

# Income Inequality and University Financing in Thailand\*

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## 1. Introduction

Economic analysis of income inequality came along as a relatively newer phenomenon in Thailand. The Thai history dated back many hundred years ago shows that the Thai royal, private merchants, civil servants, technocrats or farmers were accustomed to economic issues such as income generation, gain from trade, comparative advantage and most importantly taxes. The notion of income gap between the rich and the poor was at that time probably considered normal for the Thai economy. In fact, the Thai people from different royal status, social classes or race were probably expected to have different economic opportunity and hence different income. Although the Thai society has changed from monarchy to constitutional monarchy much of these social differences still persists in many parts of Thailand today and this has translated into the very fundamental of the Thai attitude and hence public policy towards economic opportunities and income inequality<sup>1</sup>.

Effort to reduce income inequality in Thailand has been an uphill battle because the notion of equal economic opportunity and income inequality is new for the Thai. It was not until after the World War II when the western society introduced the notion of income inequality to Thailand along with the many neoclassical economics thinking, such as establishing a free trade economy or stabilising the economy via macroeconomic instruments. Whether the Thai society was ready for an equal economic opportunity and hence improved income inequality or not this economic thinking became a part of the Thai economic policy such as those described in the National Economic and Social Development Plan.

Income inequality became an issue among the Thai academics around 1970's when a World Bank report by Oey Meesook provoked interests among Thai academics to further investigate into the issue of income inequality. Subsequent studies such as those by Medhi Krongkaew, Rizwanul Islam or Pranee Tinakorn re-examined the Thai household income data and, based on Gini index, Atkinson index and Thiel index, concluded that income inequality in Thailand has been deteriorating. On measuring the magnitude of income inequality there have been numerous empirical studies in Thailand that produced research results related to the size of income inequality, changes of income inequality overtime, decomposition of income inequality by socio-economic groups or decomposition of income inequality by income sources. These studies came to similar conclusions that during 1970-1990 income inequality has deteriorated in Thailand. The major sources of income inequality are education attainment, occupation and geographical location of the households.

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<sup>1</sup> This situation may be compared to another country such as Singapore where the economy took off from a much more equal social setting. It can, therefore, be easier to perceived that Singapore would be more committed to a public policy leading to equal economic and hence income opportunities.

In addition to being informed of the status of income inequality in Thailand past empirical studies have also made advancement in the terms of analysing income inequality in relation to other issues. A contribution of these earlier studies on Thai income inequality was the recognition that the rice premium (export tax on rice) at that time was a cause of income inequality in Thailand. These findings, together with findings from other policy research on Thai agricultural policies, eventually led the Thai government to end the rice premium. As a result, the farm-gate price of rice increased and income of the rural poor improved.

Other empirical studies on income inequality in Thailand investigate other areas that may be associated with income inequality. These areas of investigation include, for instance, tax regressiveness, the impact of government spending on various income groups, testing the existence of Kuznets curve, labour productivity and income inequality, or the impact of trade liberalisation on income inequality. These studies have been beneficial in understanding not only the trend of income inequality but also the causes of income inequality and how income inequality can be reduced. Base on the knowledge frontier produced by these empirical studies it is essential that further research on income inequality in Thailand be *focus research* that is specifically directed towards some area of investigation leading towards policy adjustment. It is only then possible that findings from income inequality studies be useful for preparing remedial measures to help create equal economic opportunities and hence improve income inequality in Thailand.

On public policy aiming to improve income inequality, it has been observed that due to the existing social differences in the Thai society mentioned previously, many Thai policy makers find it difficult to reason why they need to create a public policy aiming to promote a more equal society. More curious yet, it is also difficult to explain to the poor Thai that they, too, deserve the rights to be treated more equally. For various reasons, many poor Thai still find equal opportunity and hence income equality very un-Thai-like. All these sayings do not imply that preparing a public policy aiming for a more equal economic opportunity and hence improve income inequality is impossible. It merely cautions that to change the Thai economy to one with equal economic opportunity and hence improve income inequality will probably require a more sophisticated policy prescription than mere progressive tax rate and targeted spending. Equal economic opportunity may go against the grain of the Thai culture and social structure.

Among the public policy issues related to income inequality that deserve greater attention in Thailand is the association between income inequality and education opportunity. Since 1980's it has been recognised that differences in education levels of the head of households is a source of income inequality in Thailand. (Jitsuchon 1987, Hutaserani and Jitsuchon 1988, Santisarn 1997, Israngkura 1999 and The World Bank 2002). Even though Thai empirical studies have demonstrated a close association between education opportunity and income inequality the Thai government still continues to deteriorate income inequality by indirectly subsidising children from better off families to attend government universities and hence deprive educational opportunities of children from the poor families. This example shows that once it has be understood that education attainment plays an important role in determining income one cannot merely conclude that the government should therefore increase educational spending because such recommendation may not reduce income

inequality if the education financing structure is one that favours children from well-off families.

Given that there may very well exist an undesirable education financing structure in many developing countries it is possible that any increase in education spending or improve educational quality will evolve into a hidden subsidy that mainly benefit children from well-off families and hence will not reduce income inequality. For this reason, this study will investigate into the nature of education financing at the university level in Thailand and will propose an alternative option of education financing that will help improve educational opportunity, reduce income inequality and increase efficiency of the Thai education system as well.

On methodology, Thailand has been fortunate to have access to surveyed household data dating back until 1970s. These data sets have enabled researchers to obtain a reasonably good understanding the status of income inequality and the changes of income inequality in Thailand. Furthermore, studies have also been carried out to investigate the sources of income inequality in Thailand as well. However, what has been missing in the current income inequality literature in Thailand is the attempt to measure income inequality using measurement tools belonging to the Generalised Entropy class, namely,  $GE(\alpha)$ . Analysing income inequality based on the Generalised Entropy class of measures has an appealing property in that they enable researchers to come up with a more accurate decomposition of income inequality. For this reason this study will re-calculate income inequality measures using the Generalised Entropy class of measures and will then focus the decomposition of income inequality by socio-economic groups. This information will also be useful for subsequent analysis of education financing mention previously.

Given the nature of research problems described above this study has three objectives:

- A. To measure the magnitude of income inequality of Thailand using the Generalised Entropy class of measures and to decompose income inequality by socio-economic groups,
- B. To discuss the role of public policy leading towards an improvement in terms of economic opportunity and hence income inequality.
- C. To address the nature of education financing at the university level in terms of educational opportunity and efficiency of the system, and
- D. To propose an alternative option of financing university education in Thailand that is aimed to provide a more equal educational opportunity at the university level.

As this study employs a common measurement tool such as the Generalised Entropy class of measures the outcome of this study will be also useful for future comparative studies of income inequality between countries. The policy discussion provided in this study will also aid future preparation of a more focus research on public policy and income inequality.

This report is presented in five sections. Following this introduction is the description of methodology and data used. Section 3 describes the knowledge frontier of income inequality studies in Thailand and their findings. Section 4 analyses income inequality base on the Generalised Entropy measure. Sections 5 presents the discussion of public policy aiming to create an equal economic opportunity, the fundamental causes of income inequality and the need to identify the necessary policy measures. Section 6 presents a case study of university education financing in Thailand and the alternative options of university financing respectively. Conclusion is given in Section 7.

## 2. Methodology and Data

Income inequality studies generally make extensive use of income inequality measures such as variance, Gini index and so on. For these measures to provide consistent and desirable results they have to satisfy the following five axioms:

- A. *Transfer Principle*: This axiom requires that if income is transferred from a poorer person to a richer person it should result in an increase (at least not a fall) in inequality. And if income is transferred from a rich person to a poor person it should result in a decrease (at least not a rise) in inequality. Most income inequality measures, namely, the Generalised Entropy class, the Gini index, the Atkinson class satisfy this axiom except the logarithmic variance and the variance of logarithms.
- B. *Scale Independent*: This axiom requires that if income is changed by a uniform proportion then inequality should not change. The measure that does not meet this requirement is the variance measure.
- C. *Population Independence*: This axiom requires that if two identical populations are merged then inequality should not change.
- D. *Anonymity*: This axiom requires that inequality measure must be independent of any other characteristics of individuals other than their income.
- E. *Decomposability*: This axiom requires that the total inequality must equal the sum of inequality between sub-groups and inequality within sub-groups. The Generalised Entropy class of measure satisfies this decomposability axiom. However, the Atkinson set of inequality measures cannot guarantee that the sum of inequality between and within sub-groups be equal to the total inequality. With Gini coefficient, it is decomposable only if the partitions are non-overlapping or the sub-groups do not overlap in the vector of income.

