, not looking" for Thailand and Indonesia were based on the following calculations:

- Using the United States' data: NL = 2.09%, which is 6.43% of 32.50% (Not in labor force). See Table 4.12.
- Using Taiwan's data: NL = 1.17%, which is 41.34% of 2.83% (Others). See Table 4.12 again.

Thus, if the researcher estimated Thailand's NL rate using the United States' data, the "want a job, not looking (NL) rate would be 1.81%. If the researcher estimated Thailand's rate using Taiwan's data, the NL would be 0.93%. Thus, the researcher's best estimate of Thailand's NL is 1.37%, the average of 1.81% and 0.93% (See Table 4.15).

In addition, if the researcher estimated Indonesia's rate using the United States' data, the NL rate would be 2.02%, and if the researcher estimated Indonesia's rate using Taiwan's data, the NL would be 2.26%. Therefore, the best estimate of Indonesia's rate of "want a job, not looking" is 2.14, the average of 2.02% and 2.26%.

Using the strategies above, all adjusted and estimated numbers were used to compute the innovative unemployment indexes in Table 4.15. These adjusted numbers provided estimates of the actual unemployment in each country.

Unemployment Rates Using the Adjusted Indexes

The adjusted I index. Table 4.15 shows that, when the estimates of "seasonally inactive" persons were added to the official unemployment rates, Taiwan has the lowest rate (2.93%). The United States (3.53%) and Thailand (3.63%) are essentially tied, and Indonesia has by far the highest unemployment, at 6.80%.

The adjusted II index. Line 6 of Table 4.15 demonstrates that, when the researcher added "unpaid with job, not at work" to the official unemployment rates, Taiwan still has the lowest rate (3.46%), and Indonesia has the highest rate at 7.18%. Thailand and the United States have very similar percentages at 4.01% and 3.96%, respectively.

The adjusted IIa index. Unlike the adjusted I and II, Table 4.15 shows that after adding "want a job, not looking" to the official unemployment rates, Thailand (3.76%) and Taiwan (3.79%) are, basically, close. However, the United States is increased to 5.21%, and Indonesia still has the highest percentage (7.70%).

The adjusted III index. Line 8 of Table 4.15 shows that Indonesia (8.47%) has the highest percentage of unemployment after the researcher added both "seasonally

inactive" and "unpaid with job, not at work" to the official unemployment rates. Thailand (5.25%) follows Indonesia, and the United States (4.37%) and Taiwan (3.77%) still have fairly low rates after adding both points.

The adjusted IV index. The last line, or summary line, of Table 4.15 explains that, when the researcher added "seasonally inactive", "unpaid with job, not at work" and "want a job, not looking" to the official unemployment rate of all four countries, Indonesia still has the highest percentage (10.56%). Taiwan is still in the lowest position (4.94%), and Thailand (6.62%) and the United States (6.46%) are also essentially tied.

Summary. Thus, for almost all the adjusted percentages, the unemployment rates for Thailand and the United States are similar, and Taiwan has the lowest unemployment using the adjusted categories. In addition, after adjusting, Indonesia has over 6% unemployment in all the adjusted categories, and it has over 10% in the adjusted IV index, which is the sum of all four categories.

CHAPTER 5: DISCUSSION

The purposes of the study were: to examine the official government population data for the labor force employment and unemployment statuses for Thailand and to compare Thailand to three other countries by using both official and adjusted labor force survey data. All labor force official data came from the Department of Labor and National Statistical Office of each country; moreover, some official data was also received by E-mail. Then, the researcher used the appropriate techniques to generate new or adjusted unemployment rates. This chapter follows the research objectives and provides the significant finding with proper discussion regarding the current literature.

Discussion of Findings

Presented in this section are the conclusions of the study based on three major research objectives and a discussion of findings.

Research Objective I: Thailand Labor Force Survey

Research objective Ia. The first research objective sought to elucidate and explain about the Thai labor force survey methods and data that would be used to compare to other countries. This objective also explored the differences of unemployment rate between the First (dry season) and Fourth (wet season) Quarters. Based on the results in Chapter 4, it is indicated that normally in the dry season, Thai people have more unemployment than the wet season; this was true from 1983 to 2002. In a study by Phananiramai (1995), labor demand is at a peak in the agricultural sector during

Thailand's wet season. However, after the harvest season, most workers pull out of the labor force and cause the declining participation rate in rural areas.

The unemployment rate declined at a steady rate from 1983 to 1997 (the Asian financial crisis). Since the middle of the 1980s until the mid 1990s, the Thai economy accelerated sharply, about 8 to 12 percent per year, by combining trade expansion, private investment, and tourism; moreover, population growth had been brought under control by then (Phananiramai, 1995; Coxhead & Plangpraphan, 1998).

Research objective Ib to Id. These research objectives tried to explore the differences between the official unemployment rate and the three various adjusted rates for Thailand. The result from this study indicated that the adjusted unemployment rate in Thailand is much higher than the official rate after adjustment.

