Journal of Community Positive Practices, XXI(2) **2021**, *15-30*
ISSN Print: 1582-8344; Electronic: 2247-6571

DISTRIBUTIONAL EFFECTS OF PUBLIC HEALTHCARE AND EDUCATION EXPENDITURE: A CASE OF THAILAND

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DOI: 10.35782/JCPP.2021.2.02

***Abstract**: The policy advocacy of academics and researchers signify the public spending on education and health as the positive externalities and spillover effects in the society. It also promotes that social spending helps reducing income inequality and eventually reduce poverty. This study aims at analyzing the distributional effects of social spending on education and health by examining the pre and post income distribution in Thailand following the quantitative dataset of 2011. It follows calculation of benefit incidences, which is a method of computing distributional effects of public spending, based on different five income groups (poorest, poor, moderate, rich & riches). The study divulges that Thai education system seems to be pro-poor particularly for primary and secondary education whereas healthcare seems pro-rich. It is revealed that benefit of the poorest income group increased from 8.16 per cent to 9.51 per cent while it decreased from 41.48 per cent to 39.86 per cent for the richest group after government expenditure. The increase for poor and decrease for rich in income benefit after public expenditure is treated as positive for the society. The total public expenditure on these two sectors in Thailand denotes the decrease in inequality as the Gini coefficient went down to 0.2818 from 0.3056. The study suggests increasing expenditure for the rural and poor people to minimize the gap. A special stipend is suggested for the rural student to at tertiary level where richest has highest share and there is big gap in at this level. The study also recommends establishing more higher education institutes at the provincial level to benefit the poor and rural people living away from the capital. Study suggests government to impose tax on private healthcare, which is usually availed by affluent people. Likewise, government can spend more money for lower income group. Policy should also formulate to emphasize rural people than urban in order to provide benefit to the poor.*

***Keywords:** benefit incidence analysis, health spending, education spending, inequality*

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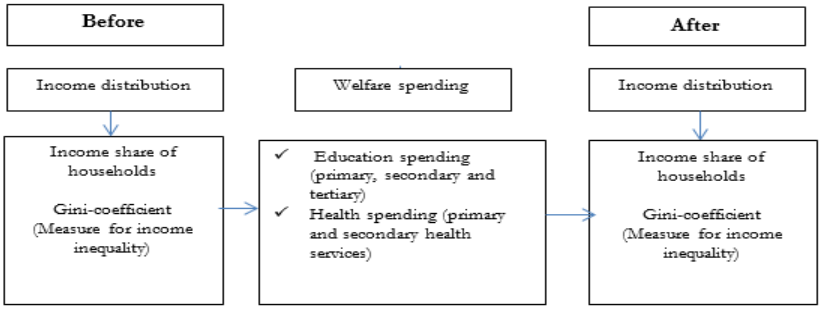
Introduction

The state has an important role in improving the conditions of its citizen. There are numerous ways of keeping people in good living conditions. Health and education related expenditure on social welfare in Thailand is considered as one of the effective instruments of reducing inequality and poverty (Buracom, 2011; Buracom, 2016; Karim, 2015). It is often argued that markets in developing countries are well-performer for the poor for which subsides can rarely correct the market imperfections and hardly produce positive externalities. However, basic education and better healthcare services have spillover effects contributing to economic growth, ameliorate condition of the poor and creating employment opportunity. Thus, developing countries usually continue pro-poor expenditure on health and education following a popular method which termed as benefit incidence analysis (BIA) (Gafar, 2006). It is the process calculating distributional effects of government expenditure based different demographic groups which includes allocation of per unit public subsidies (such as cost for a student at the higher education level) in accordance with the rate of public services enjoyed by individual (Al-Samarrai, 2007; Cuenca, 2008; Pearson, 2002; van de Walle 1995). The method is applied to calculate the distributional effects of tax policy of subsidies that evaluates distributional effects across the various sub-groups (e.g. quintiles or deciles) of population subsumed on per capita income. BIA assesses progressiveness of public expenditure, improvement of welfare distribution and proxies by household income and expenditure because of expectation of redistributive impact of spending on health and education. Cuenca (2008) defined it as the process of estimation of distributional effects of public subsidies according to the household income. This article is designed to analyse the effects of public spending of education and health on income distribution that examines pre- and post-expenditure income distribution. The whole process can be characterized as in Figure 1. The result is compared through firstly, analysing the income share of households and calculate the Gini coefficient before the public spending on education and health; secondly, calculating the total public expenditure on primary, secondary, tertiary education and primary, secondary health services; thirdly, calculating the household income distribution whether it changes because of government spending; and finally calculating Gini.

