

REVIEW

POVERTY, INCOME INEQUALITY, AND HEALTH CARE CONSUMPTION IN THAILAND

Isra Sarntisart

Center for Health Economics Faculty of Economics, Chulalongkorn University, Bangkok 10330, Thailand

Abstract. The Thai economy has grown rapidly during the past three decades of modern industrialization. The structure of the economy has been changing from an agricultural to manufacturing based. Because industrial development policies has been biased toward Bangkok and surrounding provinces, regional income disparities have been widening. Despite the high growth record, Thailand has failed to distribute the benefits of economic growth equitably. This problem of income distribution could have many important consequences of relevance to the health of population.

INTRODUCTION

The last three decades have witnessed impressive economic growth in the Thai economy. Industrial development, an outward looking strategy, and the world economic environment are behind the success. The share of manufacturing in GDP and in total exports has increased markedly. At the same time, there has been a sluggish increase in the share of manufacturing employment in the total labor force. Consequently, the gap between output per worker in agriculture and the manufacturing sector has widened. Thailand has failed to distribute the benefits of economic growth equitably and the distribution of income has become more unequal. This maldistribution of income has implications also for equity in health.

The problem of income distribution can be viewed in both absolute and relative terms. In relative terms, income inequality is primarily concerned with the income position of individuals or households in relation to each other. Changes in income inequality indicate how the benefits of economic growth are distributed among individuals and households. Changes in inequality are socially subjective, however, and are tolerable as long as the process of change involves Pareto improvement - absolute gains for all - and does not preclude future and more desirable distributional changes (Adelman and Robinson, 1989). Poverty incidence is primarily concerned with the minimum level of income needed to maintain a given standard of living. Results of recent research indicate that poverty and malnutrition

are positively correlated (Biswas and Pinstrup-Anderson, 1985). Increases in poverty incidence incur hardship. When income becomes so low that people cannot survive or maintain normal activity, their poverty indirectly creates problems for those who are not poor, and becomes a cost to the whole community in terms of crime, medical problems, etc. There has been increasing concern with the problem of income distribution in Thailand. In the seventh development plan (1992-1996), the Thai government has given priority to the problem, by focusing on the reduction of poverty and an increase in income of the targetted groups, particularly poor farmers and farm workers.

This paper examines the size distribution of income in Thailand, which explains how income is divided among households or individuals. Based on a minimum level of income (poverty line), the size distribution of income can also explain the proportion of poor in the total population, and the extent of poverty in Thailand. The focus on income distribution arises from the increasing concern that rapid economic growth and structural change in the Thai economy did not sufficiently reduce poverty and income inequality. Large proportions of the Thai population were not benefiting from the growth.

POVERTY INCIDENCE

Changes in poverty

The measurement of poverty incidence is highly

dependent on the definition of poverty line. At least three approaches have been used widely. The first observes a standard of living directly from the social prescription. The second determines a standard of living from the declaration of members or representatives of a society. These are both criticized as being relative criteria. The third approach is based on a scientific estimation of physiological and mental requirements. This approach is supported by a World Bank study on Brazil, which indicates that the elimination of malnutrition through the provision of subsistence can lead to substantial gains in labor productivity and overall economic growth (World Bank, 1979, quoted in Sharif, 1986). In this context, both the concept of growth and distribution are justified.

This paper focuses on the absolute concept of poverty lines, calculated from a nutritional approach. The earliest two studies on poverty in Thailand, based on this concept, are Meesook (1979) and Kodamrong (1980). In both studies, the Household Socio-economic (Expenditure) Surveys of the National Statistical Office were the source of data. Because of the way her poverty lines were constructed, and the additional number of years included in her study, Meesook's results are highlighted in this section (Table 1). However, her results are supported by Kodamrong's results.

Two absolute poverty lines, urban and rural poverty lines, were used to calculate poverty incidence on an individual basis. Head count ratio,

Table 1
Poverty incidence, by region and community: 1962/63, 1968/69, and 1975/76.

