

# TDRI

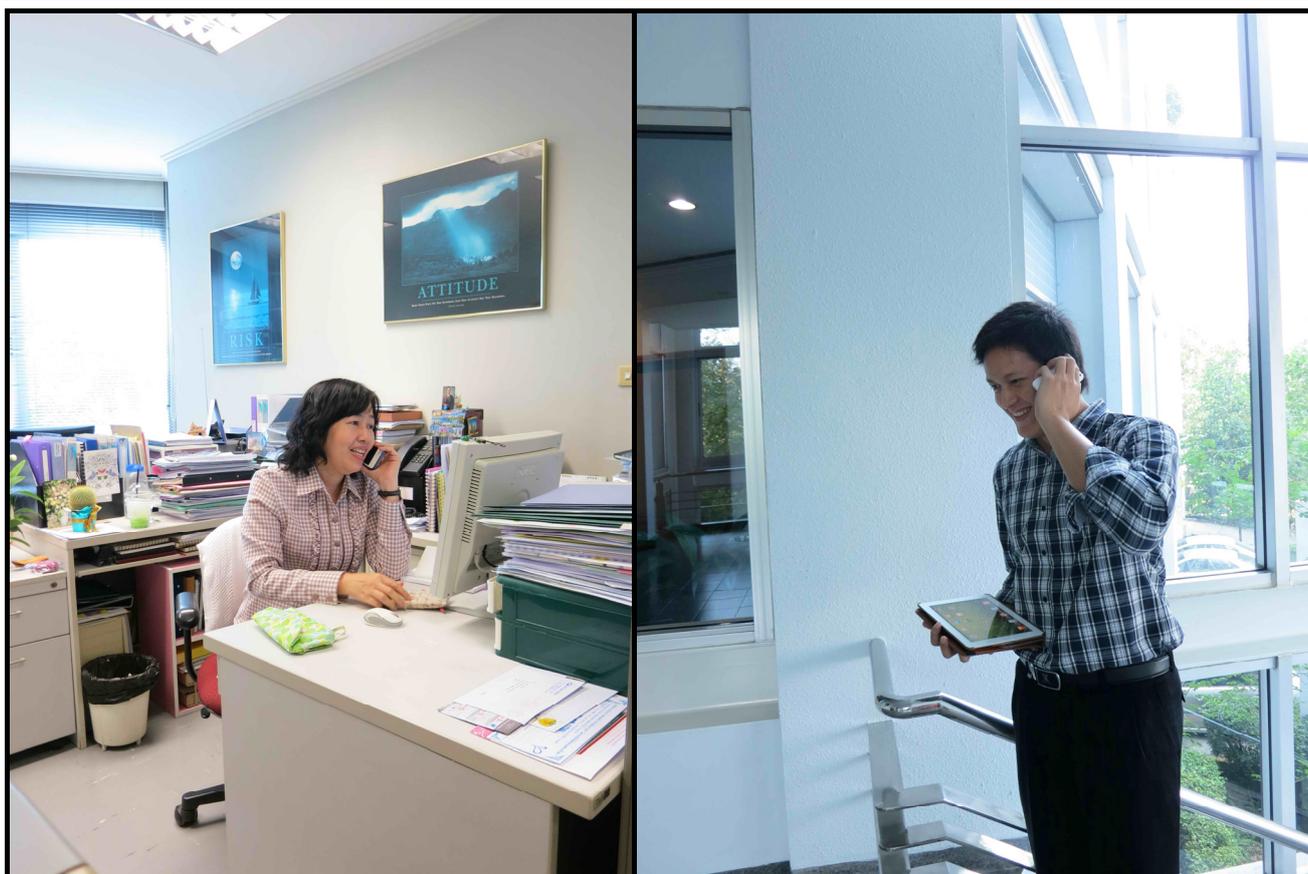
Quarterly  
Review

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*It is now likely that Thai smartphone users will finally have a chance to use 3G services on their mobile devices next year (2013). However, the important question is whether the auctioning process entirely benefited the consumers or it was just a major windfall for the network operators. See related article on page 13.*

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# A Review of Unemployment Insurance in Thailand after Nine Years of Implementation

Worawan Chandoevrit\*

Thailand started to implement its unemployment insurance (UI) scheme in 2004. The scheme is aimed at mitigating unemployment shock and reducing worker vulnerability. Thailand's experience gained in implementing the scheme deserves to be shared among other low or middle-income countries with similar labor market features, in particular countries with a large informal economy.

This report uses data from the Labour Force Survey conducted by the National Statistical Office (NSO) and secondary data from the Social Security Office (SSO). The report also includes findings from interviews with stakeholders, such as the SSO; Department of Employment (DOE); Department of Skill Development (DSD); Department of Labour Protection and Welfare (DLPW); provincial offices of SSO, DOE and DSD in the provinces of Patum Thani, Chon Buri, Khon Kaen and Bangkok; National Congress of Thai Labour (NCTL); Employers' Confederation of Thailand (ECOT); and the beneficiaries of the UI from the four above-mentioned provinces.

The report contains four sections. The first section explains the International Labour Organization (ILO) conventions and considerations for introducing the scheme in Thailand. The next two sections explain the scheme's legal framework, institutional structure and

performance. The last section considers the challenges and lessons learned that could be shared with other countries.

## I. ILO CONVENTIONS AND CONSIDERATIONS FOR INTRODUCING UNEMPLOYMENT INSURANCE IN THAILAND

The Social Security Act 1990<sup>1</sup> regulates the implementation of the social security system for private employees in Thailand. The Act requires the Social Security Fund (SSF) to provide seven types of benefit grouped into three categories: A. sickness, maternity, invalidity and survivor benefits; B. old-age benefit and child allowance; and C. UI benefit. Benefits in group "A" have been provided since 1990. The old-age benefit and child allowance have been made available since December 1998.<sup>2</sup> The UI benefit was the last type of benefit to be provided by SSO in 2004. The Workmen's Compensation Act 1991 gives authority to SSO to provide employment injury benefit (Table 1). The benefits provided as indicated in that table show that Thailand complies with most provisions of the ILO Social Security (Minimum Standards) Convention, 1952 (No. 102).

**Table 1 Benefits Provided by the Social Security Office**

Type of benefit	In-kind or cash benefits	Source of funds
Sickness	Medical care, cash benefit as percentage of insured earning	SSF
Maternity	Lump-sum payment, cash benefit for maternity leave	SSF
Invalidity	Medical care, cash benefit as percentage of insured earning	SSF
Survivor	Lump-sum payment, cash assistance	SSF
Child allowance	Lump-sum payment	SSF
Old-age	Cash benefit as percentage of insured earning	SSF
Unemployment	Cash benefit as percentage of insured earning	SSF
Employment injury	Medical care, cash compensation for income loss	WCF

Note: The Social Security Fund (SSF) is funded by tripartite contributions, but the Workmen's Compensation Fund (WCF) is funded by employer's contributions only.

Source: Author.

\* Dr. Worawan, Research Director for the Social Security, Human Resources and Social Development Program, TDRI, would like to thank the representatives of SSO, DOE, DSD, DLPW, NCTL, ECOT and UI beneficiaries who sacrificed their valuable time to give interviews, and thank ILO for its financial support.

Unlike the old-age benefit and child allowance, the Social Security Act does not state the enforcement period for the UI program. Why therefore did Thailand start the UI program in 2004?

There might be three factors that forced its hand. First, the financial crisis in 1997 caused high unemployment rates in 1998 and 1999 (about 5% in quarter 1, and 3% in quarter 3). In those years, no provision existed to secure income for the unemployed. When unemployed, Thai workers could return to rural areas to seek informal support from their families and friends. Many researchers and policy-makers recommended implementation of an UI program to support the unemployed. At that time, ILO provided Thailand with technical support to design and implement its UI program, which led to the conduct of a feasibility study of the program in 1998. ILO recommended that the UI program be implemented not earlier than the year 2001. Another significant factor was the national election at the end of 2001. The new government, led by the Thai Rak Thai Party, sold the idea of “new thinking, new action” that pushed cabinet members to demonstrate performance. The Minister of Labour wanted to show that the UI program could be implemented as promised in the Party’s political campaign.

It could be said that the strongest factor for implementing the UI program was probably the political agenda. Without such a political push, employers would not have agreed to UI implementation.<sup>3</sup> The opinion of employers was that the program would increase the cost of production, reduce competitiveness, and duplicate aspects of the severance pay provided under the Labour Protection Act.