***Figure 1**: Structure of research on pre and post expenditure*



Source: Buracom, 2013

Objective of the Study

The study aims to examine distributional effects of education and health services related spending in Thailand. Particularly, how public expenditure on education sector is distributed effectively in terms of primary and secondary education or higher education and whether every group, rich or poor, receives same benefit. Similarly, distributional effects of public expenditure on primary and secondary health care have been examined which group are benefited and how. On the basis of distributional effects of public spending on these two sectors, policy recommendations have been made.

Education System in Thailand

Thai government emphasizes on education as they show the way of taking reform initiatives. Following the reform activities, there are various types and methods of learning offered to learners regardless to their economic, social and cultural backgrounds. Education approaches provided in Thailand are classified as formal, non-formal, and informal. All modes of education can be provided by educational institutions as well as learning centers organized by individuals, families, communities, professional bodies, religious institutions, welfare institutes; and other social institutions (OEC 2007). However, formal institutions create a significant change in the society for which the government establishes institutions and spend more. Since the proportion of poor and middle income class is quite noticeable, Thai government tries to minimize the gap between rich and poor by taking measures for initiatives.

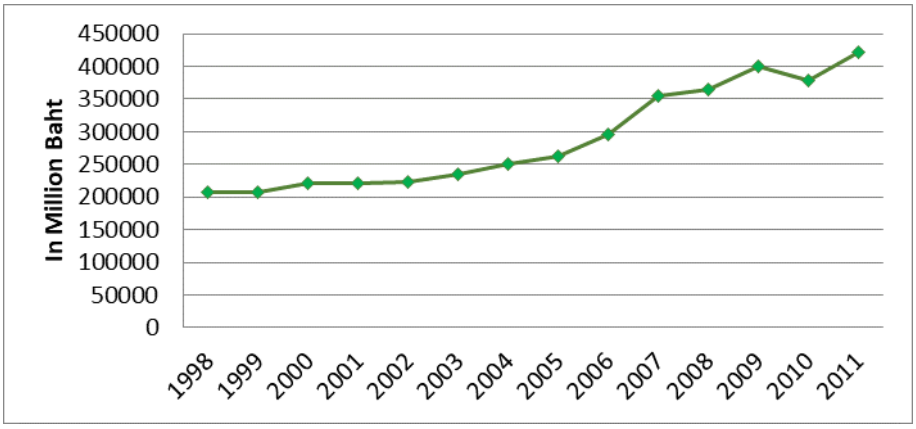
During the last few decades starting from 1951 till date there has been a remarkable change in this sector. Thai government has taken reform initiatives and increased spending. This has been made in order to minimize the knowledge gap and encounter the structural problem of inequality (Sagarik, 2012). Here is an overview of education policy/programs over the periods. During 1951-1967, Thai government expanded the length of compulsory education from 4 years to six years with a purpose of providing publicly subsidized basic education to surge access to students from low-income families. This policy initiative emphasizes on improving rural access to education particularly in the provincial level (Buracom, 2011; Sagarik, 2012). During 1977-1991, Thai government emphasized on few things, such as expansion of basic education, school education in remote rural areas and promoting private sector investment in basic education. The government encouraged private sector initiatives so that government can spend more money for public schools in rural areas. From 1992 to 1996, The government, during this period of 15 years, expended the basic education from 6 to 9 years and emphasized on increasing the access of students to the lower secondary education. Even the 1997 financial crisis could not stop the government on emphasizing on expansion of basic education and raised from 9 years of 12 years of free education and allocate more than 75% of entire education budget for basic education leaving the rest for higher education. Government also emphasized on an increase of cost recovery at tertiary level since rich people spend more on higher education. Another remarkable reform has taken place that the introduction of student loan program for students belonging to poor group in order to study at upper