Region and community	1962/63	1975/76	1968/69	1975/76
Whole kingdom	57	33	39	31
Rural	61	37	43	35
Urban	38	22	16	14
Northeast	74	46	65	44
Rural	77	48	67	45
Urban	44	38	24	20
North	65	35	36	33
Rural	66	36	37	34
Urban	56	31	19	18
South	44	33	38	31
Rural	46	35	40	33
Urban	35	29	24	22
Central	40	16	16	14
Rural	40	15	16	15
Urban	40	20	14	12
Bangkok	28	12	11	12

Notes: a) In 1975/76, Urban poverty line is 2,961 Baht/person/year and rural poverty line is 1,981 Baht/person/year. Consumer price indices were used to adjust price differences between the periods concerned and the base year 1975/76.

b) Urban areas mean municipal areas and sanitary districts for the first two columns and municipal areas for the second two columns. Rural areas mean villages for the first two columns and sanitary districts and villages for the second two columns.

c) Nonthaburi, Pathum Thani, and Samut Prakan are in the central region, except in 1975/76 in which they were included in Bangkok.

Source: Table 3.1, Meesook (1979)

or HCR, was used as a measurement of poverty. The HCR shows the number of poor as a proportion of the total population. The poor are individuals whose income was below the poverty lines.

Meesook (1979) found significant reductions in poverty in Thailand between 1962/63 and 1975/76, and between 1968/69 and 1975/76. Between 1962/63 and 1975/76, the reductions were at both national and regional levels. In 1962/63, 57% of urban Thais were in poverty, while in 1975/76, the figure was only 33%. This was a reduction of approximately 42% in

thirteen years. However, Meesook (1979) adds that, although the number of poor over the total population decreased, the number of poor was almost the same when population growth was taken into account.

Two studies on poverty incidence in the late 1970s and 1980s are Hutaseranee and Jitsuchon (1988); and Krongkaew *et al* (1991). Both employed Meesook's poverty lines. The former calculated HCR in 1975/76, 1980/81, and 1985/86, while the latter calculated HCR in 1988. Their results are summarized in Table 2.

Table 2
Poverty incidence, by region and community: 1975/76, 1980/81, 1985/86, and 1988.

Region and community	1975/76 ¹⁾	1980/81 ¹⁾	1985/86 ¹⁾	1988 ²⁾
Whole kingdom	30.02	23.04	29.51	21.18
Villages	36.16	27.34	35.75	26.30
Sanitary districts	14.76	13.47	18.55	12.17
Municipal areas	12.53	7.51	5.90	6.11
Northeast	44.92	35.93	48.17	34.56
Villages	48.54	37.92	50.49	36.77
Sanitary districts	24.66	20.81	33.25	18.60
Municipal areas	20.90	17.99	18.67	18.62
North	33.20	21.50	25.54	19.95
Villages	36.37	23.32	27.74	21.61
Sanitary districts	19.23	16.16	20.19	15.14
Municipal areas	17.84	8.03	6.87	10.53
South	30.71	20.37	27.17	19.43
Villages	33.84	22.16	31.17	21.72
Sanitary districts	18.14	6.75	8.07	10.20
Municipal areas	21.69	15.20	8.61	10.81
Central	12.99	13.55	15.63	12.91
Villages	14.26	14.16	17.37	15.04
Sanitary districts	7.99	11.62	11.36	5.90
Municipal areas	11.45	11.74	8.87	7.73
Bangkok	7.75	3.89	3.54	3.48
Fringes	11.97	9.15	8.83	6.58
Suburbs	6.00	2.58	2.51	-
City core	6.90	3.70	3.11	2.66

Notes: Rural poverty lines are 1981, 3454, 3823, and 4076 Baht/person/year in 1975/76, 1980/81, 1985/86, and 1988, respectively. Urban poverty lines of the years are 2961, 5151, 5834, and 6203 Baht/person/year. Rural poverty lines are applied to sanitary districts.

Source: 1) Table 2.15, Hutaseranee and Jitsuchon (1988).

2) Table 2.10, Krongkaew *et al* (1991).

In 1980/81, poverty incidence in most parts of the country was less than in 1975/76 - apart from the Central region where poverty incidence increased - especially in sanitary districts and municipal areas (for Thailand, sanitary districts mean small towns, and municipal areas mean cities. Villages can be referred to as rural areas). However, this improving trend was reversed. Poverty incidence increased in 1985/86 in all villages and most sanitary districts, although there was less poverty in Bangkok and most municipal areas.