Thailand has many sub-categories that can compare to others; however, one sub-category that the other three countries do not have, is "Seasonally inactive labor force." Thailand can be compared to others by adjusting some numbers and definitions of sub-categories. However, "With job, not at work" is another sub-category that the other three countries do not present in the official table.

The three adjusted unemployment rates (Table 4.3, 4.4, and 4.5) are all much higher than the official rate because of adding "seasonally inactive labor force" and "with job, not at work." These three adjusted rates depended on the size of both categories. For example, if these two categories have large numbers of people, the adjusted unemployment rate would be much higher than the official rate.

The researcher believes that the three adjusted rates might be too high when compared to the official rate, but the actual unemployment rate should be in between

these two numbers. According to the International Women's Right Action Watch Publication (1997), after the financial crisis Thailand's unemployment rate was difficult to estimate because the Thailand government reported that the number of unemployed persons reached two million during that time, with at least 2,000 workers losing their jobs every day. Thus, the International Labor Organization predicted that the unemployment rate could increase to three million or ten percent by the end of 1999 or the beginning of 2000. In addition, the Chemical Workers' Union Alliance (CWUA), 2001) mentioned that, after the financial crisis, the Thailand Development and Research Institute predicted that the unemployment rate would be as high as 1.59 million or 5.2 percent during the First Quarter of 2002.

Research Objective II: Comparison for Four Countries (Thailand, the United States, Taiwan, and Indonesia)

The second research objective sought to compare the labor force categories and percentage of people in each category in four different countries related to levels of growth, geography, and culture. The results of this objective demonstrated that only Thailand has had a steady decline in the unemployment rate as a percentage of the labor force since 1999. The Economic Information Section, Fiscal Policy Office of Thailand (1999) reported that one of the reasons for the sharp decline in the unemployment rate was due to the laid-off people to return to farming and the existing presence of economic recovery. Nonetheless, the Industrial Economics, Ministry of Industry, Thailand (2001) argued that "statistics on employment from the Ministry of Labor and Social Welfare and from the Labor Force Survey of the National Statistics Office indicate that the rate of

unemployment in 2001 declined, compared to the previous year. However, as the Thai economy continues to slowly grow, unemployment remains a worrisome issue.

Thailand's official labor force table does not seem different from the other three countries, but it has one more category that the other three countries do not have- "seasonally inactive labor force." The researcher believes that using the "seasonally inactive labor force" category to reduce the official unemployment rate is misleading.

When the researcher compared the labor force in the four countries as a percentage of the whole population (Table 4.11), Indonesia had the lowest percentage of persons over 15 years old. It also had the lowest percentage of persons in the labor force; however, the percentage of persons not in the labor force was still lowest in Indonesia. Sitathan (2002) mentions that unemployment in Indonesia has become a major problem, according to the Central Bureau of Statistics in Indonesia (BPS); the latest survey during that time showed that during the second half of 2002, the unemployment reached 8 million people, or 8.2 percent of the participants in the labor force. The International Labor Organization (2002) mentions unemployment and education skills in Indonesia, primary-level school dropouts who may accept insecure low-quality jobs, actually have much lower unemployment than more demanding secondary and higher-level school dropouts whose skills may not meet labor market demand.

Moreover, Humanitarian Policy and Conflict Research (2002) points out that the educational system in Indonesia is deficient, and schools have faced a shortage of resources. Schools are short on staff and lack books, supplies, and substantial maintenance. Prior to the economic crisis, Indonesia's government did not respond to the need for reform and, according to the World Bank, spent less than $0.40 per student per

year for school supplies. Other problems with the school system include the incapability of the poor to afford the basic nine years of education, negative institutional encouragement that impedes the efficient and equitable distribution of educational supplies, and a public post-basic education system unresponsive to the rapidly changing demands of the labor market. Furthermore, the 1997 economic crisis caused a serious crisis in education in Indonesia. The combination of reduced public funding for education, the higher price of schooling, and lower family incomes resulted in an increased dropout rate, particularly in the urban areas and among the girls. According to a World Bank study, in 1998-99, dropout rates in primary schools rose 3.1 percent and in junior high rose 6.4 percent. In Jakarta, female enrollment in junior high dropped by 19 percent for the same year. Compared to other countries in Southeast Asia, the educational level of Indonesia's population was poor. For example, in 1997, only 30 percent of Indonesians, ages 25-34, had attained a secondary education, as compared to 50 percent in Malaysia. Furthermore, in September 2001, Indonesia's educational system ranked last among twelve Asian countries.

The unemployment rate in Taiwan has been increasing because the migration rate is higher each year. Solid Software Pty Ltd in Taiwan (2000) pointed out that the major cause of the rising unemployment rate in Taiwan was the increasing number of foreign workers. According to China News (October 17, 1998), in June 1998, there were 250,000 immigrant workers employed in Taiwan, an increase of almost 20,000 from the year before. There were 120,000 workers from Thailand; 100,000 workers from the Philippines; and 15,000 workers from Indonesia.