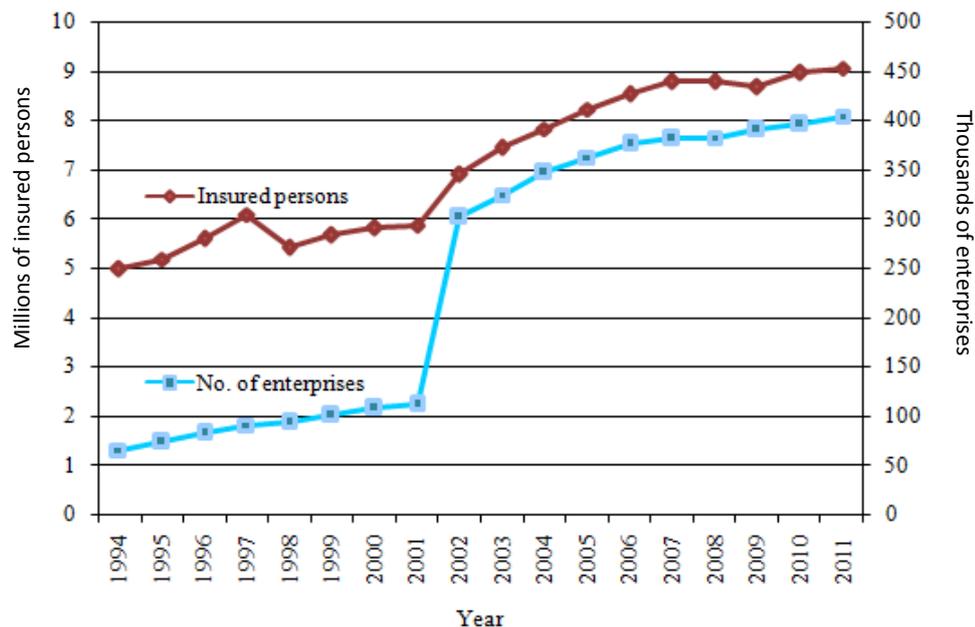
The design and implementation of the UI program in Thailand complies with the Convention concerning Employment Promotion and Protection against Unemployment (ILO Convention No. 168), although Thailand has not yet ratified the Convention.<sup>4</sup> It should be noted that ILO Convention No. 168 is aimed at ensuring that social security systems provide those who are involuntarily unemployed with employment assistance and economic support. Moreover, Thailand’s UI system appears more generous than called for under the ILO convention by furnishing UI benefits to both the voluntarily and involuntarily unemployed. Implications of this particular feature of the UI scheme in Thailand will be discussed in the next section.

When the UI program started, the number of insured persons under the SSO was almost 8 million, representing about 22 percent of the total number of people employed (Figure 1). In 2010, the number of insured persons increased to 9 million, or about 23 percent of the total employed.

## II. UNEMPLOYMENT INSURANCE SCHEME LEGAL FRAMEWORK AND INSTITUTIONAL STRUCTURE

As previously mentioned, Thailand is characterized by large-scale informal employment. In the informal economy, where people have to work to survive, the concept of underemployment seems to be more relevant than unemployment. Therefore, unemployment could be considered as a not serious issue; as a result, the public in general knows very little about

**Figure 1 The Number of Insured Persons and Private Enterprises**



Note: The new enterprises registered in 2002 increased significantly because the expansion of SSO coverage to include small enterprises that employ only 1-10 persons.

Source: SSO.

unemployment mitigation measures, such as UI. The Social Security Act 1990 includes four articles related to UI and benefits as follows:

- Article 5, paragraph 8: “unemployed” means the termination of the job of an insured person due to the termination of the legal contract between an employer and employee;

- Article 78: employees who are insured persons are entitled to an unemployment benefit if they have paid contributions for the minimum period of 6 months within the 15 months before they became unemployed, and they must meet the following conditions:

- (1) They are capable of working, available to work when provided with appropriate job offers, or do not reject job training. They must register at a public employment office and report to the officer at the employment service at least once a month;
- (2) They must not be laid off because they were dishonest; intentionally committed a criminal offence against their employer; intentionally caused any damage to their employer; violated work rules, regulations or orders of their employer that caused serious damage; neglected their duty without justification for seven consecutive working days; behaved carelessly with the result that their employer suffered serious damage; or were imprisoned following final judgment of imprisonment arising from committory petty offences;
- (3) They must not receive old-age benefits under Part 7 of this Act;

- Article 79: the insured persons have the right to receive unemployment benefits on the eighth day after the termination of their last employment under the regulations and benefit rates determined in the ministerial regulation;

- Article 104, paragraph 3: collection of the contribution for the unemployment benefit will be determined by Royal Decree.

The maximum contribution rates for all seven types of benefits included under the SSO are contained in the annex of the Social Security Act. The maximum rate of contribution for the unemployment benefit is 5 percent of wages for each of employee, employer, and the government.<sup>5</sup>

The provision of the Social Security Act opens an option to offer unemployment benefits to the involuntarily unemployed, since article 5 does not specify reasons for termination of contract. The Act also sets forth the institutional structure of UI implementation, that is, government departments – SSO, DOE, DSD – have to cooperate in the implementation of the UI program. Moreover, the Act does not require the SSO to set up a separate fund for the UI program, which means that all types of benefits provided by SSO pool the resources into one fund.

In 2004, when the contribution for the unemployment benefit was collected, the contribution rate was set at 0.5 percent of wages for employee and employer each. The government contributes 0.25 percent of wages. The rates have never been changed; the contribution rates for all benefits are shown in Table 2.<sup>6</sup> The contribution rate from all parties is 8.75 percent of wages. Because the maximum insured wage is 15,000 baht (or about US\$484) per month, the maximum contribution for the employee and employer is 450 baht per month each, and for the government 412.5 baht per month.

The SSO determines the regulations for claiming the unemployment benefit as follows:

- The qualifying period is 6 months in the previous 15 months;
- The UI claimant must submit a claim form at the employment office 8 days after the termination of his or her job and within 30 days after the date he or she becomes unemployed. The amount of benefit will be reduced by the number of days delayed if the claim exceeds the 30-day period since job termination;
- The employment office will check with the SSO database about the cause of unemployment and whether the claim meets eligibility requirements;

**Table 2 Contribution Rate**

Percentage of wages	2010-2011	Jan-June 2012	July-Dec 2012
Employee	1.5+3+0.5	0.5+2+0.5	0.5+3+0.5
Employer	1.5+3+0.5	0.5+2+0.5	0.5+3+0.5
Government	1.5+1+0.25	1.5+1+0.25	1.5+1+0.25
Total	12.75	8.75	10.75

Note: Contribution rates for groups A + B + C. “A” covers sickness, maternity, invalidity and survivor benefits. “B” covers old-age benefit and child allowance. “C” covers the unemployment benefit.

Source: SSO.

- If the cause of unemployment is involuntary unemployment, the benefit rate is 50 percent of the average wage.<sup>7</sup> If unemployment is due to quitting without just cause, the benefit rate is 30 percent of the average wage;
- The UI beneficiary has to report regularly as required by the employment office;
- The maximum period for receiving the benefit within a calendar year is 90 days for voluntary unemployment and 180 days for involuntary unemployment;
- The unemployment benefit will be terminated if:
  - The beneficiary returns to being an insured person according to Article 33,<sup>8</sup> or
  - The beneficiary reaches the age of 55 years, or
  - The maximum qualifying benefit has been reached;
  - The beneficiary does not reject a job offered by the employment office;
  - The beneficiary does not reject skills-training recommended by the employment office;
- The UI beneficiary who becomes 55 years old can apply for the old-age benefit, according to the regulations for the old-age benefit.

Involuntarily unemployed persons not only receive the UI benefit but they also receive severance pay. The Labour Protection Act 1998 requires employers who lay off their employees to offer severance pay, the amount of which varies according to the duration of employment (Table 3). In cases when employers, acting on an order from labor inspectors, are not in a position to make the severance payment, employees can ask for financial assistance from the Labour Welfare Fund,<sup>9</sup> which is under the administration of DLPW. The amount of cash assistance depends on the duration of employment as follows:

- If duration of the employment was between 120 days and 3 years, the cash assistance

would be 30 days of the minimum daily wage;

- If duration of the employment was between 3 and 10 years, the cash assistance would be 60 days of the minimum daily wage;
- If duration of the employment was more than 10 years, the cash assistance would be 90 days of the minimum daily wage.

This section shows that Thailand tries to provide the minimum standard of social security and unemployment protection, as called for in ILO conventions Nos. 102 and 168. Laws and regulations to protect the unemployed have been enforced for many years. However, there is no evidence that such social protection measures have reduced the competitiveness of Thai industries.

### III. UNEMPLOYMENT INSURANCE PERFORMANCE

When the UI program started in 2004, the social security system covered employees in all firm sizes in the non-agricultural sector. At that time, the number of insured persons was below 8 million, and the national unemployment rate oscillated between 1.5 and 3 percent. The unemployment rates among insured persons tend to be lower than the national unemployment rates. In the period 2004-2008, the national unemployment rates were between 1.2 and 3 percent. The unemployment rates among the insured persons during the same period were lower than 1 percent (Figure 2).

Nevertheless, as a result of the global economic crisis that occurred toward the end of 2008, the number of UI beneficiaries increased significantly. Since that time, the unemployment rate among insured persons has remained similar to the national unemployment rate.