Hutaseranee and Jitsuchon (1988) asserted that poverty incidence in 1980/81 was better than in 1985/86, because of the effect of the extra high crop prices that year. This can be seen from the 4.6% decrease of the average income per capita of all agricultural workers between 1980/81 and 1985/86. This period of worsening poverty incidence was the first time since 1960 in which the average welfare of Thai people significantly deteriorated (Hutaseranee and Jitsuchon, 1988).

In 1988, Krongkaew *et al* (1991) show that there was a lower percentage of rural Thais in poverty in almost every region. Except for Bangkok and the Central region, poverty incidence in municipal areas either increased or insignificantly decreased. They assert that this situation was similar to that in 1980/81. The major determinant of the reduction in 1988 poverty was crop prices which were at a peak among adjacent years. Despite that fact, this change had very significant consequences on changes in inequality which will be discussed in section 3.

Features of changes

Although, the changes in poverty incidence over the past three decades have been impressive, it is

remarkable that, for almost thirty years, Bangkok has been insulated from poverty deterioration, while the Northeast has been the poorest region in the country. These data can be explained by some common features of poverty incidence as follows.

Poverty incidence is a rural phenomenon. Table 3 shows that the rank of HCR by region is exactly the same as the rank of the size of the rural sector in each region, and the Northeast has the biggest rural sector. Moreover, Bergemeier and Hoffman (1988) studied the striking characteristic of poverty concentration in Thailand in 1981, pointing out that poverty incidence has a rural bias. Only 16.2% of urban residents were living in poverty, compared to 26.5% of rural residents. However, if Bangkok is excluded, the proportion of urban residents living in poverty rises to 25.7%, nearly the same as for rural areas. The wealth of Bangkok, and bordering subregions on the fertile central plains, is increasingly and sharply contrasted with average living standards, especially in the Northeastern and upper Northern regions.

Changes in poverty incidence were closely related to the performance of agriculture, especially crops. In 1985/86, agriculture recorded a very poor performance of nearly zero growth (Table 4). This was mainly caused by the negative growth rates of most major crops. Moreover, in 1985/86, the agricultural term of trade was the lowest in three decades. Thus, between 1980/81 and 1985/86, poverty increased in village areas in every region. Poverty also increased in sanitary districts in almost every region except the Central region.

The Northeast not only has the largest rural sector, but also the poorest land quality in the country. About 38% of agricultural land in this region is salty, and only 8.64% is irrigated (Chuprakorb, 1989). Siamwalla

Table 3
Rank of poverty and size of rural sector, by region: 1988.

Region	Rank of poverty ¹⁾	% of village household ²⁾
Northeast	1	86.42
North	2	79.03
South	3	76.92
Central	4	73.10
Bangkok	5	10.92

Sources: 1) Rank from Table 2.

2) Household Socio-economic Survey 1988, National Statistical Office.

Table 4

Economic growth, by industry: 1962/63, 1968/69, 1972/73, 1975/76, 1980/81, 1985/86 and 1988.

Industry	1962/63	1968/69	1972/73	1975/76	1980/81	1985/86	1988
Economic Growth (%)	8.4	9.6	9.9	9.4	6.3	4.9	13.2
Agriculture	8.9	10.1	9.4	6.0	5.4	0.3	10.2
Crops	9.2	9.5	14.3	6.6	5.8	-4.5	14.4
Manufacture	9.0	10.7	15.7	15.3	6.3	10.8	16.8
Other sectors	7.8	8.9	8.1	8.7	6.7	4.4	12.7

Source: National Income of Thailand (various issues), NESDB.

et al (1989) point out that the poor quality of land adversely affects the productivity of the agricultural labor force in the Northeast. Table 5 shows that the Northeast has the lowest paddy yield per rai, about 40% lower than the average of other regions. This affects the income of a least 80% of farmers in this region. Chuprakorb (1989) also concludes that land quality is one of the causes of poverty in this region.

Poverty is a problem of human capital. Hutaseranee and Jitsuchon (1988) found that in almost all poor families the household head did not have more than an elementary education. Thus, high poverty is expected among unskilled labor. Krongkaew *et al* (1991) also found a very high poverty incidence among households whose heads were agriculturalists, laborers, or economically inactive people.