secondary and tertiary level. However, experts remark that these initiatives bring to those group who have ability to pay back that does not bring much benefit to the group for whom it is emphasized. In 2009 the Thai government has taken initiative to expand the free education from 12 years to 15 years.

Education Spending in Thailand

From the education system and continuous reforms in this sector, it can be depicted that Thai government emphasized on education spending for increasing the demand to compete with the global need. Thai government is assumed that its prime responsibility for financing primary and secondary education. Most pupils from primary and secondary school attend in government primary and secondary schools. And the government has direct influence in this sector for assisting the poor group. It is seen that education spending in Thailand is the most public spending sector and emphasized in the Budget that is proved from the amount of expenditure. In 2010, Thai government allocated expenditure on education 283,187.3 million bath (Bureau of the Budget 2010). The distribution of spending by different levels (primary, secondary and tertiary) can determine the education attainment of the society. In terms of functional distribution, government allocates about seventy-five percent of its education budget on primary and secondary education, the rest on higher education. However, it is question whether this expenditure provides the right distributional benefits to poor or not. That will be researched later. The overall public expenditure in Thailand can be seen in Figure 2.

***Figure 2**: Expenditure in Education Affairs and Services*



Source: Bureau of Budget, different years from 1998 to 2011

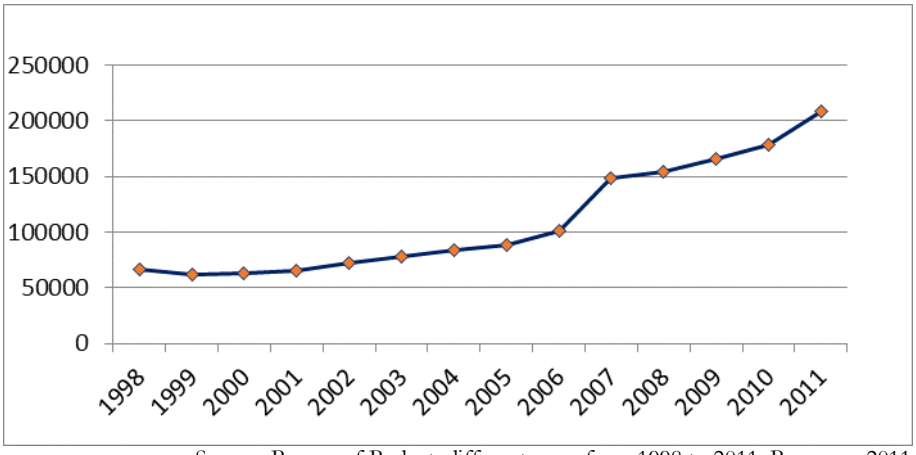
Healthcare System in Thailand

The introduction of universal health coverage in 2002 is regarded as the milestone in this sector. As a percentage of GDP, Thai government increases the budget of health policy/programs. The key areas of public health expenditure include health and disease prevention and hospital services. Seven per cent of the total expenditure is spent for secondary services whereas only 30% is allocated for primary healthcare. There are some initiatives taken by Thai government over the period. Since 1975, for the better healthcare to be provided to the poor, government introduced several schemes such as low-income health card, voluntary health card, more allocation (about 10%) of health budget to Districts and Tambon hospitals. These programs created a good impact covering the 50% of total Thai population. In 2002 Thai government introduced a universal health insurance scheme with an objective to provide better facility to the people. This scheme covers 48 million people except the social security schemes beneficiaries particularly for public and private employees.