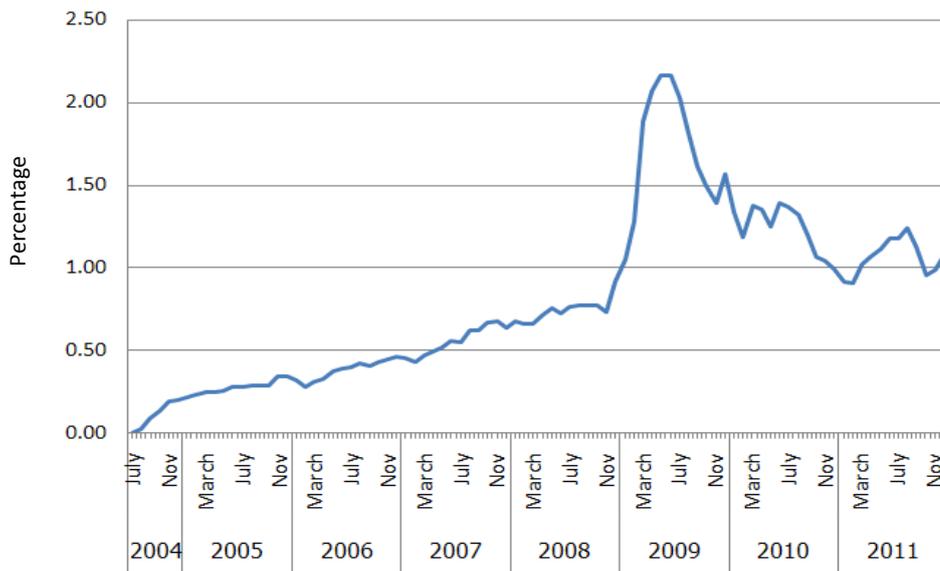
Figure 3 shows that the number of UI beneficiaries has been increasing gradually with the time trend. It could be that the number of claims is related to the learning curve. Since the UI program is the outcome of a new public policy for the Thai labor market, there might be some eligible unemployed persons who do not claim the benefit, which then expires. Workers increasingly are learning about this new welfare scheme as time passes.

**Table 3 Severance Pay**

Duration of employment	Amount of severance pay
120 days – 1 year	30 days of last wage
1 – 3 years	90 days of last wage
3 – 6 years	180 days of last wage
6 – 10 years	240 days of last wage
10 years or longer	300 days of last wage

Source: Labour Protection Act B.E. 2541.

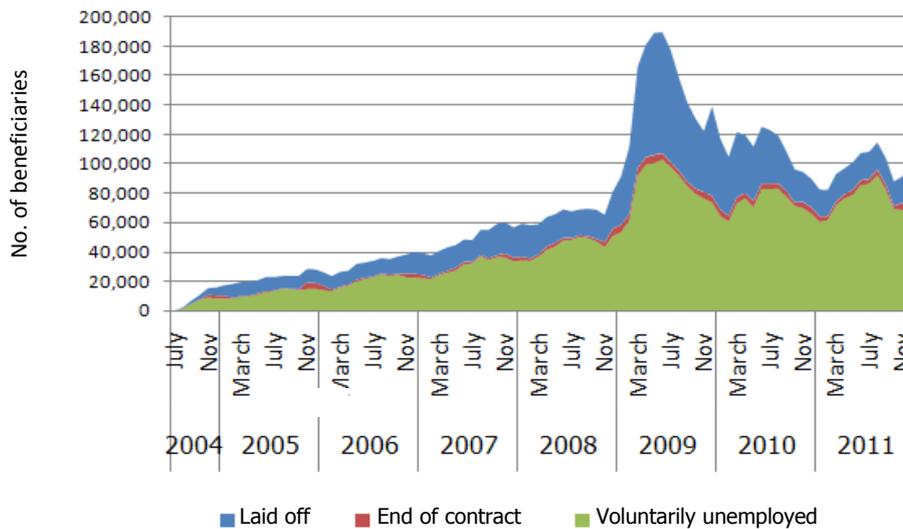
**Figure 2 Unemployment Rate among Insured Persons**



Note: The unemployment rate among insured persons is calculated as the number of UI beneficiaries as a percentage of the number of insured persons.

Source: Compiled from the SSO's number of insured persons and UI beneficiaries.

**Figure 3 The Number of Unemployment Insurance Beneficiaries**

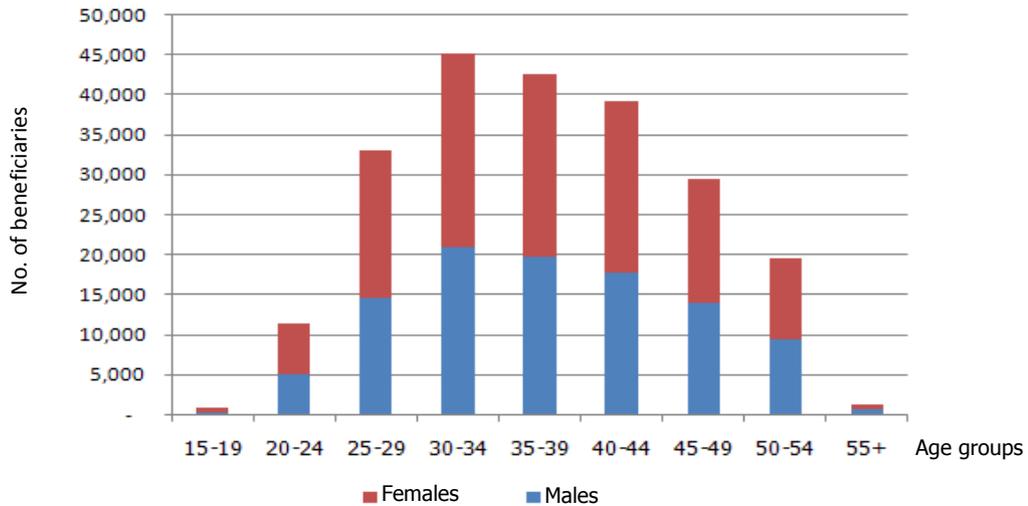


Source: SSO.

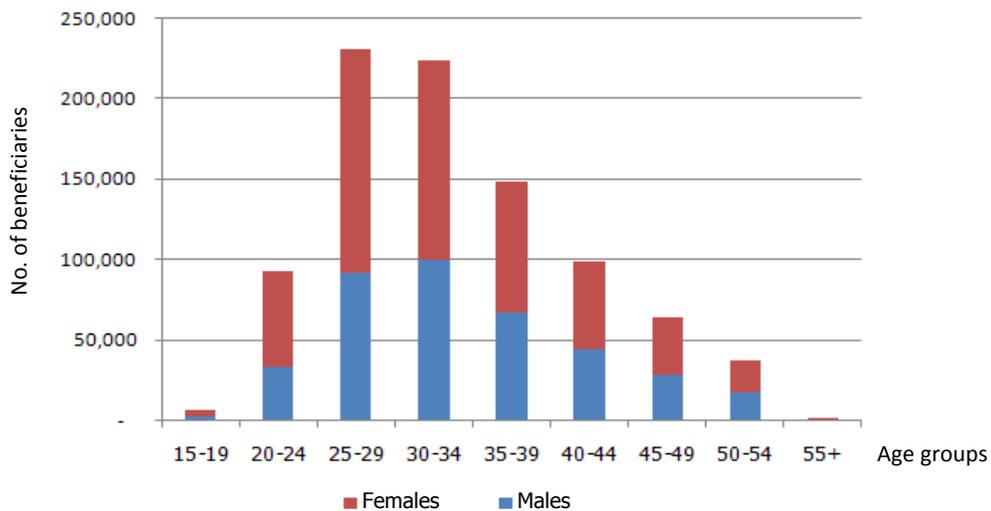
It should be noted that the number of persons voluntarily unemployed who claim the UI benefit is always greater than the number of involuntarily unemployed or those who have been laid off. Prior to 2010, involuntarily unemployed beneficiaries accounted for about 30-40 percent of the total beneficiaries; however, this proportion fell to about 20 percent in 2010. The proportion of voluntarily unemployed persons is always higher in January and February each year.

The proportion of female UI beneficiaries is higher than that of their male counterparts. The age structure of UI beneficiaries who are involuntarily and

voluntarily unemployed, however, differs. Figure 4 shows that about 50 percent of the involuntarily unemployed who received the UI benefit are in the age groups 35-39, 40-44, and 45-49 years. Figure 5 shows that about 50 percent of the voluntarily unemployed who received the UI benefit are in age groups 25-29, and 30-34. The age distributions of these UI beneficiaries are quite worrisome. The UI benefit encourages young workers to quit and change jobs; it may discourage them from improving their skills. This situation is very important for labor productivity in Thailand and the country's future competitiveness.

**Figure 4 Age and Gender Distribution of the Involuntarily Unemployed in 2011**

Source: SSO.