However, the unemployment rates in Indonesia, Taiwan, and the United States have been increasing because of the poor world economic since 1997 in Asia and around 2001 in the United States. According to Yu and Xu (2001), unemployment relates closely to economic recession, and as 1998 was the most serious year of the recession, with the exception of Taiwan and China, all the Asian countries have been seen increased unemployment rates. In addition, in a study by Groenewold and Tang (2002), the industrial productivity and economic growth of these Asian countries also has been reduced since July 1997. However, Taiwan's unemployment did not worsen significantly over the financial crisis period, but the unemployment rate has been increasing since the beginning of the 1990s. Although, the unemployment rate in Taiwan only increased slightly, there were some signs of problems dealing with the crisis in the labor market. The numbers of the openings for job applicants dropped from 2.47 percent in 1997 to 1.54 percent in 1999, meaning the decrease of job openings available per job seekers. Moreover, the number of participants in the labor force also dropped slightly from 58.3 percent in 1997 to 58.0 percent in 1999 and to 57.9 percent in 2000. One of the reasons for the decrease of the participant rate in the labor force is the rise of discouraged workers.

It is clear that the result of the 1997 financial crisis has increased the unemployment in Indonesia. The National Survey of Social-Economics in Indonesia (1998) estimated that the number of unemployed was about 4.5 million people (excluding the new entrants of 1998 and the accumulation of 1997) (Firdausy, 2000). The financial crisis has inflicted a serious impact on the Indonesian economy such as falling of the real wage, fewer employment opportunities, and increasing prices on basic commodities. In

addition, the reduction in domestic demand also has led to reduction of the labor demand, especially in the urban areas, which has shown up as increased unemployment and lower wages.

The United State unemployment rate jumped to its highest point in four years in August 2001, as employers cut more jobs than the economists had expected because of the weakness of the world economy. The United States Department of Labor (2001) reported that the unemployment rate rose from 4.5 percent in July 2001, to 4.8 percent in August of the same year, while employers cut 113,000 jobs outside the farming sector, compared to a revised gain of 13,000 jobs in July.

Research Objective III: Innovative indexes

According to economic specialists and researchers, it is believed that Thailand's unemployment rate should be higher than has been shown in the Thai Nation Statistical Office (NSO). So, the researcher invented innovative techniques to adjust Thailand's unemployment rate to be comparable to the other countries.

As a result, the outcome of this objective illustrated that each country has different methodologies for labor force calculation which are related to culture, geography, politics, and so on; therefore, some of the categories cannot compare to each other very well. The World Bank (2003) indicates that different countries or nations use various types of the survey method. Each country has to use judgment to balance the advantages and disadvantages of different survey methods. In the process of surveying the population, each country varies in the definitions of each survey category, the objectives of the survey, the method of computing the raw data, the data collection and source, the periodicity of measurement, the international data comparisons, the

limitations of the survey, the gender issues, the agencies (such as the National Statistics Offices and the World Bank), and so on. Likewise, the population issues are also one of the major considerations of the survey. Are the participants literate or illiterate? What types of questions can be asked? Are there language issues? Will the population cooperate?

The results do not show the significance the researcher believed and expected. The researcher expected that, after the adjustments, the Thailand unemployment rate should be significantly higher than the United States and Taiwan. As shown in Chapter 4, the adjusted unemployment rate of Thailand does not show a great difference from the United States, moreover, it is only slightly higher than Taiwan.

Thailand has about three different sources related to population survey and labor force data. However, the researcher used the National Statistics Office (NSO) source because it surveyed and demonstrated the data more frequently than the other two sources. Phananiramai (1995) mentioned that one reason that the NSO shows a low unemployment rate is because the labor force participation rate and the number of persons who were waiting for the farming season were added to the seasonally inactive or seasonally unemployed. Phananiramai (1995) also stated that, if either the workers waiting for the farming or wet season, or those who were seasonally economically inactive, were included in the jobless or unemployed categories, the unemployment rate would reach 15-16 percent during the dry season.

Thailand might have low unemployment rate in the reality. After 1997 (the Asian financial crisis), not only the head of family has to work, but also all members of the family have to work. He/she could not make enough income to support the whole

family during that time, because the living expenses were really higher than before. Thus, the numbers of unemployed might be lower after 1997, the year of the highest unemployment rate. Furthermore, after the Asian financial crisis, Thai people have been working in many types of jobs even though they get paid a lower wage than before because job choices are limited. According to Phananiramai (1995), approximately two-thirds of Thai workers work as self-employed or unpaid family workers in small enterprises, whereas one-third is either employers or employees in private or public organizations.

The Thai NSO counts people who work at least one hour per week to be employed, so even if they have part-time jobs when they are full-time students, they are all employed. The Chemical Workers' Union Alliance (CWUA, 2001) supports that, since 1997, the rate of temporary workers who are employed under a short term contract is growing.

The Thai Government still believes that, if it sends the laid-off employees from urban areas back to home-towns or rural areas, they can still find a job in the agriculture sector, so it classifies this group of people, who work for their family in the agrarian community, into the employed category. Puenpatom (2002) explained that the decrease in unemployment was due to the expansion of unpaid family workers from laid-off worker in the "informal" sector and the "formal" sector.