Healthcare Spending in Thailand

Since the policy makers and academics emphasize on minimizing the gap between poor and rich, healthcare is another important issue in Thailand for which Thai government takes initiatives to favor the poor community. The Thai government introduced universal health care system in 2002 that emerges as one the greatest reform in this sector and encourages government to spend more in this sector. The fundamental issue for this issue lies in the supreme law of the country that the Thai people have the constitutional right to access to healthcare in equitable, universal and equitable manner where the equity is explained as the payment based on their ability to pay. In 2011, Thai government allocated 208093.4 million baht to provide people with universal health insurance, integrated medical and health service. The services include treatment, rehabilitation, health improvement and disease protection campaigns that are staged to inform and educate people on appropriate health care in order to control severity of threats on health and minimize risks from chronic diseases. However, the total health spending accounting to about 10.5 percent of total expenditure is still considered as relatively low compared to other countries in the region (Bureau of the Budget 2011). In the public sector, three of the four major health insurance schemes are financed by government revenues. Firstly, the Universal Health Care Coverage Scheme which provides health care coverage of 47 million people with the funding of 39 Billion Baht through the National Health Security Office. Secondly, the Civil Servant Medical Benefit Scheme that provides the medical care of 6 million civil servants with 29 billion baht and thirdly, thirdly, the Social Security Scheme covered the formal sector employees. The third scheme spent 19 billion Bath for covering 9 million people in Thailand. Besides, Thai government run another insurance scheme as private insurance with the spending of 8 billion baht (Champook et al, 2009).

Figure 3: *Expenditure in Health Affairs and Services in Thailand (in million baht)*



Source: Bureau of Budget, different years from 1998 to 2011; Buracom, 2011

Methodology

The purpose of distributional effects is identification of ultimate beneficiaries of social spending program and allocation to households based on different income classes. Distributional effects, in other words, Benefit incidence analysis typically involves a process (Buracom, 2011; Buracom, 2016; Hamid R et al, 2010; Karim, 2015). It includes calculation of average costs for each income group; average benefits received by the users; the benefits receivers ranking from poor to rich are classified into deciles or quintiles; the quintile share of benefits accrued to each income class from a public service is simply the total benefits thus derived for each class divided by the total spending on the service across all income classes and finally comparing the result of distribution of benefits with a number of benchmark distributions (Buracom, 2013a, 2013b).

Either deciles or quintiles of households are calculated from all households of national data and subsumed into five or ten equals groups. The group indicates more individuals in the poor groups and gradually less number toward richer households.

Data Collection

The data is basically collected from the secondary sources such as Socio-Economic Surveys of Households of Thailand, Statistics Yearbook of National Statistics Office, World Bank. This research paper covers three types of data to identify household's income and expenditure, and public spending collected from several sources (Buracom, 2011; Buracom, 2016; Krongkaew, 1979).

Table 1: Distribution of income by income class

Income class	% of household	Income per month (Baht)	% of income
	Total = 15.8 million		
Lowest	20% (3,160,000)	4,197	8.16
Low	20% (3,160,000)	6,259	12.17
Middle	20% (3,160,000)	8,364	16.26
High	20% (3,160,000)	11,279	21.93
Highest	20% (3,160,000)	21,335	41.48
Total	100%	51,434	100.0

Source: Buracom, 2013a; Buracom, 2016

For data on household characteristics and expenditure are available in different sources such as Socio-Economic Surveys of Households and Thailand's Statistics Yearbook by National Statistics Office, World Bank. Finally, data on education and health expenditure is mainly collected from Budget in Brief by Bureau of the Budget, Thailand Health Profile by Ministry of Public Health and World Bank's publications, reports, journals, dissertations.