**Figure 5 Age and Gender Distribution of the Voluntarily Unemployed in 2011**

Source: SSO.

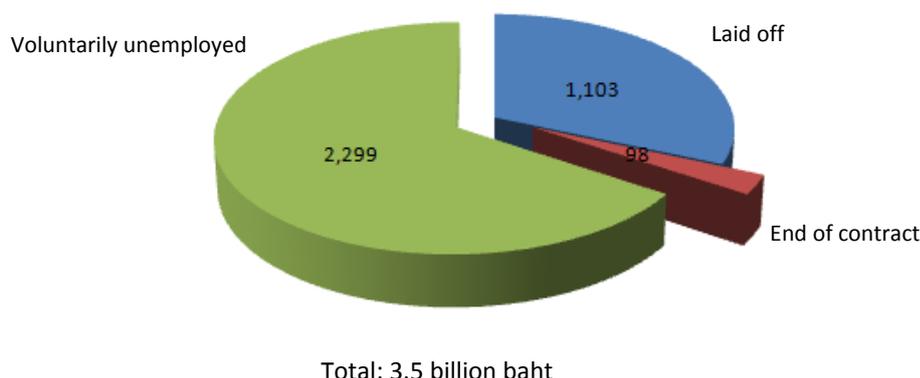
Since 2004, the expenditures of SSO on UI benefit amount to about 20 billion baht, 50 percent of which has been spent on involuntarily unemployed persons. In 2011 alone, about 2.3 billion baht, or 66 percent of UI expenditure, was paid to voluntarily unemployed persons (Figure 6). This amount could be saved and the contribution rate for the UI benefit could be reduced, or the level and duration of benefits or the package of services offered by the Employment Center could be improved. The existing system of paying the UI benefit to the voluntarily unemployed penalizes those who are employed.

Most UI beneficiaries are employees earning low wages, a situation that makes the average benefit per beneficiary low. In interviews with UI beneficiaries in

four provinces, we found that about 46 percent of them have a secondary or lower level of education. Those who have a secondary education earn an average wage of 10,000 baht per month. Between 2004 and 2011, the average benefit per beneficiary per month was less than 5,000 baht for the involuntarily unemployed and about 2,500 baht for the voluntarily unemployed (Figure 7).

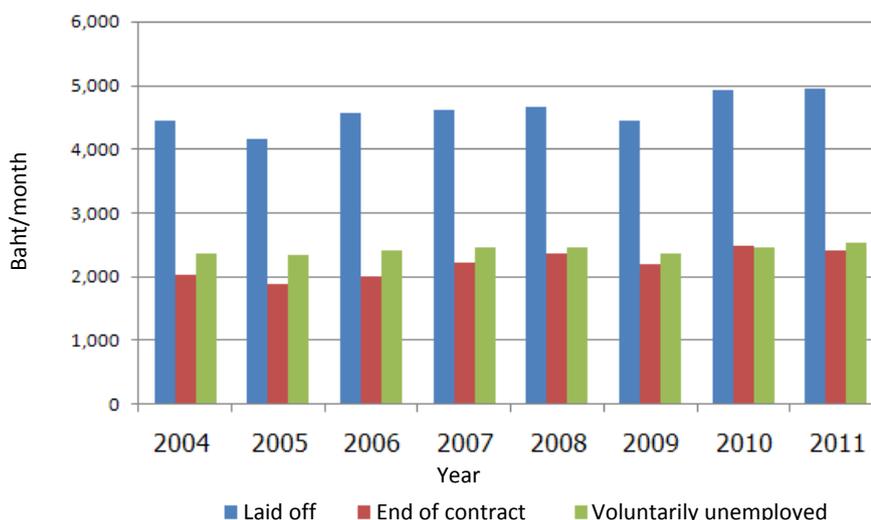
Even with a high number of claims from the voluntarily unemployed, it has been possible for the UI scheme to maintain a soundly positive financial balance. In 2011, the UI scheme accumulated 60 billion baht, or three times the UI expenditures between 2004 and 2011. This amount could support the scheme for more than 10 years if the structure of unemployment remains unchanged.

**Figure 6 Millions of Baht in Expenditures for the Unemployment Insurance Benefit in 2011**



Source: SSO.

**Figure 7 Average Unemployment Insurance Benefit per Beneficiary per Month**



Source: SSO.

With regard to the performance of the UI scheme, stakeholders have various views. We conducted interviews and found the following incidents and opinions.

**Unemployment Insurance Claimants at Provincial Employment Offices**

We found that about 20 percent of the UI claimants were repeat users. A high proportion (72%) of UI claimants knew very little about UI regulations and some (10%) did not know about UI regulations at all. About 35 percent of UI claimants were general workers. On average, UI claimants spent 124 baht to travel to the center for UI registration.

UI claimants do not want to attend skills development programs because they find it inconvenient to travel and bear the opportunity cost. Only 4 of 117 samples attended skills development programs. About

65 percent of the UI claimants found their last job through suggestions from friends or relatives. Only 2 percent got their last job through DOE.

About 80 percent of the UI claimants are quite satisfied with SSO services and about 65 percent are quite satisfied with the service of DOE. The source of most complaints among UI beneficiaries is the delay in receiving payment. In some cases, UI claimants have to visit both a provincial employment office and social security office. It is not convenient for UI claimants when both offices are located in different places. A one-stop service center could solve this problem.

**Labor Union Representative**

A labor union representative emphasized that many eligible insured employees do not know about the relevant regulations, particularly the registration period. As a result, they end up with no or smaller benefits.

More effective public relations work could help improve this situation.

To avoid costly lawsuits and the chance of the company losing its reputation, some employers ask their employees to sign a letter of resignation in exchange for severance pay. Since initiating a lawsuit requires resources and time for both employers and employees, employees will cooperate with their employers if they would not lose too much compared with what they would gain through a lawsuit. Therefore, some such employees will qualify for a smaller UI benefit because they become voluntarily unemployed.

There are gaps in efforts to improve public services. Job information available at the provincial office is sometimes not up to date. Skills training and development programs at provincial offices are not attractive. The programs and trainers sometimes are not new enough to match workers' demand.

### **Employers' Confederation Representative**

Employers do not agree with the arrangement to pay the UI benefit to voluntarily unemployed persons: it increases the burden on the Fund. Since the UI program has been implemented for almost a decade, there should be a review concerning duplication of severance pay and the UI benefit. There should be ways of improving public knowledge about social security and unemployment insurance.

### **Government Officials (SSO, DOE, DSD, DLPW)**

Provincial officers in the provinces where interviews were conducted indicated that the labor market situation in Thailand is now at a favorable juncture. There is excess demand for labor in many provinces. If someone wants to work, it is easy to find a job.

The figures show that high proportions of unemployed persons are voluntarily unemployed. There were 506,000 unemployed persons in 2011, about 87 percent of whom had quit their jobs without just cause. About 216,000 persons returned to employment, but about 108,000 persons did not search seriously for jobs.

The number of UI beneficiaries who participate in the skills development program is rather small. In fiscal years 2010 and 2011, there were only 128 and 3 UI beneficiaries, respectively, participating in skills development programs. The completion rate is 100 percent because the participants became involved voluntarily. Some UI beneficiaries do not want to participate in skills development programs because they do not want to change their occupation. DSD offers skills development courses and maintains a calendar showing when the courses are available. It is not possible to set up a new course or change the timing of a course just for a few UI claimants.

All officials disagreed with the arrangement of paying the UI benefit to voluntarily and seasonally unemployed persons since such persons are neither

searching for jobs nor available for work. They report that they are self-employed. In practice, the self-employed are allowed to receive UI benefits. Seasonally unemployed persons comprise those who used to work in agriculture-related factories, such as sugar mills and refineries, canned pineapple factories, and tobacco plants. Their skills are also in demand by other factories; however, those persons are not active in seeking a new job during their period of seasonal unemployment.

Employers and employees do not report the same reasons for termination of contract. Settling disputes causes some delay in processing the UI claim. In order to help claimants, UI officials agree to pay the benefit at the level of 30 percent of the claimant's former wage, retroactively adding the additional 20 percent if the dispute is solved in favor of the employee. Moreover, employers do not report the date of unemployment to the SSO, which delays the payment.

Most UI beneficiaries receive the benefit until exhaustion, except in Chon Buri where the cost of living is high and labor is in excess demand. Not many UI beneficiaries want to attend skills training or development programs. Transportation to the training center is not convenient. UI beneficiaries do not want to move to new provinces even there are jobs available.

Some UI beneficiaries abuse the system by returning to work and receiving benefits at the same time. They cooperate with new employers, usually a small enterprise, by not reporting the new employment. Both of them can then save having to make contributions to SSF.

There are public relations problems that result in employees not knowing about their entitlements and UI regulations. Some employees do not understand the difference between being laid off and quitting a job.