Cowell (1995) demonstrates that any inequality measure that satisfies all the five axioms above belong to the Generalised Entropy measures (GE) that have the general form

$$GE(\alpha) = \frac{1}{\alpha^2 - \alpha} \left[ \frac{1}{n} \sum_{i=1}^n \left( \frac{Y_i}{\bar{Y}} \right)^\alpha - 1 \right] \quad (1)$$

where  $Y_i$  is income of individual  $i$ ,  $\bar{Y}$  is arithmetic mean of all incomes and  $\alpha$  is a parameter. The value of  $GE(\alpha)$  ranges from zero to positive infinity with zero indicating zero inequality and higher values indicating higher degree of inequality. The parameter  $\alpha$  represents the weight given to distances between incomes at different parts of income distribution. Generally, parameter  $\alpha$  takes the value of 0, 1 or 2 with 0 indicate more weight is given to the lower tail of the distribution and 2 indicates more weight is given to the upper tail of the distribution. The  $\alpha$  value equal 1 means that weight is given equally across the distribution.  $GE(0)$  correspond to the mean log deviation and  $GE(1)$  correspond to the Theil inequality index. These two measures have the following formula.

$$GE(0) = \frac{1}{n} \sum_{i=1}^n \log \frac{\bar{Y}}{Y_i} \quad (2)$$

$$GE(1) = \frac{1}{n} \sum_{i=1}^n \frac{Y_i}{\bar{Y}} \log \frac{Y_i}{\bar{Y}} \quad (3)$$

With  $\alpha=2$  or  $GE(2)$  the measure becomes half of the squared coefficient of variation (CV) and has the following formula.

$$CV = \frac{1}{\bar{Y}} \left[ \frac{1}{n} \sum_{i=1}^n (y_i - \bar{y})^2 \right]^{1/2} \quad (4)$$

The Atkinson class of inequality measure and Gini coefficient do not satisfy the decomposition axiom and hence do not belong to the GE class of measure. However, their formulae are given below

$$A_\varepsilon = 1 - \left[ \frac{1}{n} \sum_{i=1}^n \left[ \frac{y_i}{\bar{y}} \right]^{1-\varepsilon} \right]^{1/(1-\varepsilon)} \quad (5)$$

$$Gini = \frac{1}{2n^2 \bar{y}} \sum_{i=1}^n \sum_{j=1}^n |y_i - y_j| \quad (6)$$

In addition to measuring income inequality further analysis can be carried out through decomposition of inequality into sub-groups generally based on socio-economic variation. Inequality measure can be decomposed into inequality *between* socio-economic sub-groups and inequality *within* each socio-economic sub-group. This decomposition will help understand the sources of income inequality. These sub-groups may include gender, geographical location, occupation, age groups or educational levels. Inequality *within* a sub-group can be measured by  $GE_w(\alpha)$  according to equation (7) where  $j$  = the number of sub-groups,  $g_i$  = weights given to

sub-group  $i$ ,  $v_j$  and  $w_j$  are income share and population share respectively. When  $\alpha=0$  the weights are just population share. When  $\alpha=1$  the weights are the income share. And when  $\alpha=2$  the weights are the square of income share divided by the population share

$$GE_w(\alpha) = \sum_{j=1}^K g_j GE(\alpha)_j, \quad (7)$$

$$g_j = v_j^\alpha w_j^{1-\alpha}, \quad (8)$$

Between group inequality can then be calculated by equation (9). The sum of inequality within and between sub-groups will equal the total inequality as described by equation (10).

$$GE_B(\alpha) = \frac{1}{\alpha(\alpha-1)} \left[ \frac{1}{n} \sum_{j=1}^K \left( \frac{\bar{Y}_j}{y} \right)^\alpha - 1 \right] \quad (9)$$

$$GE(\alpha) = GE_w(\alpha) + GE_B(\alpha), \quad (10)$$

Equation 10 illustrates the proportion of inequality that is explained by inequality *between* sub-groups variation and the proportion of inequality that is explained by *within* sub-group variation. This line of reasoning is analogous to the definition of R Square generally used in econometric analysis. Hence,  $H_B(\alpha)$  or the proportion of total inequality to inequality *between* sub-group has the similar connotation as R Square. (See equation (11))

$$H_B(\alpha) = GE_B(\alpha) / GE(\alpha) \quad (11)$$

## 2.1 Data Sources

This study relies on two sources of secondary data: Soci-Economic Survey (SES) and data from the Ministry of University Affairs. The Thai Socio-Economic Survey (SES) data were collected by the National Statistical Office (NSO) since 1957. During the earlier period between 1957-1987 these information were collected every five years. However, after 1988, SES data were produced every two years. Each set of SES data contain a survey of around 25,000 households comprising of around 90,000 individuals throughout Thailand. These surveys contain questions pertaining to household income, expenditure, consumption, assets and liabilities, ownership of durable goods and household characteristics. The data from the Ministry of University Affairs are used mainly for describing university financing and tuition subsidies at the university level.

## 2.2 Definition of income used in SES data sets

The notion of income used in this study is household income. SES data set defines total income of a household to include the following items:

- A. Wages, monthly income, and bonus.
- B. Net profit from agriculture and other businesses.
- C. Income from assets such as house rent, land rent, patent, interest earning and dividend.
- D. Income in the form of assistance, pension funds.
- E. Non-pecuniary income such as value of goods and services that is received as part of wages and salaries, the value of goods or foods that household produce and self-consumed including imputed income from property.
- F. Other sources of revenue such as payments from insurance, lottery prizes other similar types of income.

### 3. Literature Survey

Empirical studies on income inequality in Thailand began around 1962 after the Socio-economic Survey data on household income were made available. The earlier attempts to study income inequality in Thailand are studies by Oey Meesook. Thanks to the World Bank effort that support Meesook (1979) this study gave the Thai academics much interest to study income inequality. What this study says is not so much in terms of a warning of deteriorating income inequality in Thailand. On the contrary, this study implies the opposite, that is, income inequality in Thailand has shown signs of improvement. This World Bank study said

*“economic growth has been accompanied by a reduction in regional and urban-rural disparities in household incomes and in the proportion of the poor population in the total. Moreover, to the extent that the reduction in disparities originates from direct improvements in the agriculture sector, then we have not witnessed any trade-off between economic growth and equity.”*  
(Meesook 1979, page 10 cited in Krongkaew 1985)

The statement above raises concerns among economists who studied poverty and income inequality in Thailand and gave rise to subsequent studies such as those by Medhi Krongkaew and Rizwanul Islam. Islam (1983), Krongkaew and Chamrasrithirong (1984) and Krongkaew and Tinakorn (1985) all went into further investigation regarding the status of income inequality in Thailand. These studies came to the similar conclusion, that is, income inequality in Thailand showed a deteriorating sign as the Gini index, Atkinson index and Thiel index rose over twenty year period of time. (Krongkaew 1985, Krongkew and Tinakorn 1985, Krongkaew, Tinakorn and Suphachalasai 1992) Krongkaew (1985), in particular, reasons that the worsening of income inequality in Thai may be associated with the ill distribution of land ownership and rice export premium policy of the Thai government at that time.

Other empirical studies on income inequality in Thailand can be summaries into the following categories:

#### 3.1 The impact of tax structure on income inequality

Another line of income inequality studies in Thailand has been those related to the impact of tax structure and the pattern of government spending on income inequality. Krongkaew (1978) began investigation into the nature of tax structure and the impact

of government spending on income inequality in Thailand. The study concludes that personal income tax has been progressive but indirect taxes such as excise tax, import duty, trade tax and earnings from state enterprises have all been regressive. This suggests that these indirect taxes have put relatively more tax burden on the poor families compared to the rich families. On government spending, the same study finds that Bangkok residence benefit much more from government spending than those in other regions such as the Northeastern region. The reason is because the income base of Bangkok residence is larger than that of the other provinces.