Table 2: Household characteristics and expenditure in relation to education and healthcare services

Income class	Proportion of number of students enrolled at basic education	Proportion of number of students enrolled at higher education	Proportion of income spent on public health service
Lowest	24.35	0.66	5.66
Low	24.22	1.39	9.43
Middle	20.25	3.73	14.39
High	17.65	18.22	19.95
Highest	13.53	76.00	50.57
Total	100	100	100

Source: Source: Buracom, 2013a, 2013b; 2016

Limitations of the Study

Regarding the government spending on education, this research will examine only the primary, secondary and higher education spending and the benefits thereof. So other expenditure is not considered. The benefits of private education are also not included in this study. So, the proportion of that class people who goes to private education in home and home abroad is not incorporated in this research. This research is designed to examine the benefit incidence by income class, not the quality of education. In terms of healthcare spending, this research has also limitations since it is calculated on the assumption of only those who go the public sector hospitals. So, the higher income class people who uses the private health care services, they are not included in this

study. Like education, the quality of healthcare services is not examined here. On the financial benefit according to the income class has considered and calculated.

Benefit Assumptions of Public Expenditure on Education

Enrolled students and employers are the direct beneficiaries of public spending on education although there is a spillover effect on the society as an indirect effect. The assumption is the proportionate distribution of benefits in terms of students' enrolment at different levels which means primary and secondary students get benefits from the primary spending and students at university and vocational institute benefits from the tertiary education spending. Another assumption is that lower income people are benefited from the primary education because they mostly go to primary education. The rich people, on the contrary, exploit the more benefit from higher education spending as they have the tendency to go to higher studies (Buracom, 2013a, 2013b, 2016; Karim, 2015).

Benefit Assumption of Public Expenditure on Health

The patients who receive healthcare services from the government hospitals and health care institutions are the direct beneficiaries of the public expenditure. The beneficiaries also include the general households and the society as a whole. The benefit of healthcare spending is distributed proportionately among the number of patients receive services from the hospitals and health centers which is calculated according to the income class. However, every member of society has equal access to programs of disease prevention and healthcare where the benefits are distributed among the number each income group of households (Buracom, 2013a, 2013b, 2016; Karim, 2015).

Empirical Result: Thailand Perspective

The BIA compares the income distribution of households based on the public spending calculated before and after the spending. This article follows three steps: 1) income distribution of house income and distributional effects of public spending, 2) government expenditure for education affairs and services, healthcare services and 3) income distribution of household income after getting benefit from public spending on two issues and compare using the Gini coefficients.

The distributional effects of public spending on education

Table 2 indicates that the poorest income group received a big portion (24.35%) of total education expenditure on basic education while top 20 percent affluent people receive only 13.53 per cent, which denotes the student from poor group, and household got more benefit from the spending. It implies the education spending in this sector is progressive. On the contrary, the public expenditure of higher education

provides the quite opposite picture where the richest received most benefit out of it. More than three fourths (76%) public spending for tertiary education is received by this group. Only 24 percent higher education spending is left for other 80 percent people. Most interesting thing is that the top 40 percent got about 94 percent benefit from the tertiary education spending whereas the students from the lowest income group received only negligible 0.66 percent. This picture explains that there is an inequality in getting benefit from this higher education expenditure. The main reason for this is the financial capacity of rich people to send their children at tertiary level and later the students have the scope of utilizing human capital for higher job with higher financial gain. The opposite scenario prevails for the poor that increases inequality in the society. Although government-initiated loan scheme to minimize this gap, it did not bring positive result. Researchers found the reason of possibility of loan repayment, which could only be made by the financially capable people. As a result, the public spending favors rich. Another significant reason was found that private education institutes did not take initiatives favorable for poor (Buracom, 2011).

The Distributional Effects of Public Health Spending

Although Thai government have taken initiatives to minimize the inequality including the health care services, public expenditure in this sector is also pro-rich. More than 50 percent is received by the richest group of Thailand the bottom 20% poor people is benefit very less that equals to only 5.66 percent. The reason may be the rich who live in urban areas where healthcare facilities are available and less healthcare facilities are in the rural areas where poor most likely to live.