During the severe floods from September to December 2011, the government helped private enterprises by subsidizing wages (2,000 baht per employee) for three months if they agreed not to lay off their employees; 347 enterprises employing 210,150 employees participated in this program. Employees could receive 75 percent of their normal wages while the factories temporarily stop functioning. The issue is that employers were not quite certain whether they wanted to shut down their factories or not. Moreover, SSO extended the UI claim registration period from 30 days after job termination to 60 days after job termination. If registration was done after that period, the UI benefit would be deducted by the number of days registration was delayed. SSO also increased the number of staff at the registration centers.

The number of enterprises affected by flooding was 28,679; they employed a total of 993,944 workers. DLPW used some measures to prevent lay-offs of workers, such as helping employees in flooded areas to work in other enterprises not affected by floods. One such measure is called the Friends Help Friends Project; a total of 13,226 employees moved to 108 other enterprises.

## IV. CHALLENGES, LESSONS LEARNED AND SUGGESTIONS FOR IMPROVEMENT

### Definition of Unemployment and Eligibility Criteria

Thailand has adopted the ILO definition of unemployment, which is defined as the loss of earnings due to inability to find a suitable job, in the case of a person who is capable of working, available for work, and actively searching for a job. However, Thailand has a large informal economy, which results in a low official unemployment rate. Such circumstances make the definition of unemployment more complicated because some unemployed persons may pursue income-generating activities in the informal economy. For example, seasonal workers may return to self-employed farming activities when fired from their jobs in manufacturing, tourism or other seasonal economic activities. In practice, unemployed persons are entitled to receive UI benefits if they report monthly to their employment service center that they are actively searching for a job. If they fail to report that they actively seeking a job, then their UI benefits should be suspended. If such a rule is strictly enforced, then it makes clear that seasonal workers, workers who supplement UI benefits by income from informal activities, will be covered by the UI protection under similar rules to the ones applied to any other qualifying employee.

The coverage of the voluntarily unemployed with UI benefits is also questionable. In Thailand, it appears that the persons voluntarily leaving their employment are young persons. This may have an adverse effect on the competitiveness of Thailand's labor market. If this kind of payment continues, it should be given only in exchange for participation in a training program. A voluntarily unemployed person would have to take a special training course in order to receive the UI benefit.

### A Weak Measure to Assist Workers to Return to Employment

In 2009 and 2010, about 65 percent and 27 percent, respectively, of UI beneficiaries got a new job without help from the employment office. Many of the UI claimants interviewed also got their most recent job through suggestion from relatives or friends. Jobs are available and workers are in high demand, but jobs are not listed at DOE and low UI beneficiaries got job placement. A labor representative recommended that the jobs database be brought up to date. Payment of benefits should be ended if UI beneficiaries reject job offers.

### Response Provided in a Time of Crisis

UI regulations should be flexible to changes, particularly in times of crisis. The flooding in 2011 or other such natural disasters are uncontrollable events

and should be covered by the UI scheme. The UI balance sheet is strong enough to cover these kinds of risk.

### Duplication of Unemployment Compensation

Unemployed persons receive both severance pay and the UI benefit. Receiving both benefits may create a disincentive to return quickly to work. This might also reduce the incentive to work. The UI benefit should provide support after the period of severance pay has ended, such as if severance pay is three months of wages and the unemployed person cannot find a job after three months, he or she should receive the UI benefit for another six months. After six months of being unemployed, an unemployed person should be instructed to enroll in a skills development program.

### Revision of the Eligibility Requirement

The benefit should not be paid to voluntarily unemployed persons, except for those who may have been forced to resign; the rule should be as previously mentioned. This is because employers usually require employees to resign in exchange for receiving severance pay. The current system pays the UI benefit to unemployed persons who do not search for a job, but does not pay the benefit to persons temporarily unemployed due to floods or natural disasters.

The short period required for eligibility may encourage a worker to quit without just causes, and discourage skills improvement.

### Separate Administration of the Unemployment Insurance Fund

SSF should separate the UI and old-age benefits from other types of benefit. Currently, seven types of benefit, long-term and short-term benefits, pool risks into a single fund. The UI program should have a separate fund, which should support an unemployed person while he or she searches seriously for a job and those who try to improve their skills in training provided by both the private and public sectors. Currently, under the terms of the Social Security Act, SSF is not allowed to spend on non-monetary benefits. Payment to the private sector for employment services and skills development programs is not allowed.

### Public Relations

Employees may know about their entitlement to the UI benefit, but do not know about the regulations that govern it. Some employees lose a proportion of the benefits due to them because of delayed registration. In some cases, employees and employers report different reasons for termination of contract. This situation can delay payment. Moreover, employers do not regularly report the starting date or ending date of employment.

Many Thai workers and new-entry workers do not know about the concept of social security or their entitlement under the system that exists in Thailand. About half of the inquiries made by telephone in some provinces relate to the UI benefit. Therefore, knowledge about social security should be provided continuously through all kinds of media. SSO should also discuss with the Ministry of Education about adding social security issues to the curriculum of schools.

### Monitoring and Evaluation

There has been no review of the UI implementation in Thailand. Monitoring and evaluation is needed to improve implementation. An eventual review of the performance of the UI scheme should include a discussion revisiting the following features:

- The definition of unemployment;
- The eligibility requirement and benefit rate;
- The contribution rate and financial sustainability;
- The monetary and non-monetary benefits;
- The coordination of the three departments concerned.

### ENDNOTES

- <sup>1</sup> Amended in 1994 and 1999.
- <sup>2</sup> Implementation had been postponed by the amendment of the Social Security Act in 1994. The Social Security Act stated that the old-age benefit and child allowance must be provided within six years following the enforcement of the Social Security Act 1990.
- <sup>3</sup> An employer representative said that the Minister of Labour announced to the public that employers agree to UI implementation after they had dinner with the minister. While having dinner, the minister actually mentioned nothing about UI implementation.
- <sup>4</sup> Only eight countries have ratified this convention: Albania, Belgium, Brazil, Finland, Norway, Romania, Sweden, and Switzerland.
- <sup>5</sup> The amendment of the Social Security Act in 1999 does not require the government to contribute at an equal rate as the employee and employer.
- <sup>6</sup> The government prefers to temporarily adjust the contribution rate for the old-age benefit since the

benefit would not be paid up until January 2014. The current balance of the old-age benefit looks comparatively better than other benefits.

- <sup>7</sup> The average daily wage is calculated using the highest wage in any 3-month period during the last 9 months of employment divided by 90. However, for those who have been employed for fewer than 9 months, the average daily wage is the wages in the last 3 months divided by 90.
- <sup>8</sup> There are three types of insured person: Article 33 is mandatory for those employed as an employee in non-agricultural enterprises; Article 39 is voluntary for those who used to be insured persons under Article 33; and Article 40 is voluntary for those self-employed or any individual who is not eligible to be an insured person under Articles 33 and 39.
- <sup>9</sup> The Labour Welfare Fund was established according to the Labour Protection Act 1998. Income of the Fund is a subsidy from the government; fines from those who are labor protection offenders; and contributions from employees and employers whose firms do not have a provident fund for their employees.

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# Note on Thailand's 3G Auction: Design, Spectrum Valuation, Reserve Price and Outcome

Pornthep Benyaapikul\*

## 1. INTRODUCTION

On October 16, 2012, the National Broadcasting and Telecommunications Commission (NBTC), Thailand's independent telecommunication services regulator, held a long-awaited auction for nine blocks of 5x2 megahertz (MHz) mobile spectrum within the International Mobile Telecommunications band 2.1 giga-hertz (GHz), or 3G spectrum. After a previously planned auction had been cancelled by the Administrative Court in 2010, the October auction became the country's first mobile spectrum auction. It was a highly anticipated event as Thailand had been lagging behind its neighbors in adopting 3G technology.

The whole auctioning process was also controversial. Many issues, such as caps on winning bandwidth, spectrum valuation and reserve price, were the subject of extensive discussion by the public and intense debate among academics. The outcome of the auction has been much criticized for being uncompetitive; even the allegation of collusion has been raised by some critics.

This paper is aimed at summarizing academic arguments and providing an economic perspective on these issues. It begins in section 2 with a brief review of the design of auctions. In section 3 spectrum valuation methodology is examined and how the reserve price was determined. The outcome of the auction is discussed in section 4, and section 5 concludes with details of reactions following the auction.

## 2. A BRIEF OVERVIEW OF AUCTION DESIGN

It is widely accepted among economists and regulators that auctions, with sufficient and fair competition, deliver a more efficient outcome in allocating scarce resources (e.g., mobile phone spectrum) than other allocation mechanisms, such as lotteries or "beauty contests" (Cramton 1997; Klemperer 2004;

Milgrom 2004) or any form of bilateral bargaining (Myerson and Satterthwaite 1983). Auctions also provide an objective, comprehensible and non-discriminatory process for resource allocation. In a well-designed auction, bidding competition ensures that resources are allocated to bidders who can utilize them most efficiently and at the same time have the highest willingness to pay.<sup>1</sup>

Efficient allocation was a clear auction objective of NBTC. There were 45x2 MHz paired spectrums in the 2.1 GHz band to be auctioned off. NBTC decided to break these down into nine identical, individual blocks of 5x2 MHz each. The number of licenses was not fixed in advance; bidders could form licenses, each up to the maximum of three blocks, or 15 MHz. This arrangement in principle enabled bidders to decide the bandwidth of their licenses based on their private valuations.<sup>2</sup> All blocks were allocated by a simultaneous ascending bid auction.