INCOME INEQUALITY

Based on the Household Socio-economic Surveys of the National Statistical Office, most previous

studies used the Gini index to measure income inequality in Thailand. The Gini index provides a summary picture of the extent to which the actual distribution of income deviates from the perfectly equal distribution of income. The index ranges between zero (perfect equality) and one (perfect inequality).

Changes in inequality

Krongkaew (1977) studied income inequality in three periods, 1963, 1969, and 1972 (these are equivalent to Household Socio-economic Survey (expenditure) Surveys in 1962/63, 1968/69, and 1971/72). He used both money income, and adjusted income, which already included income in-kind and net corporate retained earnings. Based on household income, his finding was that severe income inequality existed during all periods. One half of the households in Thailand shared less than 20% of

Table 5

Land ownership, percentage of paddy farmers, and average yield per rai of paddy, by region.

Region	Land owned by farmer ¹⁾ (%)	Paddy land per farmer ¹⁾ (Rai)	Paddy yield ²⁾ (Kg/Rai)	Land share ²⁾ (%)
Northeast	95.62	18.08	235	37.63
North	85.33	13.93	402	30.18
Central	78.98	22.45	386	26.82
South	96.08	8.39	288	5.37

Notes: Major Bangkok is included in Central region. Paddy yields are average yields of major rice, 1986/87-1989/90. Land shares are regional share of paddy land.

Sources: 1) Report of the 1988 Intercensus Survey of Agriculture, National Statistical Office.

2) Agricultural Statistics of Thailand, Crop Year 1989/90, Office of Agricultural Economics.

the country's income. The income share of the bottom 20% of households was less than 3.5%, while the share of the top 20% of households was nearly two-thirds. Krongkaew concluded that income equality had clearly deteriorated during all periods. As shown in Table 6, the top 20% income class was the only one to gain a greater income share during these periods, and, of these, the top 1% benefited the most. Where poor households were larger than rich households, on a per capita basis, the worsening inequality was even more severe.

Hutaseranee and Jitsuchon (1988) studied income inequality in 1975/76, 1980/81, and 1985/86. The

difference between this and Krongkaew's study was that Hutaseranee and Jitsuchon used a per capita basis rather than a household basis. In terms of Gini indices, income inequality was 0.426 in 1975/76; 0.453 in 1980/81; and 0.500 in 1985/86. The degree of worsening inequality was more severe between 1980/81 and 1985/86 than between 1975/76 and 1980/81. This could also be the effect of agricultural terms of trade and the performance of agriculture. As shown in Table 7, the income share of the top 20% of the population in 1975/76 was 49.26%. In 1980/81 and 1985/86, this share increased to 51.47% and 55.63%, respectively. On the opposite side, the share of the bottom 20%,

Table 6
Income inequality: 1963, 1969 and 1972.

Income distribution	1963	1969	1972
Income share (%) of			
20% First (lowest)	2.9	3.4	2.4
20% Second	6.2	6.1	5.1
20% Third	10.5	10.4	9.7
20% Fourth	20.9	19.2	18.4
20% Fifth (top)	59.5	60.9	64.4
1% Highest	9.6	10.5	15.0
Gini index ¹⁾	0.5627	0.5550	0.6051
Gini index ²⁾	0.4559	0.4822	0.5348

Notes: 1) Based on money income.

2) Based on adjusted income.

Source: Tables 9 and 10, Krongkaew (1977).

Table 7
Income inequality: 1975/76, 1980/81, 1985/86 and 1988.

Income distribution	1975/76 ¹⁾	1980/81 ¹⁾	1985/86 ¹⁾	1988 ²⁾
Income share (%) of				
20% First (lowest)	6.05	5.41	4.55	4.52
20% Second	9.73	9.10	7.87	7.98
20% Third	14.00	13.38	12.09	12.20
20% Fourth	20.96	20.64	19.86	20.30
20% Fifth (top)	49.26	51.47	55.63	54.98
10% Highest	33.40	35.44	39.15	37.98
Gini index	0.426	0.453	0.500	0.478

Source: 1) Table 2.2, Hutaseranee and Jitsuchon (1988)

2) Table 6, Bhongmakapat (1990).

which was already low, was reduced from 6.05% to 5.41% and then to 4.55%. Again, the top 20% income class was the only one that gained, and the top 10% class gained the most. One could ask whether all or most of the gain went to the top 1% class.