Health Expenditure in Thailand

Health expenditure can be classified into primary and secondary health program. Primary health program is preventive in nature that includes health promotional program and disease prevention. On the other hand, secondary health program is curative in nature that includes hospital and health center administration, medical services and medical supplies. Since the primary health expenditure is public goods, benefit goes to everyone equally. The benefit of the secondary health spending goes to the who receive health services in public hospitals and health centers directly (Buracom, 2013a). Suppose, Government allocates 80% of the health budget to the secondary programs and 20% to the primary health programs:

- 80% of the incidence is distributed in ratio of population who receive public medical services in each income class.
- 20% is distributed as proportion to the number of each income class.

Table 3: The distributional effects of public spending on education and health (million baht)

Types of Expenditure	Total	Lowest	Low	Middle	High	Highest

	amount (Year 2010)					
1. **Education**						
(Primary & Secondary)	221216.17	53866.14	53578.56	44796.27	39044.65	29930.55
Percentage	100.00	24.35	24.22	20.25	17.65	13.53
Education (Tertiary)	73738.73	486.68	1024.97	2750.45	13435.20	56041.43
Percentage	100.00	0.66	1.39	3.73	18.22	76.00
Total	294954.90	54352.81	54603.52	47546.73	52479.85	85971.98
percentage	100.00	18.43	18.51	16.12	17.79	29.15
2. Health						
Primary	20448.70	1157.40	1928.31	2942.57	4079.52	10340.91
Percentage	100.00	5.66	9.43	14.39	19.95	50.57
Health (Secondary)	81794.80	4629.59	7713.25	11770.27	16318.06	41363.63
Percentage	100.00	5.66	9.43	14.39	19.95	50.57
Total	102243.50	5786.98	9641.56	14712.84	20397.58	51704.54
Percentage	100.00	5.66	9.43	14.39	19.95	50.57
3.Total	397198.40	60139.80	64245.09	62259.57	72877.43	137676.52
percentage	100.00	15.14	16.17	15.67	18.35	34.66

It is evident from the government spending is allocated much for the poor. However, ultimate benefit goes to rich meaning the Thai welfare spending is pro-rich rather than pro-poor in both cases. By combining two expenditure, although it increases the benefit for poor, the trend is towards rich.

Distributional effect: Before and after the welfare spending

There are two ways of examining income distribution of welfare spending (before and after expenditure). Krongkaew (1979) showed that the change in inequality can be appraised usually by adding the absolute benefits to corresponding household incomes and re-calculating the new contribution. A Gini coefficient of 0 expresses perfect equality meaning that everybody in the country has the equal income which is absolutely imperfect and impossible. Similarly, a Gini coefficient of 1indicates maximal inequality meaning that one person in the society has all income which is also impossible. Again, value greater than 1 means some people have negative income. Gini coefficient is a measure of statistical dispersion developed by the Italian statistician and sociologist Carrado Gini in 1912. In this research it has been calculated in order to find out income inequality in Thailand. This calculation is done before taxing and after taxing to compare between two. In terms of basic education expenditure, it is seen in Table 4 that it increases for bottom 60 percent whereas it decreases for the high income class. It denotes that public spending on basic education is progressive. On the contrary, tertiary education spending is regressive as income increases for top 40 percent with a negative result for lowest, low and middle income people. It is seen that rich people are the most benefit takers from overall public spending on education.

Table 4: Benefit incidence of Public Spending on Education by Income Class

	Benefit incidence of Public Spending on Education (% of total spending)		
Income class	**Primary and Secondary**	**Higher Education**	**All**
Lowest Income	9.81	7.89	9.51
Low Income	13.40	11.78	13
Middle Income	16.67	15.80	16.24
High Income	21.49	21.79	21.39
Highest income	38.63	42.74	39.86
Total	100	100	100

Regarding the healthcare public expenditure, disease prevention and health promotion in particular, income decreases by 0.03% for bottom 40 percent and by 0.02% for middle and high group whereas in increases by 0.10% for riches people. That means richest people received from benefit from the service. The similar trend is found for the health services, but in higher rate. Suppose, income decreases by 0.10% for lowest, 0.11 % for low, 0.07% for middle, 0.08% for high income people whereas it increases by 0.37% . The overall expenditure on health affairs of Thailand provides benefits to the 20 percent top income class (Table 5).