A cap on the amount of spectrum allocated to each bidder was originally imposed at four blocks, or 20 MHz, but NBTC later decided to lower the cap to three blocks, or 15 MHz. The move, according to NBTC, was to ensure a level playing field in post-auction competition among operators. Since there are three major incumbents in the mobile phone industry in Thailand, the 20-MHz cap meant that an auction could result in two operators winning 20 MHz each, leaving the remaining operator with a paltry 5 MHz license. NBTC argued that 5 MHz would not be viable commercially (NBTC 2012: 26) even though this would seem to have contradicted NBTC's original intention of breaking up the spectrum into nine small blocks of 5 MHz each in order to encourage the entry of small operators, as 5 MHz was considered feasible for a mobile company to operate (NBTC 2012: 13).

The decision to reduce the spectrum cap to three blocks, or 15 MHz, per bidder was criticized by many economists. Auctions work well when access to the market is competitive as when there are more bidders

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than spectrum licenses. It was straightforward to speculate that there would be no bidding competition in an auction where three strong bidders (incumbents) were competing for nine objects, each of whom could not win more than three of those objects. NBTC defended its position by pointing out that there would still be sufficient incentive for operators to bid more aggressively because there were physical differences between the different spectrum bands and the highest bidder could choose a band with the best properties. However, international experience suggested that spectrum differences are slight if significant at all. Examples include the Switzerland 3G auction in 2000 where four bidders were competing for four licenses and competition for better bands yielded only 2.5 percent more than the reserve price (Klemperer 2002a).

### 3. SPECTRUM VALUATIONS AND RESERVE PRICES

NBTC commissioned a research group from the Faculty of Economics, Chulalongkorn University (hereafter referred to as the “Chula researchers” or “researchers,” and the research paper will be referred to as the “Chula study (research)” or the “research paper”) to estimate spectrum valuations and determine a reserve price. In estimating spectrum valuation, the researchers conducted econometric analyses using cross-country data on 3G auction results. Observations were from 69 license auctions in 17 countries. The researchers regressed auction-winning prices (US dollars per MHz per capita) on various explanatory variables, such as real GDP, per capita GDP, total MHz under auction, population density, number and duration of license, ratio of telecommunications sector revenue to real GDP, ratio of high school graduates to total population, year dummy, and telecommunications boom dummy. The econometric model estimated 3G spectrum “valuations” at US\$ 0.64/MHz per capita, or roughly 6,440 million baht, for each spectrum block of 5x2 MHz.

From an econometrics point of view, cross-country regression is vulnerable to omitted variable bias when unobservable factors unique to each country and invariant over time, such as country size or institutional factors (country fixed effects), are not incorporated into the regression models. The problem could lead to serious consequences: estimation results becoming biased and inconsistent. The researchers acknowledged this and addressed the problem by applying the method of fixed effect panel data regression, which could mitigate the problem. However, one omitted variable, namely the level of competition in the auction (e.g., the ratio between bidders to auctioned objects) was not constant in any country or any auction over time. Rather, it varied from one auction to another and was not accounted for by fixed effect estimation. Since this variable is correlated to other included variables in the

model, for example “license offered” and “total MHz,” estimations with this variable omitted would yield biased and inconsistent results.<sup>3</sup> Unfortunately, direction and size of the bias are difficult to pin down.

In putting aside the issue of potentially biased estimation, it is important to note that this estimated value should not be interpreted as social valuation or social benefit of the spectrum because the data representing “spectrum value” in the estimation are operators’ winning bids from previous auctions in various countries. Countries in the data set have different economic structures and auction designs as well as levels of auction success (or auction competition) ranging from an extremely successful one to a fiasco in terms of revenue generated. Since the level of auction competition was not controlled for in the study, the estimated valuation of 6,440 million baht per spectrum slot should be carefully interpreted as the expected auction revenue was conditioned on an underlying economic structure. Loosely speaking, the estimated value already took into account many cross-country economic differences but left unaccounted the level of auction competition. Therefore, this should be the revenue that could be expected if the auction to be held by NBTC would be more or less as competitive as previous auctions in other countries. Higher revenue could also be expected if the auction would be more competitive than the cross-country average.

The researchers also proposed that NBTC set an “optimal” reserve price at 67 percent of their estimated spectrum valuation, or approximately 4,315 million baht per spectrum block. NBTC decided to follow this proposal by slightly adjusting the reserve price to 4,500 million baht per slot, which represented about 70 percent of the estimated valuation.

It is interesting to examine how the researchers came up with the number 0.67 as a discounting factor used to set a reserve price. Before proceeding to the methodology used by the Chula researchers, some aspects of the underlying economic rationale for reserve price-setting are worth mentioning. In principle, optimal reserve prices balance between two conflicting risks, and both reduce allocative efficiency.

The first inefficiency risk involves a scenario when reserve prices are set too low. The reserve price is a tool used to “protect” sellers against risks of uncompetitive auctions or collusion between bidders which arises from a failure in auction design. Not only could low reserve prices result in revenue that is significantly lower than market value, but they could also facilitate distorted auction outcomes as bidders would have a strong incentive to bid strategically or even collusively to reduce demand and generate large savings. The further are reserve prices from market value, the stronger are the incentives for strategic demand reduction behaviors. Therefore, where there is a risk of an auction being uncompetitive, there is a case for setting reserve prices that are closer to market prices (DotEcon 2012b).

The second inefficiency risk results from setting reserve prices that are too high. If competition in an auction is expected to be strong, the price discovery mechanism or bidding competition will ultimately deliver winning prices that reflect market value regardless of their starting level. In this circumstance, it is appropriate to set “low but non-trivial” reserve prices as they minimize the inefficiency risk when efficient demand is priced off by reserve prices that are set too high.

Although the Chula study acknowledged inefficiency risks associated with reserve prices, it took neither those risks nor the anticipated uncompetitive auction into consideration when proposing the reserve price. Instead, the suggested reserve price, i.e., 67 percent of the estimated auction revenue set in the Chula study, was arbitrary. The researchers obtained this figure by calculating the ratio between the reserve price and the winning price of each auction in the data set and then finding the sample mean of these ratios, which is 0.67. The researchers then proposed that 67 percent of the estimated auction revenue was the optimal reserve price for Thailand’s 3G spectrum.

It is difficult to justify why Thailand would use the averaged ratio of reserve and final prices from other countries with different auction designs and level of auction competition as a discount factor for calculating the optimal reserve price.

The only understandable explanation for this would be that the researchers hoped that by setting the reserve price at 67 percent of the estimated valuation, based on average international experiences, the final price would then rise back to the estimated valuation so that Thailand’s ratio between the reserve and final prices would be just the same as the international mean. Clearly, this proposal lacks solid economic justification, as there is no guarantee that Thailand’s 3G auction, with different design and competition intensity, would provide a reserve-to-final-price ratio similar to what happened elsewhere. In addition, the final price could not and should not be fixed in advance. The seller would want an auction to be as competitive as possible so that the object would be sold to the highest-valuation bidder offering the highest price. Therefore, relating the reserve price to the winning price before an auction was meaningless. A ratio between the reserve and final prices was the result of auction design and competition; it should never be an objective in determining the reserve price.

In setting the reserve price at 70 percent of the estimated revenue, NBTC argued that a low reserve price would encourage the entry of new operators and would make a post-auction market structure more competitive (NBTC 2012: 18). However, it became clear soon afterwards that no new operator participated in the auction. In the case of Thailand, it was not difficult to foresee that competition during the auction would be minimal, if there would be any at all. Only the three existing incumbents were considered as serious potential bidders, but they did not need to fight each

other in order to get their spectrum share, as NBTC’s winning spectrum caps limited each bidder to win no more than 15 MHz of spectrum from the total of 45 MHz bandwidth being auctioned.<sup>4</sup> A reserve price set closer to the estimated spectrum value would have been more appropriate, as an uncompetitive auction could not facilitate a price discovery mechanism.

In addition, the risk of choking off efficient demand and leaving some spectrum blocks unsold should be very low. This is because the spectrum valuation of 40.5 billion baht over the 15 years of license duration estimated by the Chula researchers is relatively small compared with the annual revenue-sharing concession fees of 48 billion baht that all three incumbents paid in 2011.<sup>5</sup>

#### 4. AUCTION OUTCOME

As expected by many academics and industry experts, only the “big three” incumbents, namely Advanced Info Service Public Company Limited (AIS), Total Access Communication Public Company Limited (DTAC) and True Corporation Public Company Limited (TRUE), participated in the auction without any new entrant being encouraged to do so. With only three bidders, the imposed spectrum caps implied that all bidders were guaranteed 3G spectrums if they agreed to pay the reserve price.