Subsequent studies that also use the tax share in household income method to analyse the impact of tax structure on income distribution similar to Krongkaew (1978) are Likitsomboon (1986) and TDRI (1999). Although these three studies were conducted about ten years apart they all seem to come to the same conclusion that only personal income tax in Thailand is progressive. All the other indirect taxes such as corporate income tax, import duty, value-added tax, property tax as well as state enterprise earning are all regressive. Moreover, TDRI (1999) also reports that government spending on education, health care and infrastructure are also regressive. This implies that the rich are receiving more benefits from these public services compare to the poor. All these tax studies have also provided recommendations as to how the Thai government can realign its tax structure and government spending to become more favourable to the poorer households. These recommendations include for instance Krongkaew (1978) and Likitsomboon (1986) recommends that the government reduce its reliance on indirect tax, increase tax collection efficiency, impose wealth or inheritance or capital gain taxes, reduce spending on defense, increase government spending on primary education, and increase government spending on basic health care. These recommendations are also shared by Dhiratayakinant (1991). In addition to increase government spending on the poor by making public services more accessible TDRI (1999) also recommends that market competition ought to be strengthen so as the producers cannot pass on tax burden to the consumers.

### *3.2 Income inequality based on CGE modeling*

In addition to the above studies Sussangkarn (1994) employs the Computational General Equilibrium (CGE) model to examine the impact of tax structure on income inequality. This study confirms that only income tax in Thailand is progressive while all the indirect taxes tend to be neutral and are not regressive as the above studies have claimed. Sussangkarn (1994) finds that the value-added tax is also progressive and helps improve income inequality in Thailand. Using the CGE model in analysing income inequality has also been employed in other areas of investigation. Nijthawarn (1985) constructs a CGE model for Thailand and found that economic expansion has led to deterioration of income inequality in Thailand. The factor that gave rise to the worsening of income inequality from this CGE analysis is that the income of non-agricultural families rises faster than that of the agricultural families. This same observation is also made by Bhangmakapat (1993). Sarntisart (1995) also employs a CGE model to analyse the impact of trade liberalisation on income inequality. The study concludes that industrial protection that hinders trade will worsen income inequality. This same study also makes references on the impact of government budget financing on income inequality. It's finding is similar to many other studies in that raising revenue via direct tax or personal income tax will have a more favourable result on income inequality compared to indirect taxes that tend to worsen income

inequality. A fundamental construction of a CGE model for analysing income inequality can be found in Sarntisarn (1994).

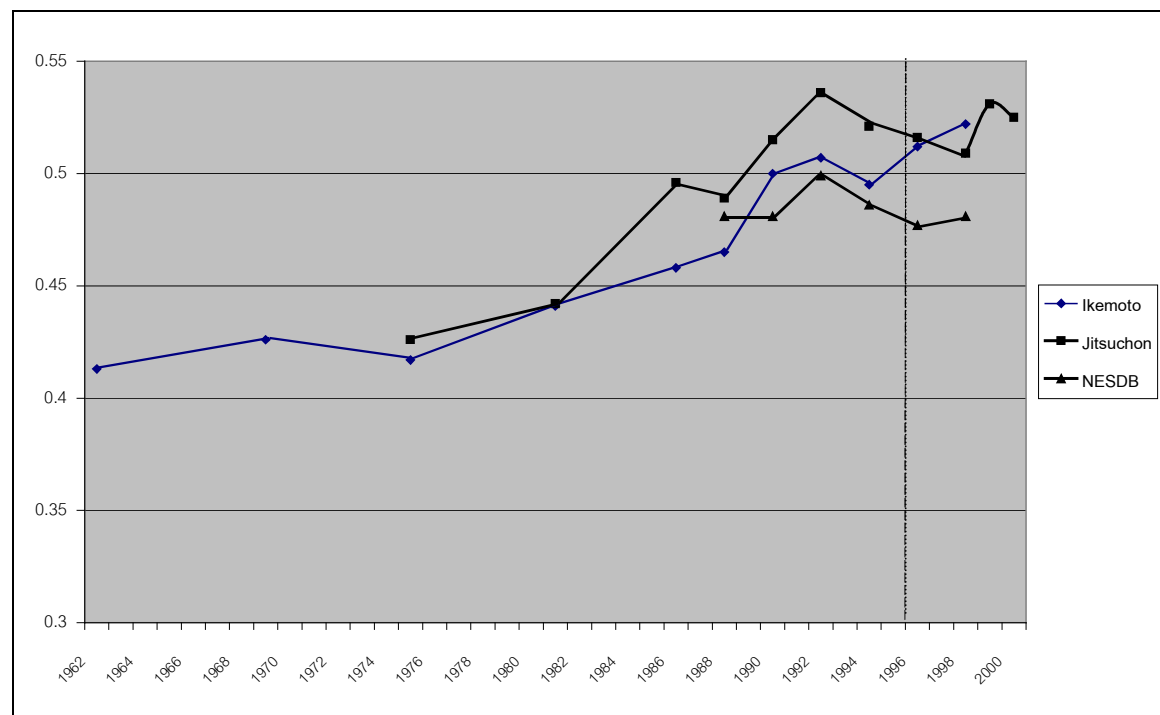
### *3.3 Kuznets Inverted U Hypothesis*

The Kuznets Inverted U Hypothesis has been in the heart of many Thai scholars working in the area of income inequality. Even earlier studies such as those by Medhi Krongkaew have made comments that economic development or economic growth in Thailand may have led to undesirable outcome such as the worsening of income inequality. It was not until late 1980's that Jitsuchon (1987) finds that the Kuznets Hypothesis does exist for Thailand. According to Jitsuchon (1987) the Thai Kuznets' should peak at around the year 1990. Sussangkarn, Paramasiriwat, Ashakul and Chimkul (1988) finds the existence of the Kuznets' curve as well and reports that Thailand, at that time (in 1988) was still on the positive side of the Kuznets curve. The study forecasts that the Thai Kuznets curve will peak at around the year 1995-99. More recently, Ikemoto (2000) provides a more detail description of the Thai Kuznets' Inverted U Hypothesis. Ikemoto (2000) finds that Thailand has not reached the peak of the Kuznets curve as some previous studies may have claimed. The study reasons that because the Thai economy has experienced an export boom in 1980's and another boost in terms of inflow of foreign capital during 1990's these factors may have shifted the Thai Kuznets curve farther to the right hence shifted the peak period of the Kuznets curve ahead. Base on Figure 1 the calculation of Somchai Jutsuchon and Ikemoto may sound plausible as the Thai Gini index does show a sign of turning at around 1992. But the downward movement did not occur may be because of the shifting of the Kuznets curve as Ikemoto has suggested.

### *3.4 Decomposition of income inequality*

Two studies on decomposition of income inequality in Thailand are by Jitsuchon (1987) and Hutaserani and Jitsuchon (1988). These two studies aim to identify the sources, as oppose to the causes, of income inequality in Thailand. Both studies use household income and log of household income to compute Shorrocks' index. Similar conclusions are drawn from these two studies in that the sources of income inequality in Thailand are employment related factors, regional differences, education level.

**Figure 1: Income inequality index from 1975-2000 by various studies**



### 3.5 The causes of and the cures for income inequality

Most income inequality studies in Thailand have all provided solutions to cure income inequality problems. Some of these cures are offered intuitively while others are results of empirical investigations. Sussangkarn, Paramasiriwat, Ashakul and Chimkul (1988) and Sussangkarn (1994) claim that the causes of income inequality in Thailand are GDP per capita, the share of labour in agriculture, the rate of secondary school enrollment to primary school enrollment and the fertility rate. These two studies suggest that the key to reducing income inequality is via rising real wages, improvement in labour productivity and job creation. These changes can come about via improvement in secondary education. They also suggest that an expansion in labour intensive industries will generate growth and reduce income inequality at the same time.

On education, Santisarn (1997) employs the order 2 of Shorrocks class of indices to study the relationship between education and income inequality. The study finds that education is a major determinant of earning inequalities in Thailand and recommends that the government should concentrate on expansion of lower education such as secondary and vocational education. Increase government spending on higher education such as the university level will not improve income inequality. The study also raises a concern over income inequality among the educated Thais. Israngkura (1999) employs the input-output analysis and found similar result in that education opportunity tends to explain income inequality in Thailand.