Strategies that Others Use to Improve the Unemployment Problem

Eatwell (1994) mentions that unemployment is not a natural disaster like a hurricane or an earthquake, but it is something that happens to us out of the blue that society then deals with badly or well, as the case may be. Rather, unemployment is a

social occurrence. Millions of people out of work means, quite simply, that we have failed to organize our society in such a way that full employment is secured. Because it is our problem, not a natural circumstance, there must be a solution or answer, if only society is willing to take the steps necessary to find and implement it.

About four years of economic slowdown has pushed the number of unemployed worldwide to new heights. The International Labor Office estimates that the number of unemployed rose by 20 million since 2000 to reach a totality of 180 million at the end of the year 2002 (International Labor Office, 2003). Reducing the unemployment rate has been the top priority for economic policy in most nations, and it remains a formidable challenge to the government.

The International Labor Office advises all countries about the steps to reducing unemployment that need to be started with increased international harmonization of macroeconomic policies in order to stimulate revitalization and remove obstacles to the sustainability of growth. Secondly, successful micro and macro-adjustment at the national level will help global economic growth. Thirdly, improving the basic labor standards to prevent the unemployment problem, poverty, skills shortages, and widening disparities in income distribution is necessary. However, each country will have a different labor force policy and different level of crisis that impact employment.

Southeast Asian Countries

Efforts to provide full employment have been made vulnerable by several obstacles that affected the economy's capacity to create and keep jobs. Since the Asian currency crisis in 1997, most Southeast Asian countries suffer from the higher unemployment rate. At the height of the crisis, foreign investments have been

withdrawn, businesses have postponed investment or expansion plans, the exchange rates have suffered speculative attacks, and stock markets have dropped as a result of deterioration in investor confidence (National Economic and Development Authority (NEDA), 2003).

A closer look at the unemployment problem shows that the high unemployment rate in developing country is caused mainly by two factors. These are the inadequacy of employment or job opportunities in both rural and urban areas and the inability of many workers to take advantage of available jobs. Southeast Asian governments have the following plan to solve these two problems:

The Philippines. The plans for substantially reducing unemployment (NEDA, 2003) are:

Strategies for generating employment opportunities and alternatives:

1. Promote investment.
2. Simplify procedures for setting up businesses.
3. Promote entrepreneurship.

Strategies for increasing the productivity of the workers in the region:

1. Develop multi-skills manpower programs.
2. Develop scholarship and education loan programs.
3. Review wage and productivity improvement.

Strategies for improving access of the labor force to employment opportunities:

1. Take advantage of overseas labor market.
2. Establish a mechanism for skills mapping and development.

Malaysia. The recent labor policy or the Seven Malaysian Plan (1996-2000) for the growing economic development has been drawn up under ten issues. First, the industrial sector needs to be encouraged to transfer its operation from labor intensive to capital- oriented industry. Second, both public and private sectors have to increase the employment of the local people rather than hiring foreign labor by expanding opportunities for women to enter into the labor market. Third, the education sector should provide more attention to human resource development in providing skills and knowledge for the younger generations. Fourth, related sectors need to expand their research and development activities, especially in the science and technological areas. Fifth, private sectors have to assist the government in providing in-house training about human resource development programs. Sixth, all sectors should be encouraged to realize the mechanism of the relation between wages and level of productivity. Seventh, the government should provide for the development of the labor market through a Labor Market Information System. Eighth, the government also needs to revise the labor rules and regulations in order to promote a dynamic labor market. Ninth, in terms of the relationship between employer and employees, management is encouraged to develop a positive, stable work environment. Finally, society should be oriented toward providing more emphasis on participation in skills and technical employment (Yusof, 1998).

Indonesia. Because of the deficient educational system, the shortage of resources for schools, and the financial crisis in Indonesia that crippled the educational system, the government has started to reemphasize education as an important factor in social and economic development. Thus, Indonesia's government (President Megawati Sudarnoputri) has started the "Stay in School" campaign. Other recent positive

developments include allocating more of the budget to education (the largest percentage ever), attempting to decentralize the curriculum and spending, and making education more responsive to local needs (Humanitarian Policy and Conflict Research, 2002). Moreover, the government's focus until 2004 will be on decentralizing and diversifying the curriculum; on reestablishing a national educational system based on principles of decentralization, scientific autonomy, and management; and on strengthening the capability and quality of government and community educational institutions to meet global challenges.

Australia

Five Australian economists (John Freebairn, Ross Garnaut, Michael Keating, Chris Richardson, and Peter Dawkins) wrote a plan to reduce unemployment and lower the unemployment rate down from 8 percent to around 5 to 5.5 percent (Dawkins, 1999). This plan helps to encourage continued strong growth and low instability of economic activity, and to improve labor market operations. First, reducing the growth of real wages in a way that lessens the effective marginal tax rate for low income families should make possible sufficient employment expansion that can reduce unemployment. For example, an empirical study of the Australian labor market summarized that, if the rate of growth of wages was reduced by two percent for one year, then this point could reduce the unemployment rate by one percent (Debelle & Vickery, 1998). Second, the plan is to reduce the effective marginal tax rates that are facing low income families by moving towards a negative income tax system. Third, are active labor-market programs, including integrating labor market assistance with welfare reform. These programs include:

1. *Job-creation program.* This program provides the funding for all wage and material costs for employing the target group.
2. *Wage-subsidy.* This program provides temporary subsidies towards the wage costs invited by employers from either the private or public sector who hire designated job seekers.
3. *Training-subsidy.* This program pays for part or all of the costs of placing a person in a formal training program.
4. *Placement services.* This program offers intensive job counseling to job-seekers and matching services with potential employers.