The auction ended after seven rounds and all nine spectrum blocks were sold. DTAC and TRUE showed no intention of competing; each of them secured three blocks, all at the reserve price. The remaining three blocks went to the market leader, AIS, which bid unnecessarily aggressively, so much so that the company even outbid itself, not once or twice but three times, in spectrum blocks for which the company was already winning. AIS might have wanted to win in order to choose frequency bands before the other operators could do so, but with DTAC and TRUE being uninterested, offering a price one step higher than these competing bidders, lower bids would have been enough. Instead, AIS inexplicably bid its three spectrum blocks at a price five steps higher than the reserve price and that offered by rival bidders.

In conclusion, the total revenue raised by the auction was 41,625 million baht (US\$ 0.46/MHz/population) or 2.8 percent higher than the reserve price and 16,335 million baht or 28.2 percent less than the expected revenue suggested by the Chula researchers.<sup>6</sup>

As the highest bidder, AIS was the first to choose frequency bands and it chose the band next to its potential business partner and 2G-concession granter, TOT, which had already been allocated the right-most frequency location a few years previously. TRUE was the second to choose after winning the tiebreaker and it selected a frequency location next to AIS, leaving DTAC with the left-most frequency location. Interestingly, this unchosen frequency was once famously

described by the director of NBTC's National Telecom Commission as the "best location" for which bidders would compete to own.

The fact that all but one bidder offered to buy at the reserve price and the "best location" was the last one selected suggests that frequency differences were insignificant and there was virtually no competition in the auction.

## 5. POST-AUCTION REACTIONS

Public reactions to the auction outcome has been mixed. Despite suspicions that the auction outcome gave large windfall gains to the operators, some were thankful that the long-overdue 3G services would be rolled out soon, while many others questioned and criticized the uncompetitive outcome. To appease the critics, NBTC announced a plan to regulate 3G services and reduce prices at least 20 percent over the duration of the license.

There have also been several attempts by operators, NBTC and its consultants to claim through the media that uncompetitive auctions are common internationally, i.e., Thailand's 3G auction revenue was appropriate and is the highest among ASEAN countries (hereafter referred to as "the Claim"). The intention is to address criticism that the auction was uncompetitive and that spectrums were sold at a lower-than-expected price. The Claim pointed to winning price data (in US dollars/MHz/population) for some selected countries and years, such as Germany, Indonesia, Malaysia, Republic of Korea, and Singapore, and argued that Thailand's auction price was already high compared with these countries.

However, the Claim was based on a very small set of chosen samples (10 auctions), which produced an unrigorous analysis compared with an econometric analysis that NBTC commissioned, which covered more samples (69 auctions) and took all factors that the Claim used for its argument, such as license duration, per capita income and year of auction plus other additional factors ignored by the Claim, such as population density or share of telecom industry revenue to GDP. Therefore, the expected revenue estimated by the Chula researchers was academically rigorous, comprehensive and more reliable.

The claims of NBTC and the operators that Thailand's price was the highest among ASEAN countries are incorrect. For example, Singapore's 3G auction in 2010 yielded a total revenue of US\$ 0.61/MHz/population,<sup>7</sup> which is significantly higher than Thailand's US\$ 0.46/MHz/population. As for the case of Indonesia in 2006, the auction rules were different. All winners had to pay twice the amount of their bid in the first year and then pay the lowest winning bid every year over 10 years of the duration of the license. Therefore, bidders essentially offered the annual installment in the Indonesian 3G auction not the final

price. Judijanto (2006) calculated the final price of the Indonesian 3G auction at US\$ 0.40-0.50/MHz/population, which is fairly high considering that it is an island country and the duration of the license is 10 years.

In addition, spectrum prices for some countries mentioned in the Claim, such as the Republic of Korea in 2011, and Germany and Singapore both in 2010, are not from the first round of 2.1 GHz spectrum allocations. These countries had allocated a large chunk of 2.1 GHz spectrums in the past (Germany and Singapore using auctions and the Republic of Korea using a so-called beauty contest) so that most of the demand has been served. The objectives of the subsequent rounds of allocations were either to increase capacity and improve service quality or to increase competition by introducing new entrants. For example, the Republic of Korea prohibited two incumbent operators from participating in the auction in 2010 (KCC 2011; Lee et al. 2012). Lower reserve prices were set to encourage the entry of the new operator into an already mature market.<sup>8</sup>

## ENDNOTES

- <sup>1</sup> Efficiency is an appropriate objective for a spectrum auction over revenue because the importance to the economy of services and competition in downstream industry. Although they do not coincide, efficient allocation and revenue maximization are largely an aligned objective (DotEcon Ltd 2012a).
- <sup>2</sup> This is a different auction design from the auction previously planned in 2010, which later was halted by the court, where the number of licenses could be reduced according to the "n-1" rule in order to ensure that there would be more bidders than licenses.
- <sup>3</sup> The importance of auction competition in determining the winning bid is emphasized in many studies. For example, see Klemperer (2002b) and Madden et al. (2010), among others.
- <sup>4</sup> One of the major impediments to market access of the telecommunications industry is Foreign Dominance Notification, which widened the scope of restrictions on foreign connectedness well beyond just shareholding. It gives NBTC discretionary power to refuse and revoke licenses. The notification was criticized for its potentially anti-competitive effects. Confusing, vague and subjective criteria would discourage new operators and limit foreign investment and could be used as a tool to limit entry.
- <sup>5</sup> The risk of efficient demand being priced off by a high reserve price is significantly reduced as at least two incumbent operators signaled their prepared auction budgets (that should be biased downward) in media interviews (See [http://www.siamturakij.com/home/news/print\\_news.php?news\\_id=4133580](http://www.siamturakij.com/home/news/print_news.php?news_id=4133580) 28 and <http://www.thairath.co.th/content/eco/233466>).

- <sup>6</sup> The ratio between reserve price and final price is 97 percent, which is much higher than the international average of 67 percent used to calculate the reserve price.
- <sup>7</sup> Based on a 2010 population of 5.08 million persons. The Singapore spectrum was priced at S\$ 20 per 5 MHz block (IDA 2010).
- <sup>8</sup> The Singapore reservation price in the 2010 auction was 40 percent less than that in the auction in 2001; see (IDA 2010) and [http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies\\_and\\_Regulation\\_Level3/Results%20of%203G%20Spectrum%20Rights%20Auction/3G\\_Spectrum\\_Rights.pdf](http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies_and_Regulation_Level3/Results%20of%203G%20Spectrum%20Rights%20Auction/3G_Spectrum_Rights.pdf)

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## UPDATED TDRI PUBLICATIONS LIST

(As of November 2012)

### รายงานที่ตีพิมพ์

**WB94** “การใช้เครื่องมือทางเศรษฐศาสตร์เพื่อลดการปล่อยก๊าซเรือนกระจกสำหรับประเทศไทย,” *รายงานที่ตีพิมพ์* ฉบับที่ 94 (ฉบับพิเศษ), พฤษภาคม 2554 (เผยแพร่ครั้งแรกเดือนกันยายน 2555), 23 หน้า.

**Price: Baht45      Weight: 100 grams**

**WB93** “การวิเคราะห์กฎหมายด้วยวิธีทางเศรษฐศาสตร์: การคิดค่าเสียหายในคดีละเมิด,” *รายงานที่ตีพิมพ์* ฉบับที่ 93, เมษายน 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2555), 16 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB92** “พระราชบัญญัติว่าด้วยการแข่งขันทางการค้า พ.ศ. 2542: ข้อจำกัดและการปฏิรูป,” *รายงานที่ตีพิมพ์* ฉบับที่ 92 (ฉบับพิเศษ), มีนาคม 2554 (เผยแพร่ครั้งแรกเดือนกรกฎาคม 2555), 20 หน้า.