On trade and income inequality, Sarntisarn (1995) employs the CGE model and found that reduced industrial protection hence increased trade liberalisation will improve income inequality in Thailand. On globalisation and income inequality issue Israngkura (1999) shows that trade expansion in different areas tends to have different

impact on income inequality. Trade expansion in the form of increase exports of agricultural products tends to produce favourable impact on income inequality while increase in capital inflow strongly worsens income inequality in Thailand. However, the study argues that globalisation or international trade is not the factor that causes income inequality. These factors only intensify income inequality in Thailand. The study suggests that the two courses of income inequality in Thailand are differences in educational opportunities and lack of market competition. These two factors allow income generated from globalisation to be trapped among the rich households without diffusing to the lower income families.

#### **4. Income Inequality in Thailand**

Base on the Thai Socio Economic Surveys since 1957 many studies came to the conclusion that income inequality in Thailand has deteriorated. Although these Socio Economic Survey have been conducted in Thailand since 1957 income data for the first few surveys have employed different definition of income and cannot be compared with subsequent surveys. To allow for consistent long-term comparison, this study will begin income inequality analysis from the 1986 Socio Economic Survey to 2000. (See Table 1)

Table 1 shows that during the fifteen year period from 1986 to 2000 the average household income has increased four folds from around 3,500 baht per household in 1986 to around 12,000 baht per household in 2000. This increase in income occurred together with the worsening of income inequality (this does not mean that increase in income *causes* income inequality to deteriorate). Many statistics tend to suggest the same conclusion that income inequality in Thailand has deteriorated from 1986 to 2000. Following are some characteristics of income inequality in Thailand.

First, while income of the poorest quintile falls slightly from 4.5 per cent to 3.9 per cent that of the richest quintile rose from 55.0 to 57.6 per cent. These statistics suggest that as the poor became poorer the rich also became richer. The richest quintile (Quintile 5) was 12.2 times richer than the poorest quintile (Quintile 1). This ratio deteriorates to 14.9 times in the year 2000. When income differences is measured in terms of deciles the ratio of the richest decile (D10) to the poorest decile (D1) deteriorated from 21.8 times to 27.3 times over the same period.

Second, while the richest quintile (Quintile 5) have their income share increased, the rest of the population, quintile 1 to quintile 4 all have their income reduced. This means that, overtime, the distribution of the fruit of economic expansion were biased in favour of the top 20 per cent of the Thai population rather than the remaining 80 per cent.

Third, all the measures of income inequality show deteriorating signs. Between 1986-2000, the Gini index rose from 0.496 to 0.525. During the same period, GE(0) rose from 0.3716 to 0.4515 and GE(1) also rose from 0.4267 to 0.5179. GE(2) produces a rather unpredictable results regarding the trend of income inequality.

**Table 1: Income inequality by quintiles and Generalised Entropy measures**

	1986	1988	1990	1992	1994	1996	1998	2000
Household income (baht/month)	3,593	4,283	5,470	6,942	8,168	12,271	12,271	11,987
<i>Groups</i>								
Quintile 1	4.5	4.6	4.3	4.0	4.0	4.1	4.2	3.9
Quintile 2	7.9	8.0	7.5	7.1	7.3	7.5	7.7	7.2
Quintile 3	12.3	12.4	11.7	11.1	11.7	11.8	11.9	11.4
Quintile 4	20.3	20.6	19.5	18.8	19.7	19.9	19.8	19.9
Quintile 5	55.0	54.5	57.0	59.1	57.2	56.7	56.3	57.6
<i>Ratio</i>								
Q5/Q1	12.2	11.9	13.2	14.9	14.2	13.8	13.3	14.9
D10/D1	21.8	21.0	24.3	28.4	26.3	24.9	23.9	27.3
<i>Inequality</i>								
Gini index	0.496	0.489	0.515	0.536	0.521	0.516	0.509	0.525
Mean log deviation GE(0)	0.3716	0.3700	0.4271	0.4580	0.4325	0.4321	0.4180	0.4515
Theil index GE(1)	0.4267	0.4086	0.5256	0.5541	0.5149	0.5213	0.4902	0.5179
Half the square of CV GE(2)	1.3400	1.2231	1.8552	1.8037	1.6447	1.6946	1.5059	1.5248

Fourth, although the trend of deterioration in income inequality is confirmed by all the inequality measures, it can be detected also that the trend seems to stabilise towards the end of the century that is during 1996-2000.

Table 2 shows that income inequality in Thailand can also be expressed in other dimensions: locality, geographical regions or economic sectors. It has been expected that urbanisation tends to play a role in income inequality in Thailand. The differences between income of households living in urban areas and those living in the rural areas did not subside but instead rose from 2.49 times to 2.75 time during 1986-2000. In terms of regional differences it can also be seen that, in the year 2000, Bangkok residence earn about four time as much as the households in the North or the Northeastern region. This urban-rural or regional differences in household income is most likely a reflection of the past centralisation regime adopted by the Thai governments.

In terms of income inequality across different economic sectors it also shows be seen in Table 2 that over the fifteen year period the rate of return from various economic sectors have changed. For instance, earning from construction rose from a mere average of 1,405 baht per capita in 1986 to as high as 8,096 baht per capita in 2000. Per capita income of the servicing sector ranked first in 1986 of 2,004 baht per capita before falling to fourth place in 2000 of 4,831 baht per capita. Per capita income of workers in the agricultural sector remains the lowest. Over fifteen year period, one saw a slight increase in the dispersion of per capita across the economic sectors. This

observation suggests that there exists frictions among the markets in the Thai economy that has prevent resources to be relocated from one economic sector to another. These frictions may include imperfection in the capital markets, market barriers or imperfection in the knowledge market (education market).

**Table 2: Per capita income by region and economic sector (baht/month)**

	1986	1988	1990	1992	1994	1996	1998	2000
Whole Kingdom	1,033	1,263	1,554	2,130	2,576	3,351	3,845	3,881
<i>Locality</i>								
Urban	2,135	2,406	3,207	4,781	5,126	6,904	7,557	7,783
Rural	857	953	1,152	1,514	1,942	2,444	2,867	2,827
Urban/Rural	2.49	2.52	2.78	3.16	2.64	2.82	2.64	2.75
<i>Regions</i>								
Bangkok Metro.	909	925	1,637	2,240	2,550	7,214	8,406	8,702
Central	599	782	1,396	2,001	2,558	4,233	4,350	4,766
Northern	1,116	1,093	1,800	2,510	3,068	3,441	3,103	2,828
Northeastern	1,058	955	1,633	2,456	2,929	3,250	2,413	2,289
Southern	2,059	2,379	3,519	5,500	5,875	3,853	3,489	3,394
<i>Sectors</i>								
Agriculture	604	740	902	1,072	1,364	1,815	2,096	1,990
Mining	999	2,250	2,000	1,823	4,720	2,684	3,400	3,119
Manufacture	1,064	1,484	1,630	2,325	3,149	4,263	3,773	3,936
Electricity	1,351	1,993	1,907	3,972	10,148	10,519	5,869	1,912
Construction	1,405	1,518	7,389	6,254	5,138	7,430	7,823	8,096
Trade	1,573	1,697	2,349	3,176	3,684	4,537	4,969	5,020
Services	2,004	1,971	2,411	3,264	4,021	5,314	5,874	4,831
Transportatn	1,130	1,246	1,694	2,305	2,494	3,330	3,560	5,580
Others	1,512	1,405	2,973	3,357	6,465	7,057	7,420	NA

Table 3 aims to explain the sources of income inequality by socio-economic groups. The finding here confirms with those suggested by previous studies in that differences in educational attainment of the head of the household is the most important factor explaining income inequality in Thailand. The explanatory power of education rose from 15.5 per cent in 1986 to as high as 24.24 per cent of income inequality in 2000. This finding provides a crucial support for establishing a public policy on education that aims at creating a more equal educational opportunity. This issue will be discussed in more detail in section 6.

Table 3 also confirms that, in addition to educational differences, locational differences between urban vs. rural areas and regional differences also explain income inequality in Thailand. These differences that came about as a result of centralisation attitude of the Thai policy makers. These statistics also show a deteriorating sign over the past fifteen years as well. On urbanisation, the explanatory power rose from 13.12 to 19.61 and that of regional differences rose from 15.58 to 21.32. This also suggests a strong support for decentralisation programmes in Thailand.