Finally, the last plan to reduce unemployment is education and training. These five economists have observed that, in the near future, the demand for high skilled workers will be growing strongly; in other words, the demand for low skilled worker will be weakening. In addition, the supply of high skilled workers also grows quickly, and the supply of low skilled workers also declines quickly. This observation is expected to expand the distribution of earnings.

In the short-run, getting low skilled workers into the workplace is a priority, but in the long-run, acquiring high skilled workers will be the best response to encourage strong growth. Moreover, overtime, low skilled workers will receive education and training to expand the pool of high skilled workers. However, this task is not going to be easy to complete. Thus, it is appropriate for the government to support individuals to engage in lifelong learning as an investment in their labor market performance, as far as that is possible.

East Asian Countries

Regarding adaptive technology, the East Asian model is one of the most useful for labor-intensive manufacturing. In industrialization, Japan, South Korea, Taiwan, and other East Asian Countries concentrate on the production of labor-intensive supplies. They believe that the industry can absorb the growing number of workers, help to reduce the unemployment rate, and ensure expanding exports (Nogami, 1999). The worker's skills can be improved and do not need to jump at once to the most advanced technologies. For these reasons, the workers can learn through experience and be less troublesome to social and economic systems.

Taiwan. After the Asian financial crisis occurred and because the unemployment rate in Taiwan is on the rise, the Taiwanese Government has considered reducing the number of foreign laborers in order to preserve job opportunities for local workers. Cutting down on the number of foreign workers in the country has been Taiwan's policy since August 2000. Wu Chun-Ming (Chief of the Work Permit Division of the Council of Labor Affairs in Taiwan) explains that the purpose of this policy is to give more job opportunities to Taiwanese when the unemployment rate is on the rise, and more restrictions on hiring foreign workers may force more traditional industries to move abroad for cheaper labor (http://taiwan.com.au). Furthermore, the number of foreign workers in any industry cannot be allowed to exceed thirty-percent of the total number of local workers. If there is an excess of foreign workers, the company not only has to give up the foreign workers that exceed the ratio, but the company also must cut the foreigners by an additional ten-percent (http://taiwan.com.au).

Japan. Japan is one of the countries that is at a major turning point in term of its employment policies. Kameyama (2001) divided Japanese employment policy into four distinct economic periods from World War II to the year 2000.

1. *Postwar Employment Policy (1945-1960).* Like every industrial nation, Japan's employment policy aimed to achieve full employment, but then the definition of full employment was unclear. During that time, the Japanese Government had four objective employment policies that were: reducing the need for underemployment which leads to an inadequate household income, reducing the possibility that unemployment people could be hidden as underemployment and invisible, reducing the scope for employer practices that encouraged underemployment due to self-employment and family work, and absorbing underemployed people as the economy developed.
2. *The Period of Rapid Economic Growth (1960-1973).* Full-scale economic growth in Japan began in the 1960s when the government developed the National Income Doubling Plan (the first plan). The goal of the employment plan in this period was to improve living standards and work toward full employment. The plan identified five core needs that were: improving social capital, providing guidance to develop industrial structure, promoting trade and international cooperation, improving worker skill levels in term of science and technology, and putting an end to the "dual industry" economic structure (the labor force was divided into two groups: those who worked in large-size enterprises and those who worked in small or medium-size ventures), and enhancing social stability.

3. *The First Oil Crisis and the Period of Low Growth (1973-1985).* The rapid escalation of unemployment and underemployment in this oil price shock period forced the government to reassess the Second Employment Measures Basic Plan after only two years. In December 1975, the Ministry of Labor's Employment Policy Research Institute advised an employment policy that focused on full employment among slow economic growth. Then, the third Employment Measures Basic Plan was developed in June 1976, and this plan was designed to promote changes in the structure of both the labor supply and the country's industries. A full employment insurance plan was also implemented in this period to provide income support, such as vocational training and employment subsidies.
4. *The Current Recession (1992-2000).* Japan's "Bubble Economy" collapsed in 1990, because of too many bad debts by financial institutions. In 2000, Japan is still struggling to escape from the recession, and the employment and underemployment situations are more serious than ever. At the end of this period, the Ministry of Labor announced the latest policy in January 2000, and it includes three categories. The first is to support labor shifts among companies and industries brought about by changes in the industrial structure. The second is to provide support for new business development and job creation involving severe employment conditions. The third is to support the upgrading of human resources such as promoting vocational training, training in private companies, and promoting individual vocational skills development.