Using the same methodology as that of Hutaseranee and Jitsuchon (1988), Bhongmakapat (1990) calculated income inequality in 1988. He found that the share of the lowest quintile insignificantly decreased, while the share of the middle three classes increased at the expense of the share of the top income class. Moreover, the major loser was the top 10% income class. In terms of Gini index, inequality decreased from 0.500 in 1985/86 to 0.478 in 1988. His results are reported in Table 7.

It is notable that this is the first time in thirty years that Thailand recorded a decrease in inequality. This improvement in inequality coincided with the increase in poverty between 1985/86 and 1988, which was an urban phenomenon. In that period, municipal areas in almost every region experienced an increase in poverty, except for Bangkok and municipal areas of the Central region, which were insulated from these increases. Thus, this decrease in inequality was at the expense of the non-poor people in urban areas who became poor.

Inequality reduction was predicted by Sussangkarn *et al* (1988) who show that there is some relationship between the level of economic development and the level of income inequality in Thailand. This can be explained by many factors, one of which is GDP per capita and the large proportion of labor in the agricultural sector. Their study also shows that Thailand was on the rising trend of an inverted U-curve. The major key to reversing the trend of inequality is a rising real wage and a shift of labor from the traditional sector to the modern sector. Their conclusion confirms Kuznets' inverted U-curve.

Features of changes

In comparison to poverty incidence, the change in income inequality is not impressive. Except in 1988, the distribution of income has become more unequal. Hutaseranee and Jitsuchon (1988) study the important features of the changes in equality. Their analysis can be summarized as follows.

Firstly, by using multiple regression, Hutaseranee and Jitsuchon (1988) concluded that employment

related factors are the major cause of income inequality. Other important factors are locational (community and region), and personal (human capital) variables.

Secondly, based on their inequality disaggregation, the dynamism of these causes of inequality can be analysed. Basically, the overall (national) inequality can be separated into two parts, inequality within each subgroup and inequality among different subgroups. A subgroup can be defined as a region, community, sector of production, or any socio-economic variable. Over time, changes in the contribution of the two types of inequality show their relative importance in explaining the overall inequality. The contribution also indicates how balanced development is across subgroups.

Hutaseranee and Jitsuchon (1988) disaggregated inequality, as measured by the Shorrocks index, by various subgroups. A major advantage of the Shorrocks index over the Gini index is its aggregate decomposability which allows a decomposition of inequality. Their results (Table 8) show that development has been increasingly unbalanced. Inequality amongst people living in different locations, different communities, and different regions has been relatively increasing compared to inequality amongst people living in the same location, the same community, and the same region, respectively. Inequality amongst people in different socio-economic classes, different occupations, different sectors of production, and with different education levels has also relatively increased.

The regional, community, and sectoral inequality disaggregations confirm the widening income disparities across region, urban and rural settings, and sectors of production, as already discussed. As an example, in 1975/76, 83.82% of the national inequality was caused by inequality amongst people living in the same region, while the remaining 16.18% was caused by inequality amongst people living in different regions. In 1980/81 and 1985/86, the contribution of inequality amongst people living in the same region decreased to 80.13% and 75.10%, respectively. At the same time, inequality amongst people living in different regions increased to 19.87% and 24.90%.

EQUITY AND HEALTH: A CONSUMPTION BEHAVIOR ANALYSIS

Equity in health can be observed in many aspects, one of which is the analysis of consumption behavior.

Table 8

Percentage factor disaggregation of income inequality: 1975/76, 1980/81 and 1985/86.