**Table 3: Decomposition of income inequality by socio-economic groups**

	1986	1988	1990	1992	1994	1996	1998	2000
<i>A.Location</i>								
<b>Urban</b>								
Within group	86.88	84.42	81.84	82.49	84.98	81.09	83.01	80.39
Between group	13.12	15.58	18.16	17.51	15.02	18.91	16.99	19.61
<b>Region</b>								
Within group	84.42	82.17	76.91	74.48	80.25	77.47	82.53	78.68
Between group	15.58	17.83	23.09	25.52	19.75	22.53	17.47	21.32
<i>B.Attributes</i>								
<b>Education</b>								
Within group	84.85	83.14	80.82	76.43	78.22	79.94	77.47	75.76
Between group	15.15	16.86	19.18	23.57	21.78	20.06	22.53	24.24
<b>Gender</b>								
Within group	99.45	99.60	99.62	99.37	99.58	98.75	99.60	99.71
Between group	0.55	0.40	0.38	0.63	0.42	1.25	0.40	0.29
<b>Types</b>								
Within group	87.88	91.75	93.68	95.93	95.22	97.61	97.72	97.36
Between group	12.12	8.25	6.32	4.07	4.78	2.39	2.28	2.64
<i>C.Sector</i>								
<b>Employment</b>								
Within group	82.70	83.88	82.02	77.04	81.55	81.96	83.26	77.51
Between group	17.30	16.12	17.98	22.96	18.45	18.04	16.74	22.49

Lastly, table 4 shows the sources of income of the Thai workers. The statistics were calculated for the years 1992 to 2000. Over this eight year period, about 42 per cent of income is in the form of wages and salary while another 23 per cent is in the form of Entrepreneurial income . Farm income or income from land rent for farming account for less than 10 per cent of the total income.

**Table 4: Sources of income (index)**

	1992	1994	1996	1998	2000
Wages and salary	42.09	41.36	40.63	40.12	42.72
Entrepreneurial income	23.55	23.87	24.03	23.09	22.49
Farm income	7.28	8.54	9.26	8.91	6.84
Land rent for farming	0.09	0.13	0.11	0.18	0.13
Interest and dividends.	1.09	0.93	1.14	1.43	1.38
Others	25.89	25.17	24.83	26.27	26.43
Total	100	100	100	100	100

## 5. Public Policy on Income Inequality

Preparing public policy to address the issue of income inequality is a complicated task as it is not income inequality in itself that the society cares about but rather the hidden agenda behind income inequality, that is, income opportunity. A healthy society generally produces a certain degree of income inequality that is considered normal. This income inequality may arise because of differences in voluntary working hours,

job seniority or different working skills. All these factors contribute to a healthy income differences and hence normal income inequality within a society. Therefore, so long as there is equal opportunity for each member of a society to choose his/her working hours, develop working skills or move up the career path then any income inequality that this society might generate will be considered normal. In fact, any attempt to further reduce income inequality beyond this point by destroying the opportunity structure of such society is probably undesirable.

At this point it is probably wise to say that measuring income inequality is a useful exercise because increasing inequality may indicate an undesirable or unequal economic opportunity structure within that society. However, once a high degree of income inequality is detected, such as the case of Thailand, it is imperative that one refrains from preparing public policy that merely aims at reducing income inequality. A more desirable approach is to further investigate into the structure of income opportunity in that society and determine how it can be improved so that the workers are fairly compensated according to their economic contribution. For this reason it is believe that creating an equal economic opportunity is therefore vital to any sound public policy on income inequality. In fact, a mere transfer of income from the rich to the poor may result in an improvement in income inequality but may jeopardise labour supply, work incentive system and hence social welfare.

There are two relationships that are often being mentioned when analysing income inequality: economic growth vs. income inequality and globalisation vs. income inequality. Many studies may confirm the existence of the well-known Kuznets Inverted U Hypothesis that links economic growth and income inequality. Even though this relationship may exist in Thailand but it is neither the necessary nor the sufficient condition for proposing a public policy that is anti-growth. A more recent relationship such as that between globalisation vs. income inequality follows that same intuition. Even it is true that globalisation leads to high income inequality, a desirable public policy will not be one that discourages globalisation in order to reduce income inequality. It is vital to understand that economic growth and globalisation are not the fundamental *causes* of income inequality. They merely serve as fuel that amplify the impact of an ill economic opportunity structure in the society. Again learning about the existence of the Kuznets Inverted U Hypothesis or the relationship between globalisation and income inequality should serve as evidence for further investigation into the fundamental *causes* of unequal income opportunity in that society.

Lastly, tailoring a public policy for improving, not necessary for reducing, income inequality demands that consideration be given to the social and cultural setting of that society as well. Some societies may prefer that individuals be treated equally. However, other societies may have a strong culture of social differences such as the royal vs. the ordinary, the technocrats vs. the peasants or the civil servants vs. the merchants. Given that there are differences in terms of social status of individuals in a society it is often found that the economic opportunity of these individuals in such society need not necessary be the same. A desirable public policy aiming at equalising economic opportunity of individuals within a society ought to operate within the allowable social and cultural parameters as well.

A government document that is often used as a reference of the Thai economic policy is the National Economic and Social Development Plan (thereafter referred to as the National Plan). Beginning since the early 1960's the National Plan became a blueprint for the Thai economic development. Influences (more politely referred to as expert advises) from international organisations such as The World Bank was reflected in many parts of the Thai National Plans. Tinakorn (2002) summarised all the nine National Plans Thailand has had and found that the first three National Plans place much emphasis on economic growth. Income inequality did not enter public policy discussion until the third National Plan or around mid 1970s. (See Table 5) This time frame coincides with many of the earlier studies on income inequality in Thailand namely Oey Meesook, Medhi Krongkaew, Rizwanul Islam or Pranee Tinakorn.

**Table 5: National Economic and Social Development Plans and objectives**

National Plans	Economic Targets
First National Plan (1961-1966)	Targeted at economic growth. Income inequality was not targeted.
Second National Plan (1967-1971)	Targeted at economic growth. Income inequality was not targeted.
Third National Plan (1972-1976)	Mentioned about fairness and decentralisation.
Fourth National Plan (1977-1981)	Targets and measures for income inequality was stated for the first time.
Fifth National Plan (1982-1986)	Priority was given to economic stability and effort was given to poverty reduction.
Sixth National Plan (1987-1991)	Priority was given to economic growth, employment and rural development together with east coast development plan.
Seven National Plan (1992-1996)	Poverty reduction was explicitly targeted from 23.7 per cent in 1988 to lower than 20 per cent in 1996.
Eight National Plan (1997-2001)	Targeted at human resource development and quality of life. Economic crisis took place that encompassed currency crisis, financial crisis and a recession
Ninth National Plan (2002-2006)	Priority was given to “sufficiency economy” that stresses economic recovery, stability and resilience. Poverty reduction was targeted at less than 12 per cent by 2006.

Source: Translated from Tinakorn 2002. Table 1, Page 4-12.

Even though it has been mentioned in the National Plan that income inequality would be targeted but as these National Plans tend to serve more as mere government documents these targets were rarely observed by government agencies. For this reason it is difficult to actually find in Thailand public policies that is primary aimed at correcting income inequality. The only policy measure that Thailand has to address the issue of income inequality is progressive personal income tax mentioned previously.

Therefore in the case of Thailand there are still many areas that can be considered as the fundamental causes of an ill economic opportunity and need immediate policy correction. These fundamental causes of an ill economic opportunity further give rise to unfair distribution of economic earnings and hence income inequality. Following

are discussion of a few areas that may lead to an ill income opportunity in Thailand: lack of redistribution taxes, rural-urban development, lack of competition, education opportunity and imperfect capital market.

### *5.1 Lack of redistribution taxes*

Empirical studies on the impact of taxes on income inequality in Thailand come to an agreement that only personal income tax is progressive. Other taxes produce mixed results depending on the assumption used in the studies. Although personal income tax in Thailand can be seen as a redistribution tax that transfers more income from the rich to support the government spending Thailand still lacks other kinds of taxes to help redistribute income from the rich to the poor. Potential taxes that can help redistribute income in Thailand but have not yet been implemented are property taxes and inheritance tax. Although there is great potential for these two taxes to redistribute income but these taxes do not receive enough support at the government level.