The United States

Since at least the middle of 1960, the average unemployment rate in the United States has been generally rising. Ottosen and Thompson (1996) stated that a high unemployment rate is one of the significant problems in the United States today. However, the United States is unable to drop it much below 6 percent for any length of time before inflation begins to accelerate (Ottosen & Thompson, 1996).

According to Bawden and Skidmore (1989), the four major objectives of employment policy include decreasing unemployment or providing more job opportunities (job-creation), improving productivity and wages, reducing poverty, and making the labor market fairer for workers and more economically efficient. Other possible solutions to the higher unemployment problems include a greater redistribution of wealth through the tax system of the United States government and better education programs to fill the gap between the skills of the workforce and the skills demanded by the labor market (Rifkin, 1995).

The most difficult task for this employment policy is probably the one between employment and wages, because the government could create more jobs if Americans were willing to work and accept lower wages. However, if the government could push the wage level up, it would create more unemployment. Thus, this situation opens itself to foreign worker competition, and gives less opportunity to American workers.

However, in the long-run, the inflation dilemma is one of the problems that must be solved first, but it may require major reform in this industrial relations system. Bawden and Skidmore (1989) suggest another way that can reduce unemployment without worrying about inflation: improving the efficiency of matching workers and jobs.

In addition, people also want to get higher real pay, better working conditions, and more job security, thus the policy should provide more investment in human resources through education and on-the-job training.

Implications of Other Countries' Strategies for Understanding Thailand's Unemployment Situation

Economic System

If Thailand adopted the economic reforms above, great changes in the labor market would occur. There are three major solutions to the unemployment rate in Thailand. First, economic institutes or unions can help by increasing the international harmonization of macroeconomic policies in order to reduce and eliminate the obstacles to growth. The second is successful micro and macro-adjustment at the national level to the benefit of the global economy. The third is improving the basic labor standards wage and productivity. Other things that might facilitate the solution of the problem are: realizing the relation between wage and level of productivity; increasing the employment of local people rather than hiring foreign labor; encouraging private-sector investment and enterprise as the basis of economic growth; and providing job-creation programs. The economic policy needs to find out what difference programs would make in the way of useful goods and services for Thailand.

Educational System

The availability of skilled workers is the major key to the success of any sector of a country's economy. Today, one of the most important unemployment solutions is to reduce and fill the gap between the skills of the workforce and the skills demanded by the labor market.

First, for Thailand, in the long term, the educational system should provide more emphasis on education, especially the skill levels in term of sciences and technology, as an important factor in social and economic development to increase the number of workers with education beyond the primary level. For example, the government should begin to develop and grant scholarship and educational loan programs to the younger generation of poor families to allow them to continue their education at a higher level because the diffusion of elementary education can raise the quality of the people's skills, modernize their thought, and make it possible for them to participate successfully in modern economic activities. Furthermore, increased formal education also should help to solve social problems related to children and young female workers.

Second, in the short term, appropriate strategies to raise the skill levels of a massive work force should be provided by the government. Thus includes providing on-the-job training within both public and private organizations, developing multi-skills manpower programs, and promoting human resource development programs. Human resource development strategies need to complement the needs of workers and labor market's demands. This should include training and educational systems, evaluating training programs, and developing programs following the needs of the technological sector.

Promoting vocational education is another major solution to unemployment, because vocational education can merge the worker's skills and demands of the work force. Matching of workers and jobs also reduces unemployment. Thus, the job-skills mismatch problem should be treated as a priority in Thailand and developing countries that are dealing with unemployment and underemployment problems, because mismatch

between the skills and jobs of workers can have a retarding effect on the employment situation.

Government Arrangement

The first task for Thai's government should be concentrating on encouraging the economy to strong growth directed at domestic supply and demand, which could then be used to tackle unemployment. Other actions the government could use to reduce the unemployment problem in Thailand would be developing a decentralized curriculum and making education more responsive to local needs, like the Indonesian strategy. Because the local government can address problems in those areas accurately, they have a better chance of getting results that are also greater. Both labor welfare and unemployment compensation should be government missions regarding the unemployment problem. Because Social Security in Thailand is still at an early stage of development, only government officials and employees of state enterprises are protected. Thus, most of those who cannot find a job in the formal sector still have to work in the informal sector (e.g., black market) because the government cannot protect and support them. Moreover, people in Thailand and most developing countries are poor and cannot afford to remain openly unemployed. Therefore, a 3 % official unemployment rate in Thailand may be worse than 3% unemployment rate in the United States.

Keating (1993) explains that the Social Security System clearly has a major role to play in providing a safety net for those unemployed. However, the level and form of benefits need to be monitored. If benefits are large and easy to obtain, they reduce incentives for individuals to acquire skills and to search for employment. This line of

reasoning lies behind policy changes to tighten the conditions of eligibility for unemployment benefits and to use case management for the long term unemployed.

It is clear that the government needs to work on many fronts over a long time to develop a policy to facilitate support for new business development and job creation and to expand opportunities for women to enter into the labor market. Nevertheless, to create more jobs for local women or new entrance workers, the first thing the Thai government should be concerned itself with, is to reduce the number of foreign workers, in order to preserve job opportunities for local workers. There is an estimated one million unauthorized or illegal foreign workers in Thailand who take jobs from the local workers, facilitate organized crime, and lead to the spread of communicable diseases.