Factor disaggregation	1975/76	1980/81	1985/86
Inequality (Shorrocks index)	0.304	0.347	0.427
Region			
Between group	16.18	19.87	24.90
Within group	83.82	80.13	75.10
Location			
Between group	15.01	18.86	24.98
Within group	84.99	81.14	75.02
Community type			
Between group	20.20	21.77	28.15
Within group	79.80	78.23	71.85
Sex of head			
Between group	0.28	0.52	0.76
Within group	99.72	99.48	99.25
Age of head			
Between group	0.47	0.62	0.27
Within group	99.53	99.38	99.73
Education of head			
Between group	-	15.14	20.00
Within group	-	84.86	80.00
Socio-economic class			
Between group	25.57	26.97	33.82
Within group	74.43	73.03	66.18
Occupation of head			
Between group	22.62	24.02	31.31
Within group	77.38	75.97	68.68
Sector of production			
Between group	21.19	23.94	28.53
Within group	78.81	76.06	71.47

Source: Table 2.7, Hutaseranee and Jitsuchon (1988).

There are many pertinent studies on consumption behavior in Thailand. The most detailed and up to date study is Sarntisart and Warr (1994) which analyses 1988 consumer demand for twenty consumer goods, including medical supplies and medical services (hereafter health care). Their results are summarized in Table 9. A striking character of their results are the low proportion of expenditure on health care, *ie* about 2-5% of total household expenditure. However, those of urban and rural

households in the top quintile are the highest, 4.08% and 4.95% respectively. Considering their total expenditure which is much higher than that of households in lower quintiles, rich households enjoy much better health care than poor households.

Expenditure elasticity of demand indicates the degree of responsiveness of demand to a one percent change in total household expenditure. Based on the same study, the expenditure elasticity of demand for health care is higher than 1.1 for poor

Table 9

Monthly household expenditure, average and marginal budget shares, and expenditure elasticity of demand for medical supplies and medical services, by household: 1988.

Household	Expenditure (Baht)	Budget share (%)		Expenditure elasticity
		Average	Marginal	
Urban 1 (bottom)	2,405	2.57	3.50	1.3606
Urban 2	3,797	2.86	4.31	1.5103
Urban 3	5,109	2.40	2.75	1.1463
Urban 4	6,369	2.74	3.49	1.2771
Urban 5 (top)	11,886	4.08	3.51	0.8619
Rural 1 (bottom)	1,545	2.65	3.96	1.4948
Rural 2	2,123	3.40	4.76	1.3988
Rural 3	2,616	3.62	4.62	1.2745
Rural 4	3,308	3.62	4.90	1.3564
Rural 5 (top)	6,313	4.95	4.47	0.9028

Source: Samtisart and Warr (1994).

households, while it is lower than 1 for urban and rural households in the top quintiles. Based on the figures, the micro-economic theory will maintain that health care is a necessity (< 1) for the rich households while it is a luxury good (> 1) for the poor households. However, on the other side, it can also be argued that the elasticity points to an inequity in health care consumption. The higher elasticity may indicate more need for better health care. Thus, the problem of income distribution has some correlation with inequity in health.

CONCLUSION

This paper has examined the changing pattern of income distribution during the past three decades of industrialization in Thailand. The movement of poverty incidence and income inequality has been in opposite directions. Generally, poverty incidence improved along the trend of increasing national income, while income inequality deteriorated. However, in the late 1980s, there were both ambiguous changes in poverty and a turning trend in income inequality.

Major contributing factors of poverty have been in the agricultural sector and rural areas, quality of

land, and the output and prices of crops. Employment related factors, locational factors, and human capital variables have been seen as major contributing factors of income inequality in Thailand. The disaggregation of inequality analysis points to the widening income gaps amongst various sub-groups, especially amongst regions, amongst communities, and amongst sectors of production. Therefore, it indicates that economic development has increasingly been unbalanced during the period.

The consequences of the unequal distribution of income are very important, especially in terms of productivity, growth, and economic welfare. As pointed out by Swaminathan (in Biswas and Pinstrip-Anderson, 1985), poverty persists under conditions where the value of human resource is undervalued while the value of land and other physical assets are overvalued, and, in the hierarchy of needs for human development, nutrition occupies the first place. When a large number of the population fail to achieve a minimum level of income (poverty line), the conditions of their lives are degraded by malnutrition, disease, illiteracy, and inferior opportunity. Moreover, the unequal distribution of benefit of growth hampers the success of economic development. Consequently, the problems of inequality and poverty become vicious circles for the poor.

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