Table 5: Benefit incidence of Public Spending on Health by Income Class

	Benefit incidence of Public Spending on Education (% of total spending)		
Income group	**Prevention of diseases and health promotion**	**Health services**	**All**
Lowest Income	8.13	8.06	8.04
Low Income	12.14	12.06	12.03
Middle Income	16.24	16.19	16.17
High Income	21.91	21.85	21.83
Highest income	41.58	41.85	41.93
Total	100	100	100

If we combine the education and health spending, the post-income expenditure seems to be supportive to the lowest and low income class people as it increased by 1.18% and 0.68% respectively. In contrast, the income of other classes decreased a little (Table 6).

Table 6: Pre and Post-Expenditure Income distribution

Types of Expenditure	Lowest	Low	Middle	High	Highest
1. Education					
Pre-Exp Income distr.	159,150.24	237,341.28	317,162.88	427,699.68	809,023.20
Percentage	8.16	12.17	16.26	21.93	41.48
Education (PS-EDU)	213,016.38	290,919.84	361,959.15	466,744.33	838,953.75
Percentage	9.81	13.40	16.67	21.49	38.63
Post-Exp (H-EDU)	159,636.92	238,366.25	319,913.33	441,134.88	865,064.63
Percentage	7.89	11.78	15.81	21.79	42.74
Post-Exp (T-EDU)	**213,503.05**	**291,944.80**	**364,709.61**	**480,179.53**	**894,995.18**
Percentage	**9.51**	**13.00**	**16.24**	**21.39**	**39.86**
2. Health					
Pre-Exp Income distr.	159,150.24	237,341.28	317,162.88	427,699.68	809,023.20
Percentage	8.16	12.17	16.26	21.93	41.48
Post-Exp (P-HA)	160,307.64	239,269.59	320,105.45	431,779.20	819,364.11
Percentage	8.13	12.14	16.24	21.91	41.58
Post-Exp (S-HA)	163,779.83	245,054.53	328,933.15	444,017.74	850,386.83
Percentage	8.06	12.06	16.19	21.85	41.85
Post-Exp (T-HA)	**164,937.22**	**246,982.84**	**331,875.72**	**448,097.26**	**860,727.74**
Percentage	**8.04**	**12.03**	**16.17**	**21.83**	**41.93**
					41.94
3. Post-Exp (All)	**219,290.04**	**301,586.37**	**379,422.45**	**500,577.11**	**946,699.72**
Percentage	**9.34**	**12.85**	**16.16**	**21.32**	**40.33**

Gini coefficient and Income distribution before and after public expenditure

The calculated Gini coefficient decreased from 0.3056 to 0.2629 after the expenditure on primary and secondary education (Table 7, Figure 4) which public spending has influence to reduce inequality which it increased because of tertiary spending as Gini increased to 0.3188. Although reduced Gini coefficient calculated for overall expenditure indicates declining of inequality. The Gini coefficient calculated after the healthcare expenditure increased to 0.3067 for primary healthcare and 0.3094 for secondary health affairs. After the total public expenditure on health services the Gini coefficient increased from 0.3056 to 0.3103 which indicates inequality increased (Table 7). However, the Gini coefficient calculated after the public expenditure on education and health indicates that inequality decreased in Thailand since the Gini coefficient went down from 0.3056 (before expenditure) to 0.2818 (after expenditure). So, the overall public expenditure of Thai government is pro-poor.