### *5.2 Rural-urban development*

Section 4 shows that there is a substantial divergence between rural and urban income in Thailand. Further, there also exist income differences between residence in Bangkok and non-Bangkok. To show how rural-urban bias has been the backbone of the Thai culture is by observing the Thai language used to describe geographical areas in Thailand. The Thai see Thailand comprising of two regions: Bangkok (Krungthep) and non-Bangkok (Tang-Changwat). Many Thai public policies also reflect this biased attitude and thus lead to the existing rural-urban segregation in Thailand. For instance, the police work is separated between the Bangkok police affairs (Nakornbarn) and the non-Bangkok police affairs (Puthorn). The legal facilities such as the court affairs are better facilitated in Bangkok than non-Bangkok. These examples show that the Thai society provides different treatment to individuals and hence different opportunities between those living in Bangkok and non-Bangkok areas. This urban bias attitude is thus a source of differences in economic opportunities in Thailand. The newly promulgated Decentralisation Act BE 2542 shows strong intention to increase the role of local governments in providing local goods and services. The current Constitution BE 2540 and the Decentralisation Act BE 2542 also aim to increase the allocation of government budget to local governments throughout the country to as high as 35 per cent by the year 2006. This innovation should help narrow urban-rural differences in Thailand.

### *5.3 Lack of competition*

Collusion among firms traps economic rent and prevents it from diffusing to other parts of the economy. Due to barriers to entry found in many industries in Thailand many firms cannot gain access to these markets and hence are prevented from realising their full potential earnings. As a result entrepreneurs operating in the highly concentrated industries earn economic rent while others do not. Industries that prohibit a high degree of concentration have led to inefficiency as well as an ill distribution of income may include, for instance, banking, petrochemical, construction and cement, communication and telecommunication or tobacco.

#### 5.4 Education opportunity

With the existing income inequality and rural-urban divergence, children in Thailand do not have equal education opportunity. While nearly all children in Thailand may attend schools children from better off urban families still receive better quality education than children from lower income rural families do. Not only out of pocket cost of education children from poorer families who decided to continue with their education also experience high opportunity cost of education, that is, forgone income. This difference in education opportunity leads to differences in labour skills and, hence, wages and income. Section 6 illustrates the case of how the university financing structure in Thailand is a good example of a policy bias towards children from well off families.

#### 5.5 Imperfect capital markets

Imperfection in capital market has often been an argument used to explain income inequality. Despite good project feasibility entrepreneurs that do not have sufficient collateral find it difficult to obtain investment loans. On the other hand, entrepreneurs with collateral have easier access to credit despite their questionable project feasibility or credit record. This type of lending behaviour will favour higher income borrowers who have collateral and prevent the lower income borrowers from realising their potential.

It has been suggested in this study that mere reduction in income inequality may not contribute to increase economic welfare. It is only when the fundamental *causes* of income opportunity described above are realigned can the pattern of income inequality be improved. A sound policy prescription will not only help improve income opportunity in a society it will also contribute towards welfare improvement as well.

### 6. Financing University Education in Thailand

Education has been found to be the most important cause of income inequality in Thailand (World Bank 2002). The previous section shows that education accounts for about 24 per cent of income inequality in Thailand. Other sources of income inequality are geographical locations and occupation of head of household. World Bank (2002) reports that these three factors together account for about 50 per cent of income inequality. While education opportunity has been mostly cited for a cause of income inequality there is still room for further investigation. This section will look into differences in educational opportunities in Thailand by focusing on university education. After reviewing the current status of education opportunity this study will offer an alternative option of education financing that may help eliminate undesirable education opportunity in Thailand.

The university system in Thailand has been around for about half a century. At that time the private sector was not able to provide university education, therefore, it was left to the Thai government to oversee that university education is adequately provided to the citizen. Government universities at that time was financed by the central budget just like any government agencies and university staff, including lecturers, are hired just like any other Thai civil servants. Students who attend

government universities will then be required to pay a small tuition fee as most parts of the tuition fee is absorbed by the central budget. Even 50 years have passed and private universities have played a larger role producing graduates to meet the market demand for labour government universities in Thailand still operate the same way that they did half a century ago.

Two features of the current government university financing system that deserve attention are: 1) government budget is directed to each government university annually and 2) tuition fees to government universities are much lower than the actual costs of providing university education. These two features have led to much inefficiency among the Thai government universities and it also became a cause of undesirable educational opportunity as well. In terms of efficiency, the fact that the Thai government channels the annual budget to each government university independently of their performance, this has allowed many universities to offer education programmes that only meet the desire of university staff but not necessary the market demand. There are many programmes that are being offered to students that do not have adequate market demand. As a result, graduates from these academic programmes will have to re-invest in advanced or graduate studies before they can get jobs. Most of these students end up taking their masters in businesses or information technology. This inefficiency shows that much of the government resources that have been invested in the students at the undergraduate level have yield small economic benefits. Furthermore, because government universities are operated similarly to other government agencies, they tend to lack the incentives to reduce the cost of operation to a minimum. It can, therefore, be surmised that the inefficiency of the Thai government universities has been in the form of wasteful utilisation of scarce resources in order to provide the kind education that the labour market does not wants.

On education opportunity that will have a much more direct implication on income inequality, it has also been found that the Thai government universities have a system that provides cheap education to children from well-off families. There are many types of costs associated with gaining an access to a government university in Thailand, they include the following:

- A. The informal cost of getting into good secondary schools, both in terms of higher tuition fees and tea money.
- B. The cost of obtaining extra curricular tuition or supplementary reading materials before taking university entrance exam.
- C. Students who live in the rural areas have to incur living expenses when taking extra curricular tuition that is only provided by private tutors in major urban areas.
- D. Tuition fees charged by government universities.
- E. Living expenses for students who have to relocate.
- F. Opportunity cost of time away from work.

Given these six categories of costs associated with gaining a university entrance it has therefore been observed that children from well-off families living in urban areas do have a greater opportunity to enter government universities. Table 6 shows that base on SES data for the year 2000, the household income of students who attend government universities is 2.7 times higher than the average household income. And

the household income for the students who attend private universities is 3.4 times higher than that of the average population.

**Table 6: Household income of families with children attending universities**

Types of Income	Population	Households that support children in <u>government</u> university	Households that support children in <u>private</u> university
Average household income (baht/month)	11,988	27,813	34,436
Average per capita income (baht/month)	3,882	7,350	9,100

Location wise, Table 7 shows that the children who live in the major cities, such as Bangkok, Chiang Mai, Songkla and Khon Kaen, tend to have a higher representation at the university level. This bias can be seen by the selectivity index that deviates from 1. Table 7 shows that the representation of students from the four major cities is 2.87 times compared to students from the other 72 provinces in Thailand. Another comparison was made between students from municipality areas compared to those from sanitary areas. Table 8 shows that there is also a clear bias in representation as well as the selectivity index rose to as high as 3.05 times indicating an over representation of students from the municipality areas.

**Table 7: Domicile of students (major cities) and selectivity index**

Types of Location	Population		Domicile of university students		Selectivity index
	Number	%	Number	%	
Number of families in four major provinces	3,177,900	19.76	227,492	56.68	2.87
Number of families in other provinces	12,908,498	80.24	173,893	43.32	0.54
Total	16,086,398	100.00	401,385	100.00	1.00

**Table 8: Domicile of students (municipality) and selectivity index**

Types of Location	Population		Domicile of university students		Selectivity index
	Number	%	Number	%	
Number of families in municipality areas	3,422,299	21.27	260,291	64.85	3.05
Number of families in sanitary and other areas	12,664,099	78.73	141,094	35.15	0.45
Total	16,086,398	100.00	401,385	100.00	1.00

Having demonstrated that students who attend government universities in Thailand are mainly from well-off families who live mainly in the urban areas it has also been disappointing to learn that the Thai government also decided to subsidise the tuition fee of these students as well. Thai government universities receive income from two main sources: central government budget and university revenue that is mainly from tuition fees. Base on budget data in 1999, it can be seen in Table 9 that the proportion of government budget to the total revenue averages around 70 per cent. This means that if it costs 100 baht to educate a student from well-off family the government will pay 70 baht towards his/her education and their parents will only pay the remaining 30 baht. At some universities this subsidy rises to as high as 92 per cent. It is worth noting that the subsidy rate at the two opened universities, Ramkhamhaeng University and Sukhothai Thammathira Open University are the lowest because of their relative high number of students. This subsidy constitutes a part of the Thai government university system that favours children from well-off families and limits opportunities of children from low-income families.