**Price: Baht45      Weight: 100 grams**

**WB91** “การศึกษาการจัดรูปแบบองค์กรคุ้มครองผู้บริโภคด้านกิจการวิทยุกระจายเสียง วิทยุโทรทัศน์ และกิจการโทรคมนาคม,” *รายงานที่ตีพิมพ์* ฉบับที่ 91, กุมภาพันธ์ 2554 (เผยแพร่ครั้งแรกเดือนมิถุนายน 2555), 16 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB90** “การศึกษามาตรการแทรกแซงตลาดมันสำปะหลังเพื่อป้องกันการทุจริต,” *รายงานที่ตีพิมพ์* ฉบับที่ 90, มกราคม 2554 (เผยแพร่ครั้งแรกเดือนพฤษภาคม 2555), 16 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB89** “การศึกษาผลกระทบของกฎหมาย และระเบียบที่มีผลต่อขีดความสามารถในการแข่งขันของ SME,” *รายงานที่ตีพิมพ์* ฉบับที่ 89, ธันวาคม 2553 (เผยแพร่ครั้งแรกเดือนเมษายน 2555), 16 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB88** “การศึกษาผลกระทบของมาตรา 190 แห่งรัฐธรรมนูญแห่งราชอาณาจักรไทย พ.ศ. 2550 ว่าด้วยการจัดทำหนังสือสัญญาระหว่างประเทศต่อการค้าและการลงทุนของประเทศไทย,” *รายงานที่ตีพิมพ์* ฉบับที่ 88, พฤศจิกายน 2553 (เผยแพร่ครั้งแรกเดือนพฤศจิกายน 2554), 18 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB87** “ทางเลือกของสวัสดิการสังคมสำหรับคนไทย,” *รายงานที่ตีพิมพ์* ฉบับที่ 87, ตุลาคม 2553 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 20 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB86** “ผลกระทบจากการจ้างแรงงานข้ามชาติของไทยภายใต้ยุคพิสูจน์สัญชาติ,” *รายงานที่ตีพิมพ์* ฉบับที่ 86, กันยายน 2553 (เผยแพร่ครั้งแรกเดือนเมษายน 2554), 16 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB85** “การศึกษาแนวทางการส่งเสริมการพัฒนาโครงการกลไกการพัฒนาที่สะอาด,” *รายงานที่ตีพิมพ์* ฉบับที่ 85, สิงหาคม 2553 (เผยแพร่ครั้งแรกเดือนมีนาคม 2554), 20 หน้า.

**Price: Baht35      Weight: 100 grams**

**WB84** “ต้นทุนการประกอบรถโดยสารประจำทาง VS รถบรรทุกในประเทศไทย,” *รายงานที่ตีพิมพ์* ฉบับที่ 84 (ฉบับพิเศษ), กรกฎาคม 2553 (เผยแพร่ครั้งแรกเดือนกุมภาพันธ์ 2554), 32 หน้า.

**Price: Baht55      Weight: 100 grams**

### Human Resources and Social Development (HRS)

**H117** *Managing International Labor Migration in ASEAN: A Case of Thailand*, by Srawooth Paitoonpong, and Yongyuth Chalamwong, February 2012 (Research finished in September 2011), 181 p.

**Price: Baht200      Weight: 400 grams**

### International Economic Relations (IER)

**I27** การวิเคราะห์กฎหมายด้วยวิธีทางเศรษฐศาสตร์: การคิดค่าเสียหายในคดีละเมิด (ภายใต้โครงการวิจัยเรื่อง การวิเคราะห์กฎหมายด้วยวิธีทางเศรษฐศาสตร์), โดย สมเกียรติ ตั้งกิจวานิชย์ และคณะ, ตุลาคม 2553 (เผยแพร่ครั้งแรกเดือนกุมภาพันธ์ 2555), หน้าไม่เรียงลำดับ.

**Price: Baht340      Weight: 700 grams**

### Macroeconomic Policy (MEP)

**M67** “ระบบสวัสดิการสังคมถ้วนหน้าภายในปี พ.ศ. 2560, โดย สมชัย จิตสุชน และคณะ, มีนาคม 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 142 หน้า.

**Price: Baht170      Weight: 400 grams**

### Natural Resources and Environment (NRE)

**N80** การใช้เครื่องมือทางเศรษฐศาสตร์เพื่อลดการปล่อยก๊าซเรือนกระจกสำหรับประเทศไทย, โดย อติศร์ อิศรางกูร ณ อยุธยา, กรรณิการ์ ธรรมพานิชวงศ์, ปริญญารัตน์ เลี้ยงเจริญ และ พิศสม มีถม, มกราคม 2555 (เผยแพร่ครั้งแรกเดือนพฤศจิกายน 2555), 123 หน้า.

**Price: Baht300 Weight: 400 grams**

**N79** โครงการศึกษาแนวทางการส่งเสริมการพัฒนาโครงการกลไกการพัฒนาที่สะอาด, โดย อติศร์ อิศรางกูร ณ อยุธยา, ชัยสิทธิ์ อนุชิตวรวงศ์ และ ปริญญารัตน์ เลี้ยงเจริญ, สิงหาคม 2552 (เผยแพร่ครั้งแรกเดือนพฤศจิกายน 2553), 118 หน้า.

**Price: Baht150 Weight: 400 grams**

### Science and Technology Development (STD)

**S61** โครงการเพิ่มขีดความสามารถภาคอุตสาหกรรมภายใต้ นโยบายเศรษฐกิจระหว่างประเทศของไทย (ระยะที่ 2), กันยายน 2554 (เผยแพร่ครั้งแรกเดือนมกราคม 2555), 414 หน้า.

**Price: Baht480 Weight: 1.2 kilograms**

**S60** การศึกษาการจตุรปกครองคุ้มครองผู้บริโภคด้านกิจการวิทยุกระจายเสียง วิทยุโทรทัศน์ และกิจการโทรคมนาคม, โดย สมเกียรติ ตั้งกิจวานิชย์, วรพจน์ วงศ์กิจรุ่งเรือง และ เทียนสว่าง ธรรมวณิช, กุมภาพันธ์ 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 147 หน้า.

**Price: Baht200 Weight: 500 grams**

**S59** แนวทางการยกเลิกโทษอาญาในกฎหมายเช็คและกฎหมายหมิ่นประมาท (โครงการการวิเคราะห์กฎหมายและกระบวนการยุติธรรมทางอาญาด้วยเศรษฐศาสตร์: Economic Analysis of Criminal Laws), รายงานเล่มที่ 3, โดย สมเกียรติ ตั้งกิจวานิชย์ และคณะ, กุมภาพันธ์ 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 143 หน้า.

**Price: Baht180 Weight: 400 grams**

**S58** การวิเคราะห์กฎหมายด้วยหลักเศรษฐศาสตร์: แนวคิดและวรรณกรรมปริทัศน์ (โครงการการวิเคราะห์กฎหมายและกระบวนการยุติธรรมทางอาญาด้วยเศรษฐศาสตร์: Economic Analysis of Criminal Laws), รายงานเล่มที่ 2, โดย ปกป้อง จันวิทย์, กุมภาพันธ์ 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 111 หน้า.

**Price: Baht150 Weight: 300 grams**

**S57** นิติเศรษฐศาสตร์ของระบบยุติธรรมทางอาญาของไทย (โครงการการวิเคราะห์กฎหมายและกระบวนการยุติธรรมทางอาญาด้วยเศรษฐศาสตร์: Economic Analysis of Criminal Laws), รายงานเล่มที่ 1, โดย สมเกียรติ ตั้งกิจวานิชย์ และคณะ, กุมภาพันธ์ 2554 (เผยแพร่ครั้งแรกเดือนสิงหาคม 2554), 136 หน้า.

**Price: Baht180 Weight: 400 grams**

### Sectoral Economics (SEP)

**A148** โครงการศึกษาแนวทางการจัดการห่วงโซ่อุปทานและโลจิสติกส์ของสินค้าเกษตร (ภายใต้โครงการการศึกษาวิจัยตลอดจนติดตามประเมินผลเพื่อเสนอแนวทางนโยบายการปรับโครงสร้างภาคการผลิต การค้า และการลงทุน), โดย นิพนธ์ พัวพงศกร และคณะ, กันยายน 2553 (เผยแพร่ครั้งแรกเดือนกุมภาพันธ์ 2555), หน้าไม่เรียงลำดับ.

**Price: Baht700 Weight: 1.5 kilograms**

**A147** การศึกษาผลกระทบของมาตรา 190 แห่งรัฐธรรมนูญแห่งราชอาณาจักรไทย พ.ศ. 2550 ว่าด้วยการจัดทำหนังสือสัญญาระหว่างประเทศต่อการค้าและการลงทุนของประเทศไทย, โดย เดือนเด่น นิคมบริรักษ์ และคณะ, 2552 (เผยแพร่ครั้งแรกเดือนกุมภาพันธ์ 2555), หน้าไม่เรียงลำดับ.

**Price: Baht300 Weight: 600 grams**

**A146** แนวทางการขยายโครงการประกันสังคมไปสู่แรงงานนอกระบบตามมาตรา 40 แห่งพระราชบัญญัติประกันสังคม พ.ศ. 2533, โดย วิโรจน์ ณ ระนอง และ อัญชนา ณ ระนอง, มิถุนายน 2554, 183 หน้า.

**Price: Baht100 Weight: 500 grams**

**A145** ศึกษาวิจัยกฎหมายและแนวนโยบายภาครัฐทางกฎหมายที่มีผลกระทบต่อธุรกิจ SMEs : ศึกษาเฉพาะกรณีผลกระทบของกฎหมายและระเบียบที่มีผลต่อขีดความสามารถในการแข่งขันของ SMEs, โดย เดือนเด่น นิคมบริรักษ์ และคณะ, เมษายน 2551, หน้าไม่เรียงลำดับ.

**Price: Baht200 Weight: 500 grams**



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