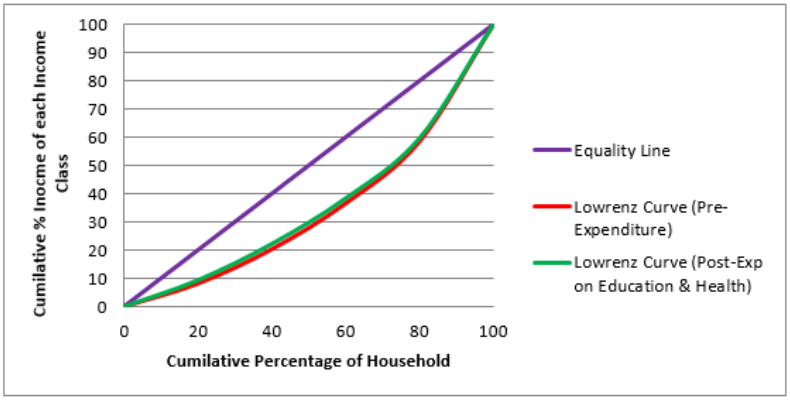
Table 7: Income distribution before and after expenditure (% of total income) and Gini Coefficients

Income class	Pre-Exp	Post-Exp (PS-EDU)	Post-Exp (H-EDU)	Post-Exp (T-EDU)	Post-Exp (P-HA)	Post-Exp (S-HA)	Post-Exp (T-HA)	Post-EXP (All)
Lowest Income	8.16	9.81	7.89	9.51	8.13	8.06	8.04	9.34
Low Income	12.17	13.4	11.78	13	12.14	12.06	12.03	12.85
Middle Income	16.26	16.67	15.8	16.24	16.24	16.19	16.17	16.16
High Income	21.93	21.49	21.79	21.39	21.91	21.85	21.83	21.32
Highest income	41.48	38.63	42.74	39.86	41.58	41.84	41.93	40.33
Total	100	100	100	100	100	100	100	100
Gini Coefficient	0.3056	0.2629	0.3188	0.2764	0.3067	0.3094	0.3103	0.2818

Lorenz Curve for Measuring Income Inequality

Lorenz curve is a graphical representation of the cumulative distribution function of the empirical probability distribution of wealth and popular in Economics. It is drawn showing the % of cumulative income distribution in Y axis and the % of cumulative household in X axis. The closer to the 45% degree equality line explains that is closer to the equality in the country of society (Buracom, 2013b). Comparing with the Lorenz curve (red line) before the expenditure, the Lorenz curve (green) after expenditure on health and education shows that it becomes closer to the equality (blue). Gini coefficient can also be calculated using the Lorenz curve (Figure 4). The Gini Coefficient is the area between the perfect equality line and the observed Lorenz curve, as a percentage of the area between the line of perfect equality and the line of perfect inequality.

Figure 4: *Lorenz Curve (Pre and Post Expenditure on Health and Education)*



Conclusion and recommendations

Based on the BIA of public spending on education at three levels and healthcare service it reveals that Thai education system seems pro-poor and health care system is pro-rich. Although overall spending favors poor, they get more advantage from the lowest two tiers of education whereas affluent gets more benefit from the tertiary education. Decreasing overall inequality based on Gini calculation indicates the pro-poor oriented public expenditure. However, point-to-point analysis at all levels of education and healthcare demands policy recommendations and policy actions for minimizing income gap. Thus, the study suggests following recommendations:

Policy initiatives for Education

A special emphasis can be given on tertiary education so that poor income group can easily access to higher education which can be special loan, quota system in terms of enrolment in some universities, special scheme for rural students at rural area. Universities may consider discount for students from relatively less developed provinces. Government scholarship for poor students can be introduced particularly at higher education level which may give push them to be in education institutes. This poses a positive effect in the society to encourage others. By imposing tax on privately owned higher education institute where usually the rich students study, government can earn revenue to utilize for poor as well. Setting up more higher education institute or branch of good academic institutes at rural area can likewise be an option to target the poor to develop.

Policy initiatives for healthcare

In order to widen the long-term benefit for the whole nation, emphasis on preventive care than curative is recommend and such programs with more spending should be continued. Since, the affluent group has the capacity of taking the service from private healthcare system, this area can be the source of earning tax to be utilized for the poor. Development activities in terms of healthcare services are usually consented at the central, capital in particular, where higher income people live. Poor can be given the benefit by following the system of decentralization and different healthcare rate for urban and rural area.

Acknowledgements

This study was supported in part by BPATC.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Declaration of conflicting interests

The author declares no conflicting interests.

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