Table 10 shows that average cost of providing university education to students who attend government universities. The calculation of cost of education per student is based on total university revenue divided by the number of Full Time Equivalent Student (FTES). The cost of educating a student is highest at Walailuk University 176,213 baht per FTES per year and is lowest at Narasuan University at 21,433 baht per FTES per year. On average the cost of educating a student in a government university is 73,096 baht per FTES per year. This calculation excludes the two open universities because they operate under different system compared to other closed universities. Of this 73,096 baht per FTES per year the Thai government subsidises about 70 per cent or about 51,167 baht towards their tuition fee and the students pay the remaining 21,929 baht per year on average. For the two opened universities Table 11 shows that the cost per student are much lower than that of closed universities. The cost per FTES at the opened universities are between 5,000-7,000 baht per year.

**Table 9: Source of revenue of government universities in 1999 (million baht)**

Government University	Government Budget	University Revenue	Total Revenue	Govt/Total (%)
1. Ubon Ratchathani University	133.06	10.61	143.67	92.62
2. Khon Kaen University	881.74	128.05	1,009.79	87.32
3. Chiang Mai University	1,082.17	185.00	1,267.16	85.40
4. Naresuan University	136.53	25.21	161.74	84.41
5. Walailak University	160.07	30.94	191.02	83.80
6. Burapha University	212.33	43.32	255.65	83.05
7. Silpakorn University	384.20	79.64	463.83	82.83
8. Maejo University	134.52	34.97	169.49	79.37
9. Prince of Songkla University	716.67	187.35	904.01	79.28
10. KMIT-Thonbuti	287.07	75.33	362.40	79.21
11. Mahidol University	895.98	259.83	1,155.82	77.52
12. Srinakharinwirot University	639.62	190.71	830.33	77.03
13. NIDA	158.97	52.64	211.61	75.13
14. Mahasarakham University	225.54	75.90	301.45	74.82
15. Thaksin University	103.64	35.46	139.10	74.51
16. KMIT Ladkrabang	404.18	152.11	556.29	72.66
17. Thammasat University	617.78	248.20	865.98	71.34
18. Kasetsart University	1,092.86	512.21	1,605.07	68.09
19. KMIT-North Bangkok	282.70	146.43	429.13	65.88
20. Chulalongkorn University	1,392.06	1,058.68	2,450.74	56.80
21. Sukhothai Thammathirat Open U.	540.18	446.84	987.02	54.73
22. Ramkhamheang University	659.09	821.18	1,480.26	44.52
23. Suranaree University of Tech.	NA	NA	418.98	NA
24. Mae Fha Luang University	NA	NA	10.09	NA
<b>Total</b>	<b>11,140.97</b>	<b>4,800.59</b>	<b>15,941.56</b>	<b>69.89</b>

**Table 10: Annual cost per student (FTES) for closed universities in 1999**

Government Closed University	Total Revenue (million baht)	FTES (No of students)	Cost/FTES (baht/student)
1. Walailak University	191.02	1,084	176,213.36
2. Mae Pha Luang University	10.09	69	146,196.03
3. Chulalongkorn University	2,450.74	22,648	108,210.03
4. Srinakharinwirot U.	830.33	8,067	102,929.14
5. Mahidol University	1,155.82	11,375	101,610.21
6. Kasetsart University	1,605.07	19,696	81,492.23
7. NIDA	211.61	2,705	78,228.42
8. Khon Kaen University	1,009.79	13,021	77,551.14
9. Suranaree U. of Tech.	418.98	5,447	76,920.26
10. Silpakorn University	463.83	6,316	73,437.86
11. Chiang Mai University	1,267.16	18,064	70,148.60
12. Prince of Songkla U.	904.01	13,549	66,721.84
13. Mahasarakham University	301.45	4,543	66,353.81
14. Thaksin University	139.10	2,311	60,188.39
15. Thammasat University	865.98	14,782	58,583.35
16. Ubon Ratchathani U.	143.67	2,554	56,250.99
17. KMIT-North Bangkok	429.13	7,828	54,819.83
18. KMIT Ladkrabang	556.29	10,657	52,199.88
19. KMIT-Thonbuti	362.40	7,588	47,759.83
20. Burapha University	255.65	6,010	42,537.91
21. Maejo University	169.49	4,346	38,998.99
22. Naresuan University	161.74	7,546	21,433.84
Total	13,903.35	190,206	73,096.00

**Table 11: Annual cost per student (FTES) for opened universities in 1999**

Government Open University	Total Revenue (million baht)	FTES (No of students)	Cost/FTES (baht/student)
1. Sukhothai Thammathirat Open U.	987.02	134,983	7,312
2. Ramkhamheang University	1,480.26	258,654	5,723

In terms of cost per FTES by fields of study it is found that students studying in the field of law and political sciences have the lowest cost of 47,457 baht per FTES per year while the cost of medical students are the highest as expected at 395,208 baht per FTES per year. Again, Table 12 shows that the average government subsidy to the total cost of university education is around 70 per cent.

**Table 12: Cost per student by fields of study in 1999**

Fields of Studies	Average Cost (baht/student)	Govt/Total (%)	Max Cost (baht/student)	Min Cost (baht/student)
Law & Pol Sci	47,457	61	70,544	28,551
Manag, Buss & Econ	62,532	57	182,353	26,394
Soc, Hum & Mas Com	47,587	74	409,572	13,367
Arts & Literature	57,742	77	150,541	31,518
Education	90,610	74	179,689	40,318
Fine Arts	65,494	76	94,925	30,184
Architecture	71,394	76	110,502	41,557
Engineering	70,312	66	566,972	33,705
Science & Technology	66,338	80	244,956	17,195
Agri, Fish & Nat Res	109,910	83	223,456	43,431
Nurse	102,880	84	1,139,560	22,852
Pharmaceutical	127,152	77	636,514	27,880
Med Tech&Pub Hlth	119,905	85	506,862	43,043
Veterinarian	200,195	73	246,023	134,179
Dentistry	327,426	69	604,111	68,803
Medicine	395,208	65	551,225	269,309

The above indicate that there are obstacles, often financial, that have prevented children from poor families to attend government universities. This observation was raised in Thailand since 1989 by Khoman and Sakon (1989) and again by Khoman (1993). More recently, World Bank (2002) reports that the proportion of students from poor families attending closed government universities in Thailand is merely 1 per cent. As a result most of the students who are able “pay their way” and hence gain entrance to government closed universities are children from well-off families with average income 2.7 times higher than the average income of Thai households. As 70 per cent of university education is subsidised these students from well-off families are the prime beneficiaries of government spending on higher education. It would be much more desirable if the university financing system can be reverted to a system where students from well-off families can pay the full cost of their education so that the government budget can be allocated among the children from low-income families. This type of university financing system will result in a redistribution of education opportunities allowing children from the poor families a chance to be educated hence earn higher income.

### *6.1 An Alternative Option of University Financing*

Since King Rama V founded Chulalongkorn University over 100 years ago there have been many changes with Thai universities. At that time, modern education market in Thailand did not exist and thus the role of the government was to provide Thailand with government operated universities such as Chulalongkorn or Thammasat. Today,

the private sector has responded effectively to the need of the Thai labour market. Just as there are 24 government universities in Thailand, there are also another 22 private universities that have been struggling at their best to gain recognition in the Thai society. With the absent of university rating system and the fact that government universities have the privilege to cut price below cost via subsidised tuition, these two factors have prevented the private universities from realising their full economic potential. Furthermore, the current government university financing system also fosters wasteful utilisation of university resources by failing to produce graduates that meet the labour demand at minimum costs as well as favouring children from well-off families to have access to cheap education unnecessary. The current government education financing system can be said to be a drain of Thailand's resources as well as a source of income inequality.

An alternative option of university financing being recommended by this report has the following objectives:

- A. To improve education opportunities of children from low-income families and hence contribute towards improving income inequality,
- B. To reduce wasteful resource utilisation among government universities, and hence contribute towards improving the efficiency of government universities, and
- C. To strengthen the role of private universities in producing graduates to meet the labour demand.