With regard to the underemployment problems in Thailand, one short-term solution for the government is to organize the informal sectors into industry classifications such as distribution, catering, services, and so on, in other words to formalize the informal sectors. Then, by providing workers with a minimum level of on-the-job training, there is every possibility that a positive cycle of employment and improved worker skill levels would begin. The formalization of the informal sectors would be costly and require a great deal of effort, however, since developing countries are already at a loss as to how to improve the underemployment situation, this could be one positive solution to the problem.

However, the rearrangement of policy instruments and policy objectives will require reform of taxation, in order to provide a per-head labor subsidy, without cost in terms of the worker paying extra tax.

Recommendations for Changes the Thailand Labor Force Survey

For several reasons previously discussed, the official Thai unemployment rate is an underestimate compared to developed countries. Thus, the researcher recommends the following changes in the labor force survey to make the unemployment rate more accurately reflect the unemployment and underemployment problems, or at least make them more comparable to other countries.

The concepts and definitions should be modified to be more accurate and comparable over time. Because the survey frequency is also one of the variables that would affect the accuracy of the data, the survey reports should be changed from quarterly to monthly.

The NSO, who presents the official data of Thailand, ought to provide training courses on labor statistics for users, especially for government agencies that will represent the country.

Moreover, because Thailand has so many groups and agencies that report the data for the population survey, the official data should be come from the most appropriate sources to avoid incorrect data. So, the official data can be compared to that from other countries. Thus, the researcher has to study the sources of official data that have the least possibility of outcome bias or the reduction of the sampling error of the result from the survey process.

Although, all the countries seem to underestimate unemployment problem, by not counting workers who are not currently look for a job, and by counting as unemployed workers who are unpaid with job, but not at work. Thailand seems to underestimate more than Taiwan and the United States. For example, the official figure of Thailand does not

count "Seasonally Inactive Labor Force" as unemployed and counts unpaid family members as employed. Furthermore, persons who work at least 1 hour per week are counted as employed. To be comparable to, at least, developed countries, the preceding practices should be changed.

Recommendations for Future Research

To overcome the limitations of this study and improve the approach to the adjusted data for purposes of future research, the following recommendations apply.

First, future research would be more useful and powerful, if the data can be compared to more countries and over several years. In the next study, a researcher could increase the subject countries to include more that are alike and more that are different from Thailand because this will increase the accuracy of the results regarding the approximation of the number of people in each sub-category in the results. In addition, having more similar, specific sub-categories in the labor force survey tables would help to understand more about the differences between countries.

Second, the approach to making adjustments could be replicated to cover most of the possible outcomes, and then the research would increase the power and accuracy. Third, interviewing specialists in this area would make this study more useful and accurate. For this study, sources for the data were gathered only from the government websites of the four countries, with some support from the Thailand National Statistics Office representatives.

Fourth, estimates of the percentage of the labor force that is underemployed should be made in future research in order to more fully understand the problem, especially in developing countries.

Conclusion

Using results of this study, Thailand does not seem to have a serious problem about the unemployment compared to Indonesia, Taiwan, and the United State. However, the researcher believes that there are three major issues that lead to an underestimate of problems caused by unemployment in Thailand. The first issue is the survey sampling technique. In the Thai survey, there is no guarantee that the sample will be accurately representative of the population. Differences between the sample and the population are referred to as bias.

The second issue is the difference between the availability of unemployment compensation in developing countries such as Thailand and in highly developed countries that have a centralized wage bargaining process, strict employment protections, and taxation of labor income to fund unemployment compensation. Developing countries such as Thailand and Indonesia, are still at an early stage of development of unemployment compensation and labor welfare. Thus, most of those who cannot find a job in the formal sector in these countries still have to work in the informal sectors because their governments cannot protect and support them. Moreover, people in these developing countries are poor and cannot afford to remain unemployed.

The third issue, underemployment, is the major key to why some developing countries have lower unemployment rates compared to highly developed countries. Underemployment includes both working less hours and working long hours with very low incomes. Imai (2000) mentions that in February 2000, the number of unpaid family workers who count as employed in Thailand was around 5.89 million or 19.4 percent of the employed population; they should be considered as underemployed instead of

employed. Although all four countries count such unpaid family workers as employed, it seems likely that the percentage of the employed population who are such unpaid workers is much lower in the United States, Taiwan, and other developed countries. This underemployment problem in developing countries tends to be more severe in rural than the urban areas, and particularly so in agriculture.