To meet these objectives the alternative option of university financing has the following features: replace the current budgetary system with a voucher system, full cost pricing, strengthen the Student Loan Scheme (SLS) and scholarship programme, utilising assessable income tax information, and adopt a university rating system.

## *6.2 Voucher System*

The existing system where government budget is directly given to each university has been a cause of inefficiency. With this type of financing, faculties have no incentive to tailor their academic programmes to neither meet the labour demand nor provide education services at minimum cost. A voucher system aims to re-direct government funding from being directed to universities to being directed to students. These vouchers will come in the form of student loans or scholarships. Students from low-income families who qualify for university entrance will instead receive a voucher from the government. Students can then use these vouchers and “shop around” for an academic programme that suit their interests. These programmes can be those offered by government universities or private universities. With the voucher system, there will be incentives for faculties to tailor their academic programmes to meet the market demand as it will increase their enrollment and hence revenue. Faculties that fail to attract sufficient number of enrollment will eventually need to down size. In addition, this voucher system will also provide incentives for faculties to reduce unnecessary costs as any money saved can be used for other compensations.

### *6.3 Full Cost Pricing*

As shown previously that the majority of students in government universities in Thailand are children from well-off families, there is no reason for the government to help pay for their tuition given there are still many poor children who await government assistance and an opportunity to attend higher education. For this reason, the university financing system should be one where, by default, all students are subject to full cost pricing except if they come from low-income families that will qualify them for student loans or scholarship.

Full cost pricing serves two main purposes: 1) It enables the government to divert resources away from financing student from well-off families to providing student loans or scholarships to students from poor families. With full cost pricing the total government budget allocated for higher education need not increase but students from poor families will have greater opportunities to attend universities. 2) It creates a leveled playing field for the private universities to compete with government universities. In the long run this will help enhance the efficiency of government universities as well as allowing private universities to expand their role in providing higher education to Thai youth.

### *6.4 Student Loan Scheme and Scholarship*

Although all students are subject to full cost tuition fee as discussed above students from low-income families will be eligible for student loan or scholarship. Currently Student Loan Scheme has been operated in Thailand since 1996 but it needs to be strengthened. Student loans and scholarships need to cover not only tuition but living expenses as well. The government budget that is saved because a portion of students are made to pay the full cost of tuition can be use to subsidise the interest rate on these student loans and to provide full scholarship.

This study suggests those students from families whose after tax assessable family income (taxable income after deductibles) over the last 3 years is less than 100,000 baht per year be eligible for student loans. These loans can be used to pay for either government or private universities depending on the student own academic performance. Students who take students loans will need to pursue only some specified fields of study that meet the market demand and these loans have be paid back in full after the students have graduated and obtained a job.

As for scholarships, it should be directed to students from the poorest families. This study suggests that students from families whose after tax assessable family income over the last 3 years is less than minus 100,000 baht per year and live in rural areas be eligible for full scholarships. This scholarship covers tuition and living expense and it can be used to pay for either government or private universities depending on the student own academic performance. Therefore, disadvantage students from low-income families on these scholarships can pursue their university education without imposing a burden on their family. (except some forgone income) An advantage of scholarship over student loan is that scholarships need not be paid back.

### *6.5 Assessable Income Tax*

Whether a student will fall in the financial category of full cost tuition, student loan scheme or scholarship will depend on the financial status of his/her family. To assess the financial status of each family this study recommend that families who plan to apply for student loan or scholarship for their children must conform to the standard personal income tax procedures. That is, they must have records of filing annual income tax for the last 3 years prior to their child university entrance. Families who cannot provide such records are automatically subject to full cost tuition.

This requirement will encourage more families to file their annual income tax regardless of how poor they are. For poor families, filing annual income tax will have no impact on them what so ever. Instead, it will help many families who operate small business to request for proper receipts for the inputs they purchase. This will, in then, help raise tax revenue elsewhere in the economy.

### *6.6 University Rating System*

A university rating system is an essential ingredient that will help improve the flow of information between the labour market, the education market and the students. Currently, there seems to be a lack of information flow between these three sectors and hence efficiency is being compromised. For instance, the labour market cannot differentiate between students graduated from good academic programmes and those from sub-standard programmes. Furthermore, the students cannot differentiate differences among universities base on academic performance. As a result, efficient universities fail to capture their true economic returns while inefficient but reputed universities are highly demanded.

It is recommended that a university rating system be established to provide ranking among private and government universities by fields of study. This system will help improve efficiency for both the private and public universities. Table 13 shows the summary of the alternative option of university financing discussed in this section.

## **7. Conclusion**

Thailand has come a long way towards understanding income inequality. Data shows that income inequality in Thailand has deteriorated during 1970s and 1980s. Income inequality tends to fluctuate around a stable mean during 1990s. Having been aware of the status of income inequality Thailand has also been aware of the fundamental causes of income inequality as well. These causes include rural and urban development, lack of market competition, education opportunity or imperfect capital market. Despite having understood the causes of inequality little of these findings have made impact in terms of causing a policy change.

This study makes use of findings from previous empirical research in that education is the most important factor explaining income inequality in Thailand. It has been demonstrated in this study that the main beneficiaries of university education are children from well-off families living in the urban areas. Having recognised this fact, the Thai government chooses to subsidise children from well-off families by help

paying 70 percent of their tuition fees leaving many more children from poor families with little opportunity to go to universities.

This study proposes that to help improve education opportunity for the children from low-income families the Thai government needs to stop paying money to children from well-off families to attend government universities. Children from well-off families have to pay the full cost of their university education. The revenue saved can thus be reallocated to children from low-income families in the form of student loans or full scholarship. To assess the parents' economic status, this study recommends that annual income tax records of the parents be used to determine whether students will have to pay the full cost of university education, receive student loans or full scholarship. In addition, a university rating system needs to be established in order to facilitate a flow of information regarding academic performance of the various university programmes being offered by government and private universities. Rather choosing academic institution or study programme based on a "social norm" the university rating system will enable the students to make an educated choice when selecting their academic institutions and study programme.

It is hoped the alternative option of university financing proposed in this study will help increase education opportunity for the children from low-income families, increase the efficiency of government universities while at the same time allowing private universities to fully realise their potential and their contribution to the society.

**Table 13: An alternative university financing system for Thai universities**

<i>GRADUATE STUDIES (MASTERS AND DOCTORATE DEGREES)</i>			
Financing Method	Parent Financial Conditions	Academic Condition	Student Financial Obligations
<ul style="list-style-type: none"> <li>• Full Cost Tuition Fees</li> <li>- Any university &amp; any field</li> </ul>	1. None	1. Quality for university entrance	1. None
<i>UNDERGRADUATE STUDIES (BACHELOR DEGREES)</i>			
<ul style="list-style-type: none"> <li>• Full Cost Tuition Fees</li> <li>- Any university &amp; any field</li> </ul>	1. None	1. Qualify for university entrance	1. None
<ul style="list-style-type: none"> <li>• Full Student Loan</li> <li>- Any university</li> <li>- Specific fields only</li> <li>- Full tuition Fee</li> <li>- Living allowance</li> <li>- Book allowances</li> </ul>	<ol style="list-style-type: none"> <li>1. Parents submit annual tax return five consecutive year</li> <li>2. Parents five year average net assessable income less than 100,000 baht/year</li> </ol>	<ol style="list-style-type: none"> <li>1. Qualify for university entrance</li> <li>2. Maintain annual GPA &gt; 2.5</li> <li>3. Maximum loan period = program quirement plus one year</li> </ol>	<ol style="list-style-type: none"> <li>1. Two year grace period after degree completion</li> <li>2. Pay back installments as part of student's annual tax return</li> <li>3. Pay back record can be use as bank collateral</li> </ol>
<ul style="list-style-type: none"> <li>• Full Scholarship</li> <li>- Any university</li> <li>- Specific fields only</li> <li>- Full tuition Fee</li> <li>- Living allowance</li> <li>- Book allowances</li> </ul>	<ol style="list-style-type: none"> <li>1. Parents submit annual tax return five consecutive years</li> <li>2. Parents five year average net assessable income less than <u>minus</u> 100,000 baht/year</li> <li>3. Student domicile in rural area</li> </ol>	<ol style="list-style-type: none"> <li>1. Qualify for university entrance</li> <li>2. Maintain annual GPA &gt; 2.5</li> <li>3. Maximum scholarship period = program quirement</li> </ol>	None

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