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APPENDIX

Labor Force Survey in Thailand in 1983- 2002

	Unemployment Rate				Persons in Labor Force				Current Labor Force				Seasonally Inactive Labor Force			
1983	6.9			2.4	24,247.90			25,848.90	22,320.50			25,797.00	1,927.30			51.8
1984	6.5	5.9		2.3	25,467.90	26,472.60		26,743.60	23,985.60	24,654.70		26,609.80	1,482.20	1,817.70		133.5
1985	6.3	5		3.7	26,160.30	27,217.50		27,115.10	24,257.50	19,551.50		26,847.10	1,902.80	1,627.10		267.7
1986	7.8	4.6		3.5	26,970.10	27,770.20		27,835.80	25,571.90	26,765.10		27,659.50	1,398.30	1,005.00		176.2
1987	6	3.5		5.8	27,928.40	28,715.80		29,552.20	26,871.90	27,674.10		29,360.80	1,056.40	1,041.70		191.3
1988	5.7	N/A		3.1	28,715.80	N/A		30,512.20	27,621.50	N/A		30,393.20	1,094.30	N/A		118.9
1989	5.9	4.5		1.4	29,469.60	30,172.80		31,209.50	28,042.50	28,628.70		31,048.80	1,427.10	1,544.00		160.6
1990	N/A	N/A		2.2	N/A	N/A		31,749.60	N/A	N/A		31,553.70	N/A	N/A		195.9
1991	3.6	4.3		2.7	30,301.50	30,805.40		32,143.00	28,378.50	29,463.40		32,007.70	1,922.90	1,341.90		135.2
1992	4.4	4.9		1.4	31,459.10	31,371.20		32,906.40	30,573.10	29,602.00		32,841.10	885.9	1,769.10		65.2
1993	3.8	N/A		1.5	31,636.10	N/A		32,845.40	30,400.30	N/A		32,647.10	1,235.80	N/A		198.3
1994	4	3.5		1.3	31,049.90	31,974.70		32,582.30	29,477.90	30,068.60		32,517.90	1,571.90	1,906.10		64.4
1995	2.3	N/A		1.1	31,347.90	N/A		33,001.80	29,778.70	N/A		32,950.10	1,569.20	N/A		51.6
1996	2	2		1.1	31,898.40	32,504.10		32,750.00	30,740.50	31,035.00		32,586.30	1,157.80	1,469.00		163.7
1997	2.2	N/A		0.9	32,000.20	N/A		33,560.70	30,964.20	N/A		33,454.90	1,035.90	N/A		105.7
1998	4.1	5	3	4.5	32,143.10	32,169.80	33,353.00	32,716.20	30,892.20	30,167.80	33,276.00	32,437.90	1,250.80	2,002.00	77	278.2
1999	5.2	5.3	3	3.3	32,810.20	32,970.80	33,210.20	32,652.10	31,740.30	34,590.80	33,072.90	32,468.20	1,069.80	1,380.00	137.20	183.9
2000	4.3	4.1	2	3.7	32,994.30	33,266.00	33,973.00	33,342.40	31,838.50	31,807.20	33,813.70	33,144.60	1,155.80	1,458.80	159.30	197.8
2001	4.8	3.5	3	2.4	33,211.90	33,494.40	34,487.70	34,059.90	32,027.10	32,576.60	34,380.00	33,929.00	1,184.80	917.80	107.70	130.90
2002	3.2	2.9			33,495.00	33,988.00			32,851.40	33,328.10			634.7	659.9		

Note. Report of the Labor Force Survey : National Statistical Office.

	Current Labor Force							
	Employed					Unemployed		
1983	20,640.10		25,183.40		1983	1,680.20	613.5	
1984	22,320.30	23,091.20		25,998.60	1984	1,665.00	1,563.40	611
1985	22,602.40	24,228.60		25,852.50	1985	1,654.70	1,361.50	994.6
1986	23,480.80	25,488.40		26,690.70	1986	2,090.80	1,276.70	968.7
1987	25,188.50	25,694.20		27,639.10	1987	1,683.40	1,979.80	1,721.60
1988	25,989.00	N/A		29,464.00	1988	1,632.40	N/A	929.2
1989	26,297.40	27,272.60		30,612.60	1989	1,745.10	1,356.10	433.1
1990	N/A	N/A		30,843.70	1990	N/A	N/A	710
1991	27,302.10	28,135.30		31,138.40	1991	1,076.40	1,328.00	869.3
1992	29,203.80	28,066.10		32,384.70	1992	1,369.30	1,535.90	456.3
1993	29,207.10	N/A		32,152.60	1993	1,193.20	N/A	494.4
1994	28,233.50	28,960.60		32,095.00	1994	1,244.40	1,108.00	422.8
1995	29,055.10	N/A		32,575.00	1995	723.5	N/A	375.1
1996	30,099.20	30,375.40		32,232.30	1996	641.3	659.6	353.9
1997	30,266.30	N/A		33,162.30	1997	697.8	N/A	292.5
1998	29,412.90	28,554.90	32,138.00	30,974.80	1998	1,479.30	1,612.90	1,138.00	1,463.10
1999	30,024.50	29,832.30	32,087.10	31,397.80	1999	1,715.70	1,758.50	985.7	1,070.40
2000	30,420.50	30,444.50	33,001.00	31,920.60	2000	1,418.00	1,362.60	812.6	1,223.90
2001	30,444.70	31,388.20	33,483.70	33,100.40	2001	1,582.40	1,188.40	896.3	828.7
2002	31,767.90	32,352.30			2002	1,083.40	975.8		